QUBE COMMENTARY

January 2023

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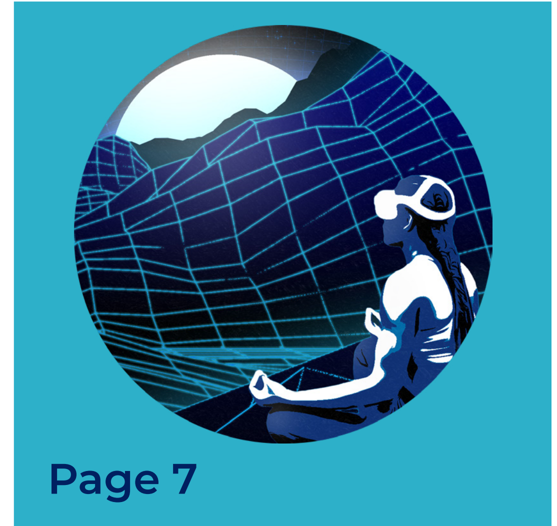

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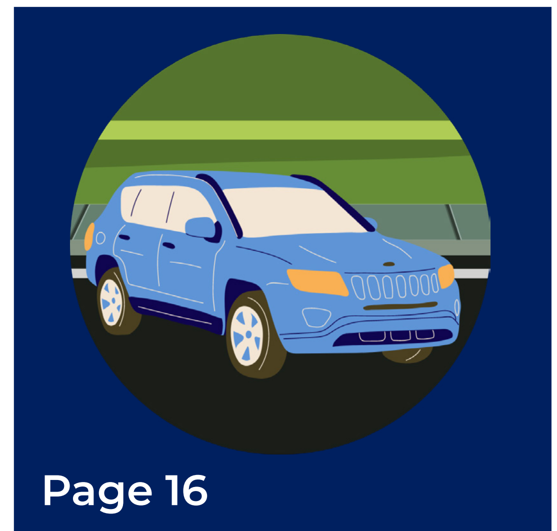

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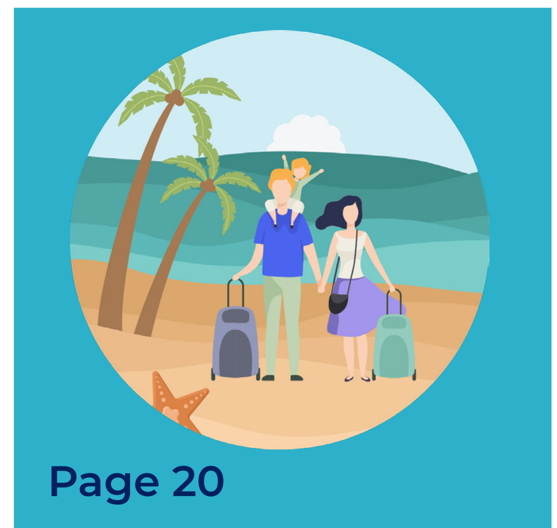

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Letter From the Editor
Noah Clarke, MA

It wasn't all too long ago (the 70s) that printing a copy of our Commentary would have required the use of a typesetting machine. This line of text you're reading would have been cast in metal, dipped in ink, and applied to paper. The work was tedious and high pressure since typos were costly.

To save time and reduce errors, common images and phrases were kept and recycled over and over. These blocks were referred to as clichés, which informs the meaning of this word today as a "phrase or opinion that has lost originality, ingenuity, and impact by long overuse."

Looking back on 2022, one phrase (often deemed a cliché), was regularly used. That is, during times of market turmoil, investors will be rewarded by staying the course.

As with many clichés, its meaning remains the same and springs from rational ground. But we may not hear it the same anymore. I, for one, cringe a little when repeating this phrase – largely because it lacks original thought and for some reason, we're inclined to view originality in a more favourable light.

In every discussion I had with you this year, I would have loved to be able to proffer a new and exciting silver bullet for avoiding the past year's market downturn. However, there's a common thread linking each of the articles in this Commentary: such novel strategies likely just lead to novel ways to surrender long-term value.

The intent of our Commentaries has always been to provide transparency into the work that we do and the convictions that we hold. I understand that years like this last one can make our clichéd views about focusing on long-term value harder to bear. I hope that this edition of the newsletter helps to explain why our resolve is unshaken and why we are optimistic about the coming years.

This Commentary features articles from well-known Qube team members that have been here for more than a decade (in one case, from the start) and others that have been with us for less than a year. In the cover article, Ian admits to his worst-kept secret about following markets, Mackenzie highlights one of our most popular holdings from the past year (Progressive Insurance), Michael talks about changing risk perspectives and trading values, Steven explains why we're reluctant to ever get involved with an aggressive investment strategy making the rounds on social media platforms, and Brenda provides a summary of the results from our 2022 proxy voting.

We're excited to have the depth of authorship and perspective that we do. And we believe our confidence in our approach (along with a tried-and-true cliché) is reflected in the pages that follow.

Glossary of Terms

One of our core tenets that allows us to make your wealth matter is **financial literacy.** Throughout this commentary, you may run across a particular word or phrase you're not familiar with. Don't worry; we have you covered.

augmented reality

-An environment which combines virtual elements and the real world, e.g., home decor software to help visualize a renovation project or star maps that can be held up to the night sky

beta

-A risk measure that represents the price change of a stock relative to the price change in the overall market

discounted cash flow

-Qube's valuation model of choice to determine intrinsic value; key inputs include cost of capital, future revenues, operating margins, and reinvestment costs

EBIT

-Earnings before interest and taxes: a measurement of net profitability before accounting for any interest on debt and taxes

first-mover

-An advantage gained when a business becomes the first to introduce a new product or service to the market

GAAP

-Generally Accepted Accounting Principles: commonly held standards which ensure honest and consistent financial reporting

IPO
-Initial public offering: the first time a formerly private company offers stock to investors publicly

risk-free rate
-A rate of return on a hypothetical investment with zero risk

Say on Climate
-An initiative driving companies to create transition plans for net zero greenhouse gas emissions using shareholder feedback

survivorship bias
-A fallacy in which a person focuses only on those cases that were successful rather than the group as a whole, including the failures

underwriting
-A process by which insurance professionals calculate the risk of insuring assets to determine pricing

If what you read in the following articles sparks a thirst for further insight into our world, visit the Qub[Ed] library. Launched in February 2022, it's a collection of financial resources written by our expert team with new articles published monthly.

Kaleo Portfolios: Past Performance

	YTD	2021	3-Year	5-Year	Inception
Kaleo A	-15.7%	24.3%	7.9%	8.2%	11.4%
Kaleo Full	-17.1%	19.3%	6.1%	7.3%	11.6%
MCSI World Index	-12.4%	20.7%	6.4%	7.8%	10.9%
S&P TSX	-5.8%	25.1%	7.5%	6.8%	6.2%
50% TSX / 50% MSCI World Kaleo Benchmark	-9.1%	22.9%	7.0%	7.3%	8.5%

Note: All returns reported above for periods in excess of 1-year are reported as annualized returns. Composite returns represent past performance and should not to be treated as an indication of future results. All returns are reported as net of trading costs, but do not account for management expense fees. All rates reported above correspond to the period ending December 31, 2022. Kaleo inception of January 2011.

Kaleo

Kaleo consists of a portfolio of stocks that are selected using an investment approach that applies company-specific fundamental analysis, and strategic macroeconomic positioning. The model invests in a mix of both domestic and international equities, with geographic weighting subject to change intermittently.

For clients with invested funds in the $250K to $1M range, we offer a subset—called Kaleo A—of our Kaleo model, consisting of fewer stocks in order to reduce brokerage fees. Returns since inception for both Kaleo Full and Kaleo A are similar by design.

We currently aim to hold a stock for 3-5 years in our Kaleo models. This means that we have an average portfolio turnover of 25%.

We purposefully chose our benchmark to more accurately represent the broad geographic diversification of our holdings in Kaleo. Our benchmark for Kaleo is defined as 50% of the MSCI World Total Return Index and 50% of the S&P TSX Total Return Index.

It’s Time to Share My Secret

By Ian Quigley, MBA, CFA

I feel like it has been a shameful secret and one that I have concealed for my entire career. A career now spanning nearly 25 years, with the most recent decade as a registered portfolio manager and chief compliance officer at Qube. I worry that revealing my secret could worry our firm’s beloved clients while harming our ability to attract new investors. Nonetheless, I cannot hold my secret any longer.

I don’t pay attention to the stock market.

Admittedly, turning on the business news networks is exciting. Jim Cramer on CNBC, with his show “Mad Money” is thrilling to watch, I hear. Cramer’s mission statement is “not to tell you what to think, but to teach you how to think about the market like a pro.” It’s shameful, I suppose, that I have never watched his program.

Another classic is CNBC’s show “Squawk Box,” a pre-market morning news and stock talk program that, I assume, gets a pro ready for the day ahead. I am often drinking coffee and feeling guilty about not doing a morning workout when the markets open. Another embarrassing revelation.

It gets worse. Investors sometimes call me and exclaim things like “Wow—what did you think of the markets yesterday?” or “How about those markets last week?” In these moments, I have learned to confidently look them in the eyes and respond, “Yeah, crazy stuff! What did you think?” Or I come up with some creative diversion from the “stock market talk.” I confess that I have always felt shame in these moments, mixed with a healthy dose of imposter syndrome.

Price Versus Value

Price is what you pay, and value is what you get. Sexy “stock talk” is all about price. What price did Meta, Waste Management, or Walmart trade at today? It is exciting and logical to track

stock prices over time because, while value is theoretical (nobody truly knows its number), price is a real number that investors can work with.

The game of price is to correctly anticipate where it will go next and trade ahead of it. An investor plays the price game using predictions on shifting supply and/or demand on related products and services. Price moves with mood and momentum with time horizons short and investors moving decisively and instinctually. This is what the sexy stock talk is all about. You got to know when to hold them and when to fold them. You must know when to walk away and when to run.

Less sexy is when you invest for value, and as Willie Nelson eloquently puts it, "I would be happy to share this perspective with you for a sip of whisky and your last light[1]." Valuation investing assumes that every asset has a true value that can be estimated (albeit with error). This game is to find undervalued stocks and buy them before the markets reprice them. Value is determined from projected cash flows, operating margins, reinvestment requirements, growth and risk.

It is a **long-term game of patience** with faith that, eventually, the price will converge on value. It is a crazy conviction that the markets are just imperfect enough to misprice a stock but perfect enough to reprice the oversight in a period in which we can profit.

In a recent study by the NYU Stern School of Business, stock recommendation reports (published in the USA) were running at a ratio of 10 to 1, with ten recommendations based on price to each one based on valuation. This means that the valuation approach to investing clearly remains the minority, and to prosper, one has to stay **immune to peer pressure.** In other words, not being influenced by Jim Cramer, Angus Watt, and other "breaking news" outlets.

A Game of Narratives

A few years ago, we finally made the leap to install Bloomberg Terminal software at Qube. Bloombergs are the cultural epitome in finance for seriousness and success. Any TV or movie with finance characters will have a telltale Bloomberg keyboard somewhere on the set.

Before getting Bloomberg, we had students write code to scrub the financial statement information on potential stocks by accessing free data sources like Yahoo Finance. With Bloomberg, we could automatically link clean accounting and price data directly into our Excel templates, instantaneously offering a valuation picture. Thrilling stuff for us. Then, in a seemingly contradictory move, we also increased our student interns from four to six. You see, while Bloomberg greatly amplified our access to data, valuations are more than just a "quantitative output."

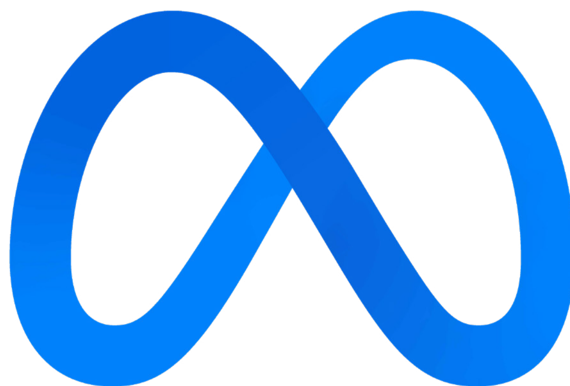
[1] Additional humorous reference to "The Gambler" by Willie Nelson.

A valuation is not an algorithm but a narrative, and narratives are told by humans.

Valuations all start with narratives, and the initial narrative to consider when valuing a company is the one communicated by management. Each year, in the annual report, the CEO presents the vision for the company, which is then updated quarterly in conference calls with investors. Combining this vision with historical performance data allows us to transform the narrative into a valuation of the enterprise.

Obviously, a narrative needs to be plausible and will often require "adjustment" accordingly. For example, what will the market share be according to the narrative, and is it reasonable? How much reinvestment would be required, and what financial performance would be required (sales to capital ratios, operating margins, cost of capital)? The humans at Qube contemplate these "adjusted narratives" when building valuations. If the calculated share value exceeds the current market price, the trade is referred to our steering committee for review.

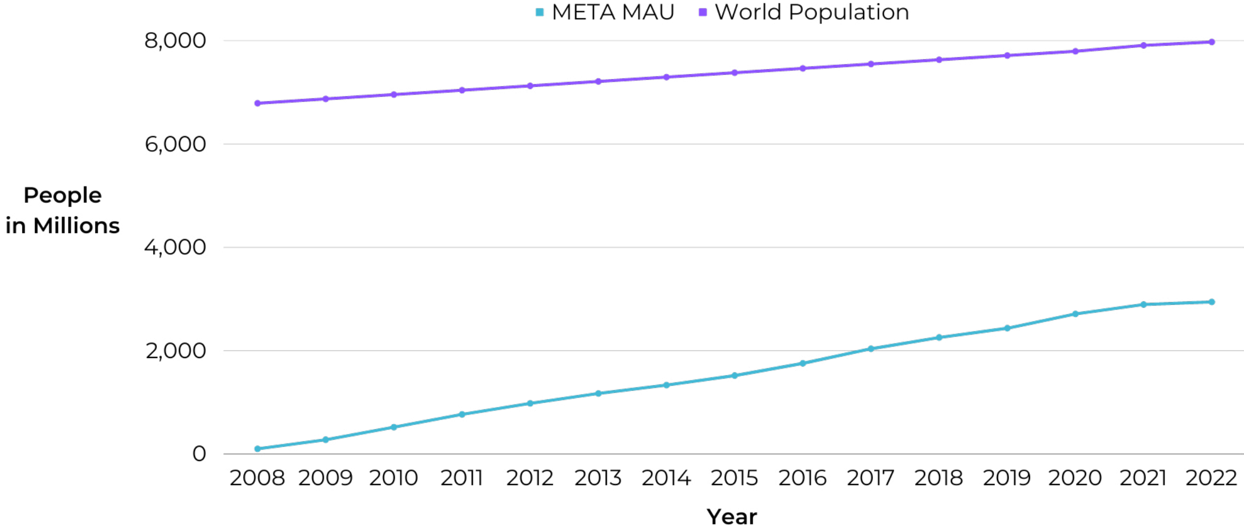
Recently, the narrative on Meta (Facebook) changed and "market pricers" resoundingly urged investors to sell the stock. Despite this, we continue to update our valuation on Meta in conjunction with its changing narrative. While it can be difficult to resist the peer pressure to sell, we remain passionate that Meta offers an attractive valuation and is a perfect example of why following the "sexy stock talk" can be dangerous.



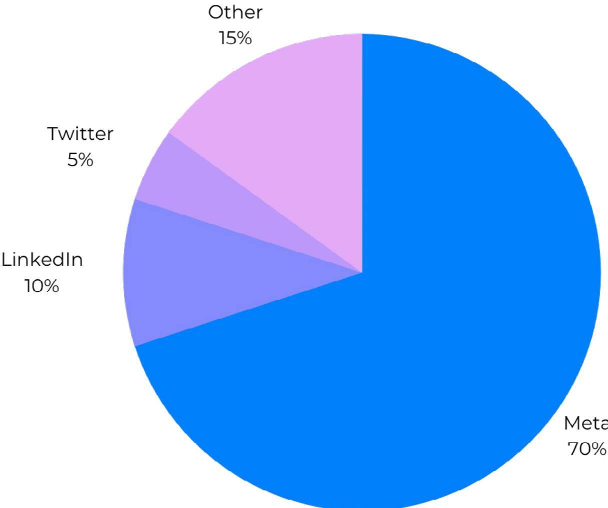
Meta's Background

Meta, formerly Facebook, is an online social networking company that first launched in 2004, with its **IPO** launching in 2012. Meta has several products that allow its users to interact, including Instagram, Messenger, WhatsApp, and Reality Labs—also called the "Metaverse." This division of Meta includes **augmented** and virtual reality products, including the Oculus Quest (a virtual reality headset). The Metaverse is the company's smallest segment, representing only 2% of its total current annual revenue.

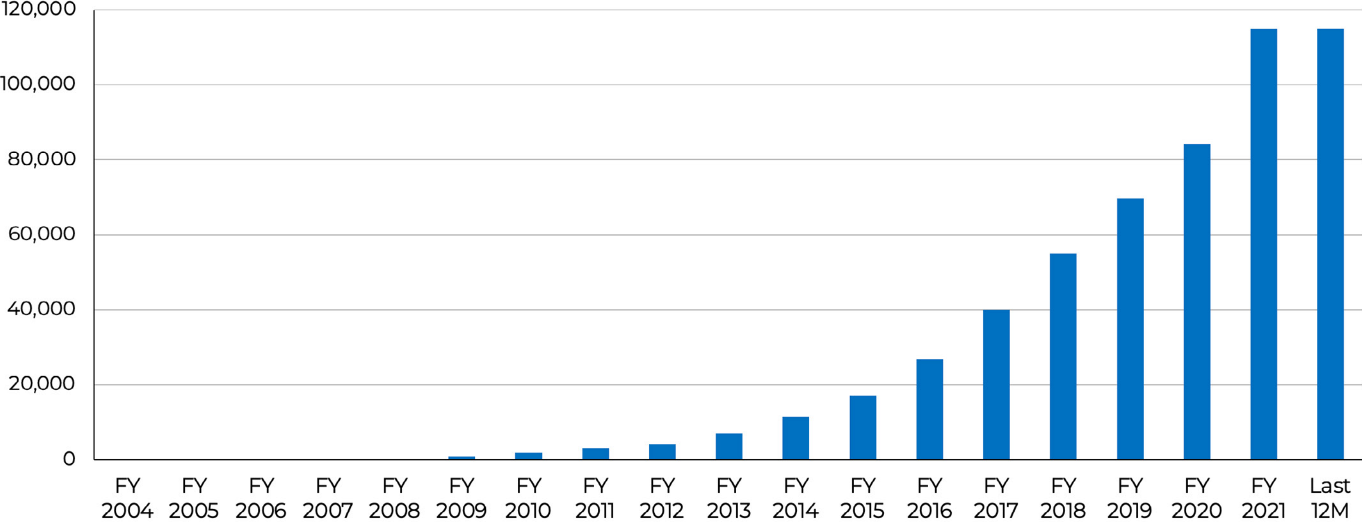
Meta is the dominant social media giant on planet Earth. During the third quarter of 2022, Meta reported that 2.93 billion people were using at least one of the company's core products (Facebook, WhatsApp, Instagram, or Messenger) every day. This massive following is unlike any other social media company worldwide and positions the company in a highly favourable place to capitalize on advertising revenue.



The social media industry is concentrated, with the top three players accounting for 90% of all revenues. As of Q3 2022, Meta accounts for roughly 70%, LinkedIn (recently acquired by Microsoft) 10%, and Twitter 5% of total worldwide revenue.



Meta has substantially generated its entire revenue from advertising. The company also conducts ad targeting, which analyzes individual preferences and behaviours and then presents an ad with which they believe a consumer will most likely interact. This has been a powerful fly trap for advertisers.



The Early Narrative

Qube began valuing Meta in 2016 since, from 2004 to 2009, Meta was one of those tech companies with big prospects but no proven revenue. Then, from 2009 forward, everything changed; revenue not only materialized but exploded. This formed what we call the "early narrative." Our 2015/16 valuation put Meta at $119/share when it was trading just over $100. We determined that the advertising narrative was too unstable to be captured with conviction, as future ad trajectories were highly speculative. Revenues were accelerating like a rocket to the moon. How high could they go?

From 2016 to 2019, Qube valued Meta at least four times, noting that ad revenues continued to increase–as did privacy scandals and regulatory lawsuits. Our valuations conservatively tracked the revenue trajectory, and we remained curious as the early narrative unfolded.

The Maturing Narrative

In 2019, our perspective shifted on Meta, as we began to see that advertising was tapering off while becoming reasonably predictable. Privacy issues (and related lawsuits) were squarely in the public eye, and some could start to consider Meta as a "maturing enterprise." Interestingly, Meta's share volatility had also increased over the years, causing

constant headwinds for our valuations (our chosen **beta** increased from 0.8 in 2016 to 1.16 in 2019). Nonetheless, our conviction about future advertising revenues was reasonable, and we took our first position on behalf of our investors in August 2019 when the company was trading at around $189.

Optionality

We began to contemplate the options Meta had with its three billion users during these valuation assignments. Other than Google, no company has ever captured as many engaged customers as Meta. Meta was considering its own cryptocurrency (the Libra) at the time, and while these "real options" are difficult to value, they are certainly worth considering. As the contemporary share price only embedded a 7% advertising growth rate assumption, these "real options" were gained free of charge with ample upside opportunity remaining on ad revenue alone.

Turbulent Waters

As advertising revenues slowed between 2019 and 2022, investors became increasingly spooked. As earnings reports arrived, investors reacted with passion, causing share volatility to continue increasing. Qube completed seven additional valuations on Meta since 2019, each supporting our investment position despite the drama surrounding the stock.

For example, in August of 2021, we valued Meta at $459/share on the back of its most optimistic quarterly report. Then, in June of 2022, inflationary pressures combined with disappointing financial results pushed our valuation down to $230. Meta was still trading at $175, so despite the drama, we held on. While the ad revenue narrative became shaky, valuations remained positive.

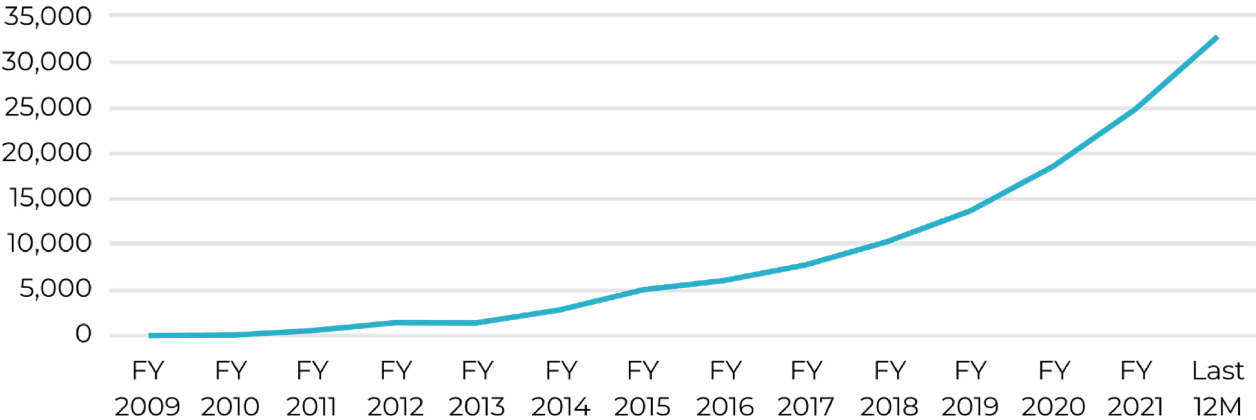
A New Narrative

In 2021, Meta was not only showing maturity in its trajectory of advertising revenue[2], but it was also shifting its vision with a reinvention into the "Metaverse." The Metaverse is a virtual reality space where humanity can connect while Meta charges "rent" and/or sells other products and services.

Meta began investing in the Metaverse in 2014 by purchasing Oculus, but it wasn't until recent years that R&D investments accelerated. Meta has now spent over

[2] Certainly, ad revenue growth is still a strong narrative with Instagram just starting to show monetization, with "reels" or "stories" making a good offense against TikTok.

$35B on the Metaverse, with a projection of $100B when all is said and done. Hence the name change to "Meta" in 2021.



The Metaverse could indeed be a massive game changer for Meta. Still, this hypothesis would only be speculative as Mark Zuckerberg has been woefully silent. It is the job of the CEO to communicate vision and inspiration to shareholders—unless that information could alert competitors to the detriment of the product development.

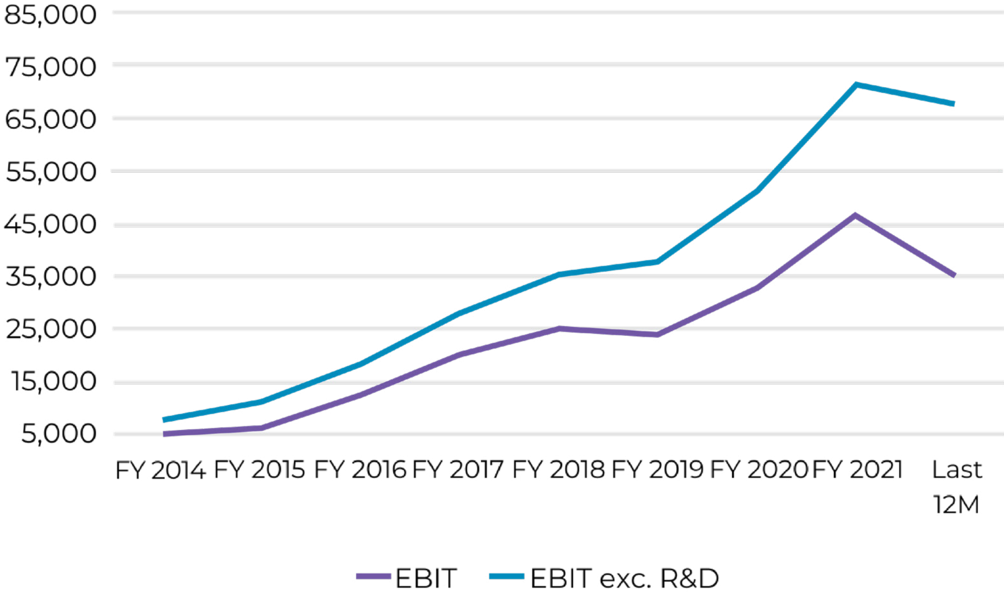
What we know is that the Metaverse is currently a gaming environment, generating traditional revenues like Nintendo or Ubisoft. We also know that the Metaverse is being greatly expanded and could include additional advertising revenue, subscription, hardware and transaction-related opportunities. But we know far less than we should, considering the projected $100B to be spent on this venture. For now, anyway, Zuckerberg is keeping quiet. Is he trying to secure a **first-mover** advantage?

We at Qube have a vision for the Metaverse. Our vision is purely speculative but includes sitting courtside at live sporting events and virtually sharing the experience with close family and friends. That same courtside seat could be resold infinitely by Meta in partnership deals with the NBA, NFL, or NHL. Live concerts, Broadway, and other entertainment venues could also become accessible to the 3+ billion Meta users. Entertainment is also just the tip of the iceberg, with many other human interactions being available in the Metaverse transitions, including training surgeons, welders, drivers, and pilots in the safety of virtual reality.

Distracted Valuations

The valuations at Meta have become increasingly interesting with this new R&D drive in the Metaverse. US **GAAP** rules have allowed Meta to fully deduct developmental costs

against operating revenues. If one were to view the Metaverse as a potential asset for Meta, this would be inappropriate, as cash used to build the Metaverse would create an asset for the shareholders and would, therefore, not be deducted from operating income.



The impact of R&D expensing is dramatic, as operating income is a core element in the valuation. R&D has been crushing recent earnings and operating income **(EBIT),** which nearly doubles when R&D is excluded. Just in the last 12 months, this could repost the $35B of operating income to over $67B. A full restatement of the R&D costs would be making a similar mistake, as that R&D asset will not endure forever. The realistic solution is to estimate the lifespan of the Metaverse and consider that in the valuation[3], not to mention the potential returns earned on the Metaverse asset.

All contemplations are highly speculative and, if even possible, would be done with low conviction. Nonetheless, while the future is uncertain for Meta and its Metaverse, it's certainly exciting. At this point, the Metaverse is akin to Facebook's initial ad revenue in 2009—unknown and difficult to value!

My Secret

Our current valuation of Meta, done in November of 2022, continues to place the company as significantly undervalued. With only a three-year amortization on R&D investments and little to no revenue generated from the Metaverse asset, we see Meta conservatively valued in a range of $155-215 when it is trading at just over $100. Basically,

[3] This is called "R&D" or intangible asset capitalization.

an investor can purchase Meta today at $100 and only pay for conservative advertising revenue projections. The Metaverse (and other ideas they can spin to the 3B+ members) are gained at no charge.

The narrative at Meta has shifted since we took our first position nearly four years ago. We remain focused on monitoring the still relevant early narrative with its ever-changing potential for advertising revenues while also being curious about the reinvention currently in progress. I wonder, had we been distracted by the daily price drama and seductive stock talk, if we might have lost focus and missed the deceptive R&D implications on Meta's valuation? Might we have been swayed by peer pressure and sold this narrative, losing so much upside potential? As a professional investment manager, I think my real secret is my affinity for muting my attention to the stock talk while retaining focus on the ever-changing narratives that earn our investor returns.

Stock Spotlight: Progressive

By Mackenzie Saunders

Welcome to the school of property and casualty insurance. In this school, there are the typical students—AllState, Geico, Travelers Insurance, and State Farm—and then there is Progressive, the outcast. During high school, most students spend their time dabbling in various activities and extracurriculars: auto insurance, home insurance, commercial insurance, workers' compensation, etc. Their decision to diversify their interests pays off ,and they quickly become the popular kids on campus. On graduation day, they are voted most likely to succeed, given the historical success of these insurance products.

But Progressive is not concerned with the variety of activities it engages in and instead becomes fixated on auto insurance and the most crucial aspect of providing insurance: gauging risk. While the popular kids are out at parties, Progressive hones its ability to create sustainable profitability long into the future.

Brief Background on P&C Insurance

Property and casualty insurance companies generate money in two ways: first, through the spread between the price charged and claims received on **underwriting** insurance

products and second, through any returns stemming from their substantial investment portfolios. While portfolio returns are almost identical throughout the industry, each company's ability to maintain a spread on its underwriting is a reflection on its ability to predict risk and act accordingly.

Additionally, most insurance products are fungible goods, meaning each company's version of the same product is interchangeable. As a result, most insurance companies move with the crowd, with any increases or decreases in financial performance coming from headwinds or tailwinds faced by the industry as a whole. Competitive advantages in this industry are rare and typically unsustainable as competitors will quickly attempt to incorporate the new strategy.

The Undergrad

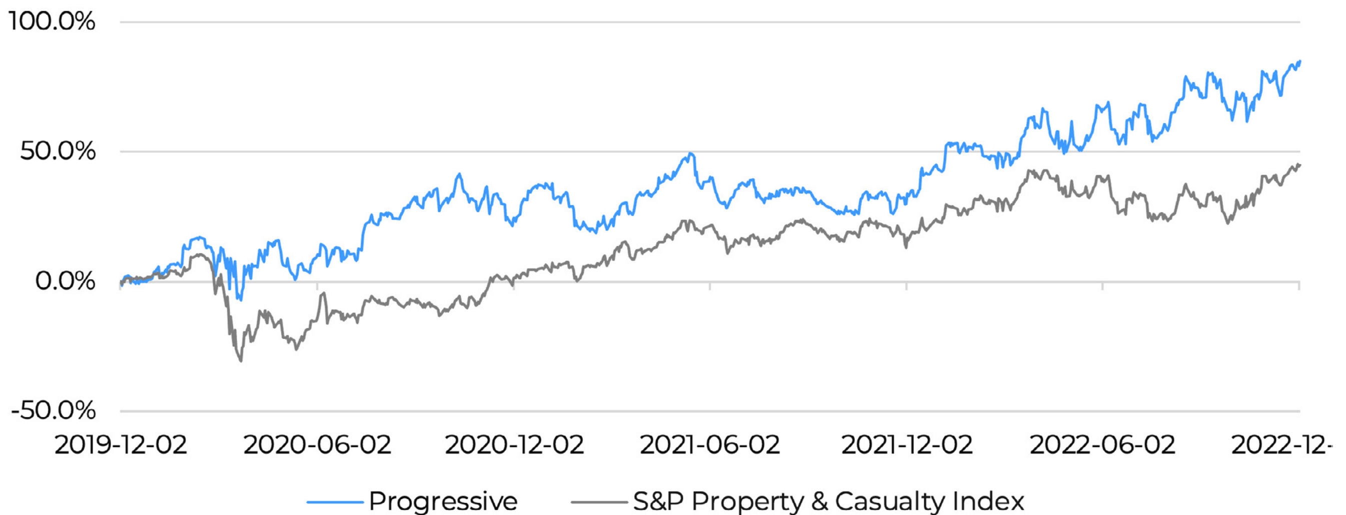
While its competitors were struggling to determine a clear focus, Progressive was quick to declare a major in **product specialization** with a minor in **risk assessment technology.** Over recent years, the investment in these two essential growth strategies has shifted Progressive further away from other property and casualty insurance products and leveraged heavily into auto insurance.

The company made this decision because it views auto insurance as a relatively simple, more profitable product than the alternatives. Increasing rates on car insurance premiums are less problematic than other lines of insurance, and future payouts are preventable through customer data collection.

Next, Progressive decided to minor in a previously unpopular degree, risk assessment technology or telematics. Telematics is the use of an application or device that plugs into a vehicle, allowing an insurer to track a driver's behaviour in real time. An eager student, Progressive was one of the earliest adopters of this technology and rapidly began to collect data on its already sizable customer list. As a result, the company can create more accurate and flexible pricing on its products, improve customer interactions, and use the data to avoid potentially costly customers and customer regions. Come graduation day, Progressive has become a streamlined, profit-generating firm ready to take on the property and casualty industry.

Shareholder Reward

The chart below shows Progressive's stock appreciation relative to its comparable S&P 500 Property & Casualty Index, which contains both Progressive and its top competitors. Since Qube purchased Progressive in December 2019, the company's focus has paid off, generating excellent shareholder returns which appreciated 84.9%—or an annualized return of 28.3%.



However, the property and casualty industry has only appreciated 45%, or an annualized return of 15%, over that span. To put this in context, over the past three years, the S&P 500 Index, a widely used benchmark for returns, has had an annualized return of 9.9%. If you only invested in the property and casualty industry, you would have outperformed the overall market by 5.1% and a whopping 18.4% if you only invested in Progressive!

Though the company's peers are generally met with success overall, Progressive still remains top of its class. Generating such an impressive return from a stable, consolidated industry is appealing—especially considering that companies like Progressive provide dividends, boosting overall profit.

Progressive enjoys positive market sentiment as a result of its competitive advantages. In turn, the company receives the benefit of the doubt when things are rocky and an influx of value when things smooth out.

As of late, the entire American auto insurance industry faces significant headwinds from inflationary costs, appreciating used vehicles, and increased accident claims. Most insurers are losing money or breaking even on their underwriting businesses (Progressive included). In 2022, Progressive's profitability took a significant haircut from these pressures, yet its stock price is up approximately 28.35%! Its main competitor, AllState, is only up 8.46%

despite having comparable financial results.

Why Qube is Still Holding

One of the reasons Progressive avoided punishment for its financial struggles in 2022 is that investors believe the company has proactively increased rates on their premiums, resulting in a more rapid return to regular profits. Also, in 2020, state regulators imposed moratoriums on rising rates in California and New York, with both locations providing a significant percentage of Progressive's revenues. To decrease reliance on these two states, the company began to focus its advertising on regions with less stringent regulations.

The move towards more lucrative states, coupled with its aggressive rate increases, has resulted in management providing positive guidance that the company will remain profitable in the coming quarters. Alternatively, AllState, the most comparable company to Progressive, continues to generate negative earnings from its reliance on New York and California. Clearly, Progressive's edge holds strong despite competitors' attempts to replicate its success.

Further still, Progressive's consistency in maintaining a positive spread on its underwriting business has resulted in the market viewing the company as less risky than its competitors. Progressive's decreased risk results in a higher perceived value on the company that Qube still finds undervalued at its current share price.

The 10-Year Reunion

Time to assess where everyone's choices have landed them. Progressive's decision to keep its nose to the grindstone and invest in risk management has resulted in a significant competitive advantage within the industry. The company's investments in the future have paid off in the forms of lower volatile profitability and an ability to provide its insurance at a lower price—giving it an upper hand in the industry.

Many competitors have followed suit in streamlining their businesses, and telematic technology is now widely used throughout the industry. Despite telematics becoming an industry standard, Progressive benefits from being the first to the table with more time collecting and analyzing the data, leading to more accurate predictions.

Holding Progressive gives Qube ownership of the leading auto insurer in the United States, with a sustainable advantage over its peers. Auto insurance is an essential product as long as we still need to get from A to B, which positions Progressive as a near-essential service. When the 20-year reunion is held, Qube still expects Progressive to come out on top.

Uncertainty's Premium

By Michael Baker, MBA, CFP

I'm planning a family vacation, and now that I have a child, I can't leave much to chance. Because of the need for certainty in my planning, I will be paying more than I would have pre-baby. When booking flights, I'll pay extra for cancellation protection, so I can cancel within 24 hours if we're sick. And as I look for hotels, I'll pay more to ensure I get a room with a crib rather than search for a deal at the last second.

But I'm willing to absorb these costs because I don't want to risk the personal volatility of being out of pocket for flights or not having a family-friendly room. These little decisions are insurance policies for me and my family to experience our trip as planned. And insurance isn't free.

We're also willing to pay more for certainty in investing. We give up higher expected returns for lowered guaranteed returns. A Guaranteed Investment Certificate with nearly 100% certainty will pay 5%[1] while the SPY index, with an uncertain but higher expected return, has averaged 12.88% over the last decade. Just like insurance, the return trade-off costs our wealth! I believe we can distil the desire for certainty into two quantitative factors: time and value.

The Time Trade-Off

Investors generally sacrifice potential returns when making financial decisions to ensure they have the exact amount of money they need when they need it. A classic example is buying a car; individuals will take funds out of their investments and hold them in a savings account to ensure the money to buy the car is there when it comes time to put pen to paper. The price paid for this certainty is a shift from being an investor to a saver. Saving is a crucial component of personal finance but should be considered separate from investing.

[1] Dec 2022 Manulife 1-Yr GIC Rate

Investing, rather, is committing money to earn an expected financial return. When investing, we'll knowingly take the risk of buying stocks to earn an expected return. For our clients, a typical investment horizon is 10+ years. We, as portfolio managers, consider time horizons when making the asset allocation decision, recommending the best stock and bond allocation according to the need for retirement income over a specified time.

Trading Value

The more stock, the higher the expected return. We're compensated for taking risks. The higher expected return for holding stocks over bonds is the equity risk premium (ERP). As a metric, it helps us project the expected returns. When Qube's in-house research team values companies, they start with the capital asset pricing model (CAPM):

$$E(R_i) = R_f + \beta_i \underbrace{(E(R_m) - R_f)}_{\text{ERP}}$$

$E(R_i)$ = capital asset expected return

R_f = risk-free rate of interest

β_i = sensitivity

$E(R_m)$ = expected return of the market

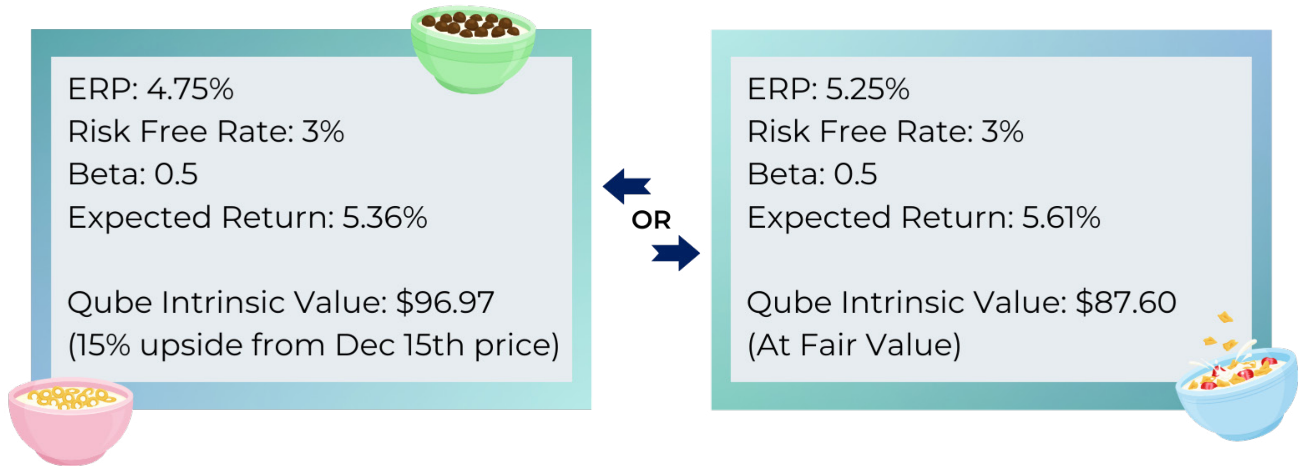
The ERP is one component of the CAPM model. It is calculated by subtracting the risk-free rate from the market's expected return. The risk-free rate Qube uses is the 10-year Government of Canada bond. If we look at Canada over the past decade at calendar year snapshots, the ERP had averaged 5.5%. Consider when a 10-year bond was yielding 3%, using the historical average, we'd expect the stock market to return 8.5%. This premium should compensate for the risk of an investment based in Canada.

This small premium adds up to big changes in our valuations.

Why Our Valuations Change

A company will look cheaper or more expensive depending on the ERP used. We **discount** the cash flows into the future to today's value using the expected return. With a higher ERP, we end up with a higher discount rate; we'll pay less for the same companies when there is a lower ERP. Our willingness to pay less is due to investing risk aversion and is our insurance on being wrong on the valuation.

Consider how the valuation of one Kaleo holding, General Mills (GIS), varies based on a 0.5% difference in the ERP used in our valuation. A little tweak to the ERP adds up to significant changes!



What factors into such a crucial valuation metric? There are many aspects involved in an ERP—both intangible and tangible, micro and macro. But we can focus on time and consumption, two aspects that help convey our thought process and why ERPs change.

It's About Time

Time is deeply intertwined with risk aversion. And generally, risk aversion increases over time. This is because as we age, the need for certainty rises. Every day, we come closer to our retirement drawdown date. We can no longer stomach high volatility, so the desire for higher expected returns decreases. This is why the more risk-averse investors become, the higher the ERP climbs.

To illustrate, we can look at the US population. As the US population ages, the ERP trend line slopes upward. The rolling 5-year average has increased from around 3% to over 5% since 1965.

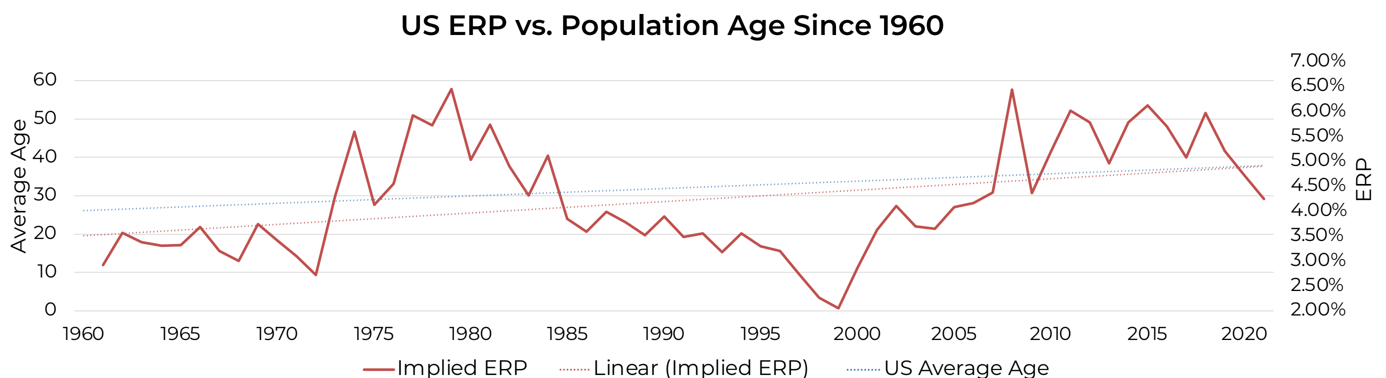


Figure 1— US ERSP & Average Population Age
Source: US Census & Damodaran Online

Consumption Conundrum

Another aspect of ERPs is the preference for present-day consumption. We expect ERPs to increase due to investors' preferences for consumption. It's the line of sight dilemma. We heavily discount delayed gratification. That is why a Coke from my hotel minibar will cost $5 but only $2 at the store right outside of the hotel. I'm willing to pay the $3 premium for immediate gratification. The same dilemma arises based on investors' preferences to save or spend.

During the pandemic, with everything shutting down, households increased their savings rates. Because of this preference to save, the ERP dropped. There didn't need to be a high premium to incentivize savings. Contrast that to 2022, and a lot of the savings accumulated over 2020/21 are now eroded. Households' preference for consumption has risen. Since the preference to spend is up, ERP is also up to incentivize some saving. Figure 2 illustrates the inverse relationship between ERP and the savings rates of US households.

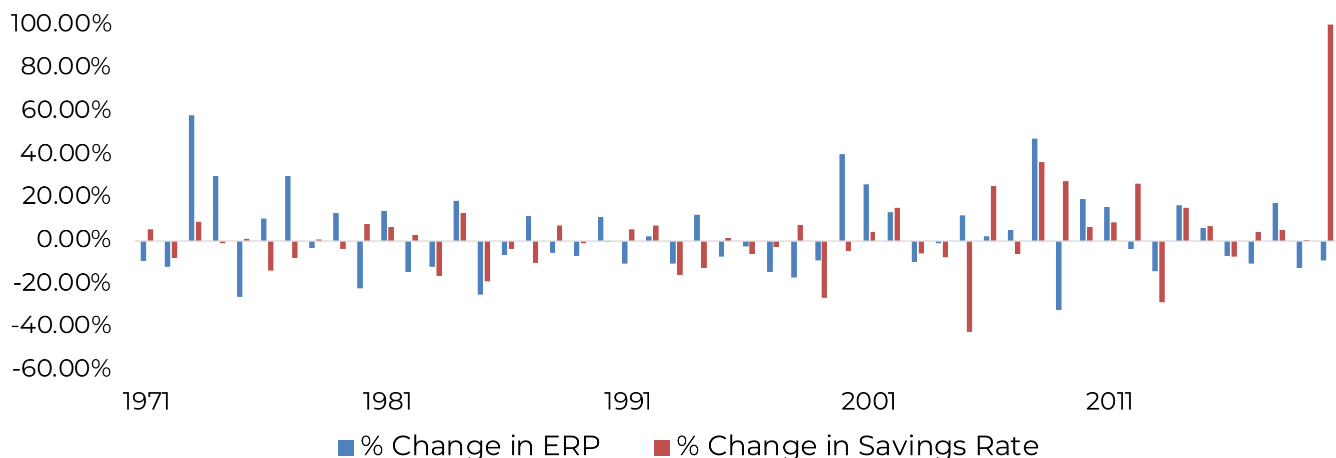


Figure 2— ERP & US Household Savings Rates

In today's high inflationary environment, it's no surprise that the ERP is rising! If possible, the prudent move is to save; take advantage of the inverse relationship and capitalize on the higher expected return.

Animal Spirits

Time and consumption assume rationality in the markets and in determining ERP. They are both tangible and quantifiable. However, the markets seem to also be ruled by the intangible. Or, as famed economist John Maynard Keynes put it, the animal spirits: impulsive action taken based on emotion.

One animal we grapple with is demand. What are investors demanding for a premium to

invest in the stock market? In the low-volatility investment environment we had preceding the pandemic, investors demanded less of a premium. There wasn't a high degree of fear governing the asset allocation decision. Despite the demand for lower ERPs, investors were rewarded. They were given a high return on a low premium due to low interest rates and higher corporate profits!

The animal of demand is akin to using my gut feeling on vacation. One of the remaining uncertainties I'll have is food; I haven't planned out all my meals. Instead, I'll likely walk past a place and think, "Hey that place looks good. It's worth a try!" The hungrier I am, the less it will take to satisfy my demand. The easier demand is to satisfy, the lower the ERP can be. The animal is tamed.

Over the past decade, the market hasn't been too volatile. As investors, we were pretty content, not demanding much of an ERP. Now though, inventors are demanding a lot more, resulting in a higher ERP. Now Qube's valuations are lower. The intangible demand is our "feeling" on the economy.

As much as we make investing a science and base our research on academic principles, there is still a large component that is based on instinct. It's what makes investing, in our opinion, a craft.

Shaping Behaviour

The perspective of investing as a craft is, in part, why Qube is convinced of the existence of sufficient market inefficiency to allow the discovery of mispriced equities. The field of behavioural economics proves investors do not always behave rationally, which is why we can craft different perceptions of the same information.

For example, economists and Finance professors Modigliani and Cohn found the money illusion in 1979: investors discounting real (today's dollars) cash flows at nominal (past/future) discount rates. They hypothesized that low equity values during the 1970s resulted from investors being inconsistent about dealing with inflation. Investors don't adjust to real discount rates.

I noticed this bias when booking my hotel. On Booking.com, I set the filter for room price to $150/night or less. That is what, in my mind, a room should cost. Yet it seems, a decent room is now closer to $200/night! I haven't adjusted my room rate to reflect the inflation of the past few years. An anchoring bias could hold me back from picking a hotel room my family will actually enjoy.

The Modigliani-Cohn model posits that the ERP rises when inflation is higher than expected and drops when inflation is lower than expected. We need to create a mental model for the future. At Qube, we're considering not just inflation today, but also in the future, which feeds into the intangible uncertainty of our ERP decision.

Magic Transformation

Why does the money illusion matter? Because ERPs are not static; we need to adjust them. The small tweak in ERP when valuing General Mills changed the valuation by over 10%. But General Mills as a company doesn't change with varying ERPs. Their Lucky Charms recipe doesn't differ based on share price. Instead, the change is largely based on investor sentiment.

Over time, certainly, General Mills will change. Their debt will renew at different interest rates, consumer preferences will change, and new products will be released. But that is over a longer timeframe. When we model out a company, it is for at least ten years, which is why our small tweaks compound, leading to big valuation changes.

Crafting a Progressive ERP

With equity valuations being so dependent on ERP, we need to be thoughtful with how much we turn the dial. We're looking to calculate a forward-looking ERP that fits our investment horizon. There are several ways to approach a forward-looking ERP; we use the **implied method.**

To use the implied method, we forecast the market's ability to pay dividends using a measure known as free cash flow to equity: a company's cash flow left over after taxes, reinvestment needs, and debt repayment. We also need to forecast a growth rate. What is the reasonable growth rate for earnings and dividends over our time horizon? Then we also consider the growth rate into perpetuity.

Our expectations for the future will guide our ERP. This is just another aspect of finance being a craft, not a science. Qube has one expectation of the future, but another firm may have a different expectation. A lack of consensus provides evidence contrary to the efficient market hypothesis that states investors act rationally.

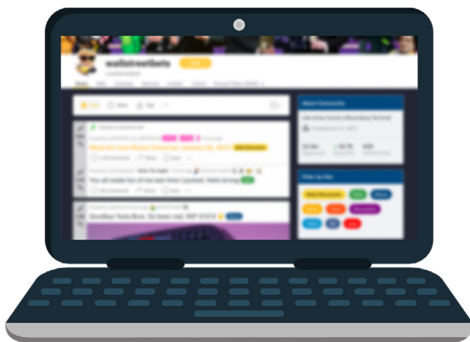
When planning for my vacation, I started perusing my options nearly a year ahead of time. I want certainty in where I'll stay and how I'll get there. The premiums I pay should be akin to saving; I'm not investing in the vacation. When investing, I'm okay with some uncertainty. I just want to be compensated for it.

Equity Stubs: Betting Against the House

By Steven Stringer

The stock market has dramatically changed over the last few decades. Gone are the days of calling a physical broker on the trading floor who will haggle with someone looking to buy or sell the same security. On platforms such as Robinhood or Questrade, anybody can buy or sell stocks. All it takes is the click of a button.

Furthermore, the addition of social media platforms focused on stocks has changed the psyche of many retail investors. Social media rewards extremes. Nobody can brag about returning 8% a year, so instead, they find themselves chasing astronomical returns, regardless of the risk, in order to gain recognition. If they are lucky, they'll tell everyone about their gains. Judging by the posts on social media, you would think that the stock market is the easiest place in the world to get rich quickly, but this is misleading due to **survivorship bias.**



The large majority of these investors take their accounts to $0 through aggressive strategies that are akin to gambling rather than looking to compound their wealth over decades. When their accounts go to zero, the traders who told everyone about their gains seem to be silent about their losses.

So what makes retail trading and the quest for astronomical returns so dangerous? Most traders are not trading. What they're doing is gambling. And as we know, the house usually wins.

Betting Large: The Equity Stub Strategy

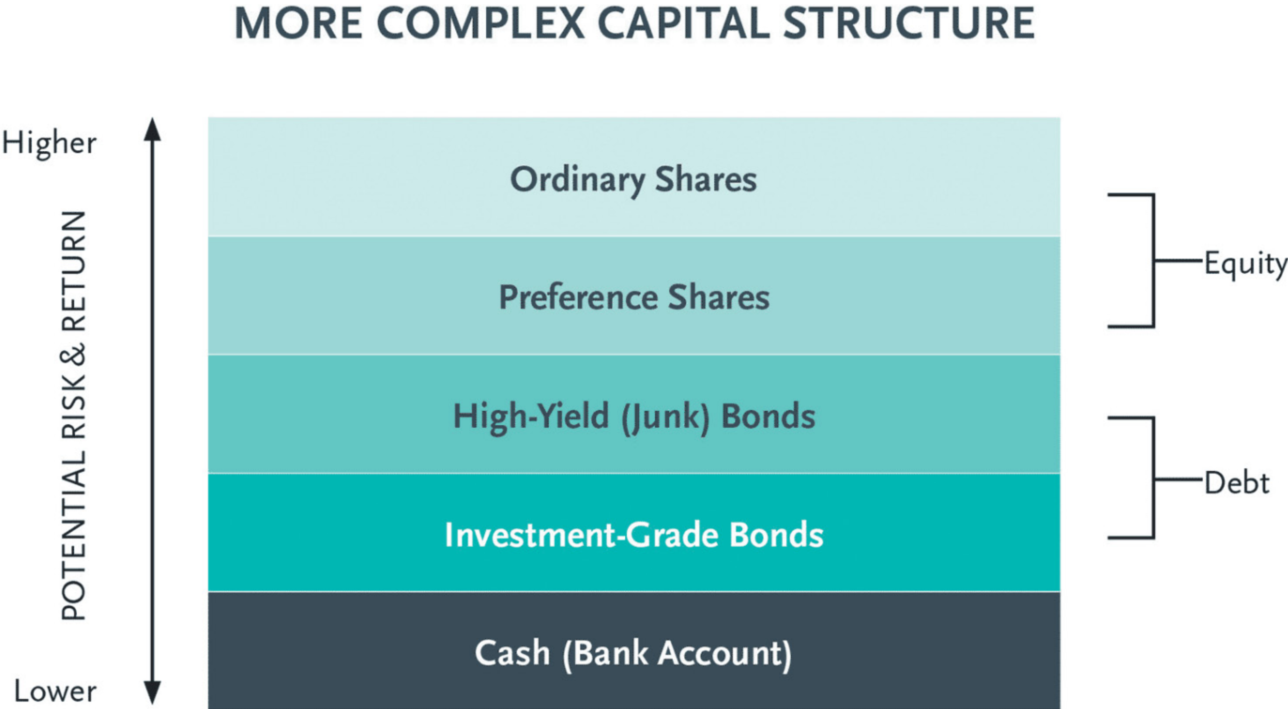
When walking through a casino, the games all have different odds. There are games where we know the odds, such as roulette. And games where we blend odds and human behaviour, such as poker. Then there are games where we don't know the odds, like slots. The thing with slots is, despite not knowing the odds, payouts can be astonishingly high. A single small bet can lead to a substantial windfall.

In the pursuit of returns, one area retail traders have been gambling in is equity stubs. Equity stubs are companies that are highly leveraged and near bankruptcy. The equity portion of the company is tiny–a stub of the whole company's value. If selected correctly,

equity stubs can be some of the most rewarding investments ever purchased, but just like slots, the odds are unknown and not in an investor's favour. This is due to their often "binary" outcomes. Either the company survives, and your investment appreciates substantially, or the company goes bankrupt, making your investment worthless. There is often no middle ground.

A Risky Gamble

When completing a company valuation, there are a few items that Qube reviews to determine a company's total value. Debt is generally considered the least risky component, while common equity is considered the riskiest. In the event of bankruptcy, the debt holders have the first claim on the leftover assets, while equity holders are often left with nothing. But with more risk comes more potential reward. This holds for equity stubs.



Under normal circumstances, your average company will primarily be comprised of equity with a smaller portion of debt. However, when companies are heavily indebted, equity can only represent 5% of the entire company's value. When the equity is only worth a small portion of the company, the leverage of your position gives you the *potential* for **significant upside.**

Leverage amplifies outcomes, both good and bad. For example, imagine two companies. Both are worth $100, but Equity & Co. is 100% equity, while Leverage Inc. is 20% equity and 80% debt.

Value of the Entire Company Today	Equity & Co. 100	Leverage Inc. 100
Value of Debt	0	80
Value of Equity	100	20

The Power of Leverage

Value of the Entire Company in 1 Year	150	150
Value of Debt	0	80
Value of Equity	100	70
Return to Equity Holders	50%	250%

The Peril of Leverage

Value of the Entire Company in 1 Year	80	80
Value of Debt	0	80
Value of Equity	80	0
Return to Equity Holders	-20%	-100%

In an optimistic case where the value of the companies increases 50%, Equity & Co.'s equity holder receives a return of 50%. However, if you were the equity holder in Leverage Inc., your return would be 250%.

This heightened reward comes with its risk. If the value of the companies were to fall to $80, Equity & Co.'s equity holders would only lose 20% of their investment. In Leverage Inc., they would be entirely wiped out.

Why do traders sometimes take the stub gamble?

The Potential of Leverage

During the financial crisis of 2008, the price of companies in nearly every industry fell precipitously, creating equity stubs everywhere. Take mattress maker Sleep Number (NASDAQ: SNBR) for example. In 2007, the stock was trading at $17/share. By mid-2009, the stock had fallen to $0.23/share as fewer consumers were purchasing mattresses in a recession and management made some poor decisions.

Had you purchased shares then, you would have seen the share price climb to the low $30s in the following four years, which would represent a return of >13,000% or 130x your initial investment. That is an incredible return!

In a casino, the house wins because, for every Sleep Number win, there are hundreds of other companies that go bankrupt, leaving equity holders with nothing. Even if an investor were to diversify and purchase dozens of equity stubs, they would lose money in the long run. The odds are not in an investor's favour.

Can Investors Beat The House?

Before entering a casino, you need to establish a strategy. The classic tips are not to take more money in than you're willing to lose, make small bets, don't drink, and keep track of time. Over the past few years, stock trading apps have made investing a game. However, many retail traders didn't come prepared or know the rules.

The apps and forums where individuals bragged about amazing returns in 2020 and 2021 began to go silent as 2022 progressed. Those same traders didn't have a plan and may have bet on equity stubs chasing the payout but not considering the risk of loss. Last year was a continued reminder of why the house usually wins.

Despite the house usually winning, there are exceptions. The best professional gamblers play poker or blackjack. They know the odds, they can gather information, and they plan to win over time. They also devote countless hours to bettering their craft. For them, a trip to the casino isn't a fun thing to do on Friday night. Instead, it's how they earn their living.

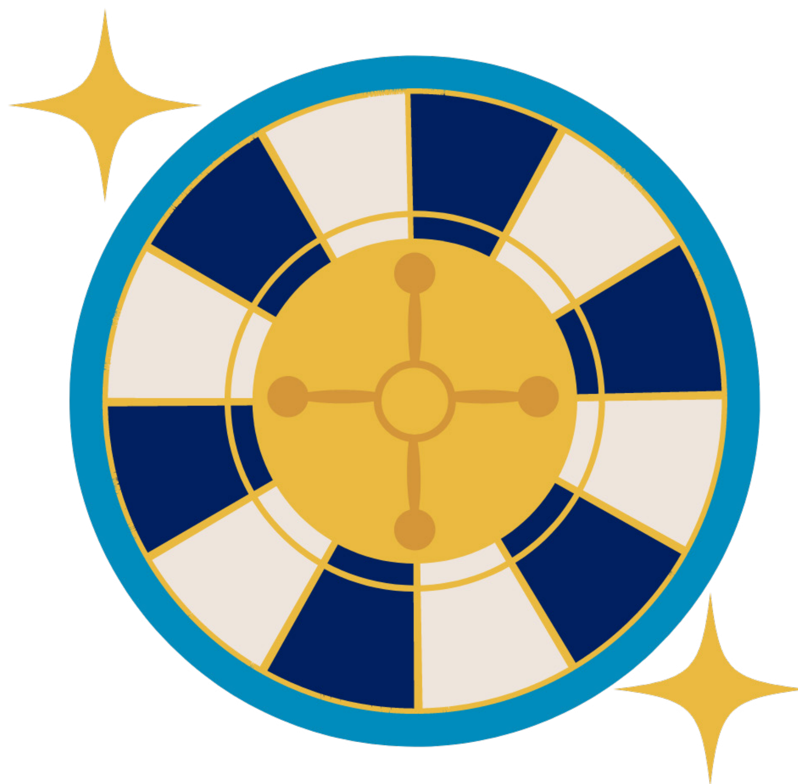
Qube's equity analysts have also devoted countless hours to their craft, elevating our work beyond gambling to a meaningful profession. It's how we earn our living: finding undervalued companies that we believe will appreciate over time and beat the market for our clients. That is why it takes at least 40 hours to pick one company!

We don't want notoriety for one remarkable win, and we are not placing client assets in slot machines. Instead, we're slow and steady. We won't be right on every company we choose, but we take the time to understand the company, its business plan, the areas it can grow, and where there are risks. To us, the markets aren't a casino. Rather we see the markets as an opportunity to find businesses that will grow and pay us with share appreciation and dividends. We invest, rather than gamble.

2022's Lessons

It seems every decade or so, retail trading mania comes alive. Everyone is talking about stocks, companies they've heard about, or bets they're making. It's all fun and games when you're winning. However, for most individuals, 2022 was a sobering reminder of why the house wins. If you're considering playing in the stock market in 2023, keep it small and consider if you're investing or gambling. Usually, it's the latter.

At Qube, we're always here to discuss investing, but gambling? It's just not worth the risk. We prefer to sleep well at night knowing what we've invested in instead of worrying about whether we have a Sleep Number on our hands or are about to go bust.



2022 Proxy Voting Summary

With another year in the books, we wish to share with you our proxy voting summary for 2022. In previous years, the summary report has been available on our website. However, we believe that moving forward, the Semi-Annual Commentary–with its research focus–is an appropriate place to update our valued clients directly. Our detailed proxy reporting remains available at request.

As a refresher on why we proxy vote, we believe that our investment management approach matters. We uphold corporate responsibility by engaging in shareholder engagement to increase corporate accountability and, in turn, support higher share values for our investors. This ensures a higher return for society at large.

Before investing, we passionately investigate, monitor, and review companies to ensure they demonstrate transparency of executive compensation and accounting practices; environmentally sustainable operations; active partnerships in the communities in which they operate; and positive relationships with all stakeholders, including employees.

We take an active approach to representing our client's best interests through proxy voting for each company held in our Kaleo portfolio. The following is a summation of the votes made in 2022 for the 12 months ending on Dec 31, 2022.

The Value of a Vote

In 2022, Qube voted on management and shareholder resolutions for 43 companies in our portfolio. Time and resources are allocated on our clients' behalf to effect change in the areas of governance, human rights, and climate change.

It may seem like we are small fish in a big pond, and change may be slow. Still, we have seen that governance issues that Qube addressed with public companies in the past (in concert with other like-minded advocates for change), such as pay ratios (2013) and external auditor limits (2015), are now mainstream. SEC-mandated publishing requirements of pay ratios in proxy reports came into play in 2017, and audit committees now extensively review and justify the tenure of their external auditors in detail each proxy season. Every vote does

count, and companies take notice when we "make it matter."

Governance

Fair CEO compensation, in our eyes, is no more than 100X the average employee; most take a salary of $1M, but stock options, bonuses, etc., can inflate that number.

We were skeptical of some pay ratios published in proxy reports. For example, a Canadian bank listed the average salary of their non-management employees as $120K, but a cursory glance at Glassdoor listed the salary of a bank teller at $35K, a mortgage loan officer at $50K, so whose salaries are being used to calculate the ratio?

Directors are closely examined for experience, length of tenure, and potential interlocks that could reduce independence. One example of where we voted against directorships was at Lamb Weston. This company was spun off from Conagra in 2016, and at that time, two directors came over from the Conagra board–a common practice. However, those same two are still currently serving on the board, which now gives them a combined Conagra/Lamb Weston tenure of well over ten years, and we voted against their nominations.

Encouraging trends that we saw this year were the continuing progression towards the separation of Chair and CEO on boards, the intentional (not "token") diversity of directors, and the limitations of director tenure to ten years.

Shareholder Proposals

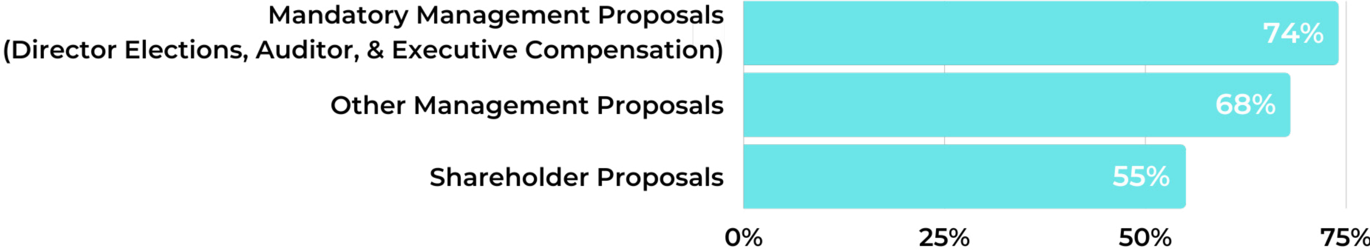
Forty-one different shareholder proposals were voted on in 2022–a substantial increase over the last five years and thematically divided into environmental (10), social (19) and governance (12).

In the past, proposals were generally governance-based and easy to vote for or against, but in this proxy season, we had to vote on such diverse proposals as a report to assess the financial/reputational risks involved in the potential development of weapons through the use of a gaming augmented reality headset (Microsoft – voted against) and the mitigation of human rights and reputational risks in the financialization of housing (RBC – voted for).

The establishment of non-binding **Say on Climate** votes through management and shareholder resolutions are becoming more prevalent. We did not vote "for" the three resolutions we came across this proxy year, as

the issues involved in the shareholder resolutions on this topic are complicated and unclear. Yet, according to Glass Lewis, there are many "pros" to this move. Still, it is currently recommended that resolutions should be voted on a case-by-case basis as companies could "report to the vote," and detailed, meaningful reporting could fall by the wayside.

For a copy of the detailed voting in 2022, please contact info@qubeinvest.ca.



Qube Insights: Equity Research Traffic Lights

Balancing traditional research techniques with modern portfolio science allows our team to find companies that demonstrate and maintain solid investing fundamentals. We look for less volatile and proven earnings combined with long-standing stable dividend policies. Share prices need to be justified on a combination of current earnings and reasonable earnings growth possibilities. Quality financial statements, coherent management and an operational business plan need to be in place before we rank a company "green."

Company	Sector	Current Status
VIACOM CBS (PARAMOUNT)	Communications Services	
DOMINOS PIZZA	Consumer Discretionary	
PVH	Consumer Discretionary	
WINNEBAGO	Consumer Discretionary	
WILLIAMS SONOMA	Consumer Discretionary	
AMAZON.COM INC	Consumer Discretionary	

Company	Sector	Current Status
THE TJX COMPANIES INC	Consumer Discretionary	
CALLAWAY	Consumer Discretionary	
BOOKING HOLDINGS	Consumer Discretionary	
HERBALIFE NUTRITION LTD	Consumer Discretionary	
SIX FLAGS ENTERTAINMENT CORP	Consumer Discretionary	
CROCS	Consumer Discretionary	
CAMPING WORLD HOLDINGS	Consumer Discretionary	
HARLEY-DAVIDSON INC	Consumer Discretionary	
POLARIS	Consumer Discretionary	
AUTONATION	Consumer Discretionary	
SERVICE CORPORATION INTERNATIONAL	Consumer Discretionary	
RH	Consumer Discretionary	
LOUIS VUITTON MONET HENNESSY	Consumer Discretionary	
ROYAL CARRIBEAN INTERNATIONAL LTD	Consumer Discretionary	
LULU LEMON	Consumer Discretionary	
COLOMBIA SPORTSWEAR INC	Consumer Discretionary & Staples	

Company	Sector	Current Status
CASEY'S GENERAL	Consumer Staples	○ ○ ○ ✗
SMUCKER'S	Consumer Staples	○ ○ ○ ✗
PILGRIMS PRIDE CORP	Consumer Staples	○ ◐ ○ ○
LOWES COMPANIES	Consumer Staples	○ ◐ ○ ○
KROGER	Consumer Staples	✓ ○ ○ ○
MONDELEZ INTERNATIONAL	Consumer Staples	○ ○ ○ ✗
KEURIG DR. PEPPER	Consumer Staples	○ ◐ ○ ○
ENERGY TRANSFER LP	Energy	○ ○ ○ ✗
GO EASY	Financials	○ ◐ ○ ○
IHS MARKET	Financials	○ ○ ○ ✗
MSCI INC	Financials	○ ○ ○ ✗
THE ALLSTATE CORPORATION	Financials	○ ◐ ○ ○
METLIFE INCORPORATED	Financials	○ ◐ ○ ○
CITIZENS FINANCIAL GROUP	Financials	○ ◐ ○ ○
TRAVELERS INSURANCE COMPANIES	Financials	○ ◐ ○ ○
ROYAL BANK OF CANADA	Financials	○ ◐ ○ ○

Company	Sector	Current Status
SOTERA HEALTH CO	Health Care	
HORIZON THERAPEU	Health Care	
R1 RCM INC	Health Care	
IDEXX LABORATORIES	Health Care	
ZOETIS INC	Health Care	
UNITEDHEALTH GROUP INC	Health Care	
TENET HEALTHCARE CORP	Health Care	
AECOM	Industrials	
CLARIVATE PLC	Industrials	
WILLSCOT MOBILE	Industrials	
JACOBS ENGINE GRP	Industrials	
FINNING INTERNATIONAL	Industrials	
POSCO STEEL	Industrials	
TETRA TECH INC	Industrials	
LENNOX INTERNATIONAL INC	Industrials	
BUILDER FIRSTSOURCE INC	Industrials	

Company	Sector	Current Status
PARKER HANNIFIN	Industrials	
MILLER INDUSTRIES	Industrials	
ZIM INTEGRATED SHIPPING SERVICES LTD	Industrials	
ZURN ELKAY WATER SOLUTIONS CORP	Industrials	
TRINET GROUP INC	Industrials	
ALPHABET	Information Technology	
HEWLITT PACKER ENTERPRISE	Information Technology	
QUALCOMM INC	Information Technology	
BROADCOM INC	Information Technology	
CDW CORPORATION	Information Technology	
LAM RESEARCH	Information Technology	
COGNIZANT TECHNOLOGY SOLUTIONS	Information Technology	
AXALTA	Materials	
CORTEVA INC	Materials	
HUNTSMAN CORP	Materials	
CADENCE DESIGN	Technology	

Company	Sector	Current Status
GARMIN LTD	Technology	
ENPHASE ENERGY	Technology	
GDS HOLDINGS LTD	Technology	
KLA CORP	Technology	
DROPBOX INC	Technology	
CONVERGE TECHNOLOGY SOLUTIONS	Technology	
CP RAIL	Transportation	
U-HAUL HOLDING COMPANY	Transportation	
AES US EQUITY	Utilities	
ENTERGY CORP	Utilities	
PPL CORPORATION	Utilities	
SOUTHERN COMPANY	Utilities	
NEXTERA ENERGY	Utilities	
AMERICAN ELECTRICAL	Utilities	
CMS ENERGY CORP	Utilities	

How We Keep in Touch

Beyond meetings and quarterly reports, there are a number of ways to stay connected with Qube.

	RECAP	SEMI-ANNUAL COMMENTARY	QUB[ED]	SOCIAL MEDIA
What?	• the latest happenings at the Qube office • information about our services • links to the newest Qub[Ed] articles	• a collection of editorial papers authored by our experts that reveals our thoughts on the financial landscape	• educational articles on a variety of topics, designed to make finance inclusive and understandable	• updates on everyday office life • investing terminology • notifications of new Qub[Ed] articles • helpful reminders
Where?	Email	On our website and by paper mail	On our website	Facebook, Instagram, and LinkedIn
Frequency?	Bi-weekly	Twice a year—January and July	Monthly	Multiple times a week
How to receive?	• Investment clients are automatically subscribed • Other contacts can sign up at qubeinvest.ca/subscribe	• Investment clients automatically receive the paper version by mail • Visit qubeinvest.ca to view	Visit qubeinvest.ca to view	Give us a follow!
How to opt out?	Manage communication preferences with the link found at the bottom of marketing emails, in accordance with Canada's Anti-Spam Legislation	Clients who no longer wish to receive the paper version may email info@qubeinvest.ca	—	—

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Commissions, management fees and expenses may be associated with investment accounts. Please read the simplified prospectus (if applicable), or investment management agreement before investing. Many investments are not guaranteed and are not covered by the Canada Deposit Insurance Corporation or by any other government issuer. There can be no assurances that an investment will be able to maintain its net asset value or that the full amount of the investment will be returned to you. Values change frequently and past performance may not be repeated.

Qube Investment Management Inc. is a registered portfolio management firm in the Provinces of Alberta and British Columbia and was registered as a portfolio management firm on June 25, 2012. Any return period cited before this date was prior to QIM being registered as a portfolio management firm. Inception was Jan 1, 2011 and all returns are for a modeled portfolio initiated at $500,000. Your actual returns may vary according to your individual portfolio. The modeled returns are calculated inclusive of dividends, adjusted to the Canadian currency, and are determined via the IRR (Internal Rate of Return) method. The gain/loss shown are simple (non-compounded) returns for periods up to one year. If the time since inception date is more than one year, then the return shown is an annualized return. For comparison purposes, the Kaleo model(s) are reported as gross returns before investment management fees. Individual investor level returns will differ as the fees agreed to in your Investment Management Agreement (IMA) are subtracted from the gross return.

At any one point in time, the composition of the Kaleo model may change. Currently, the focus for our models (Kaleo A and Full) is to invest in a globally diversified portfolio of liquid stocks with a minimum market capitalization of $1 billion. Our diversification strategy is to have similar industry weightings between our Kaleo models A and Full, which in turn will have similar weightings to the S&P 500. Our investment mandate is to not have any one industry sector or sub-group exceed 2.0 times the percentage weighting assigned to that group by the MSCI Index unless the sector or sub-group composes less than 5% of the total index. Please refer to your Investment Policy Statement (IPS) for more details.

Index comparisons are based on the total return index defined by 50% of the MSCI Index and 50% of the S&P TSX Total Return Index. All index returns are inclusive of dividends, adjusted to the Canadian currency, and, similar to the modeled portfolio, determined via the IRR method. Please note that, as total return indices are not actual portfolios, these returns do not include the cost of management and/or trading fees.

Past performance is not indicative of future results and there is no assurance that our model portfolio will achieve its objectives or avoid significant losses.

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