TD Wealth

Game Changer

Monthly Perspectives // June 2019

15 minutes

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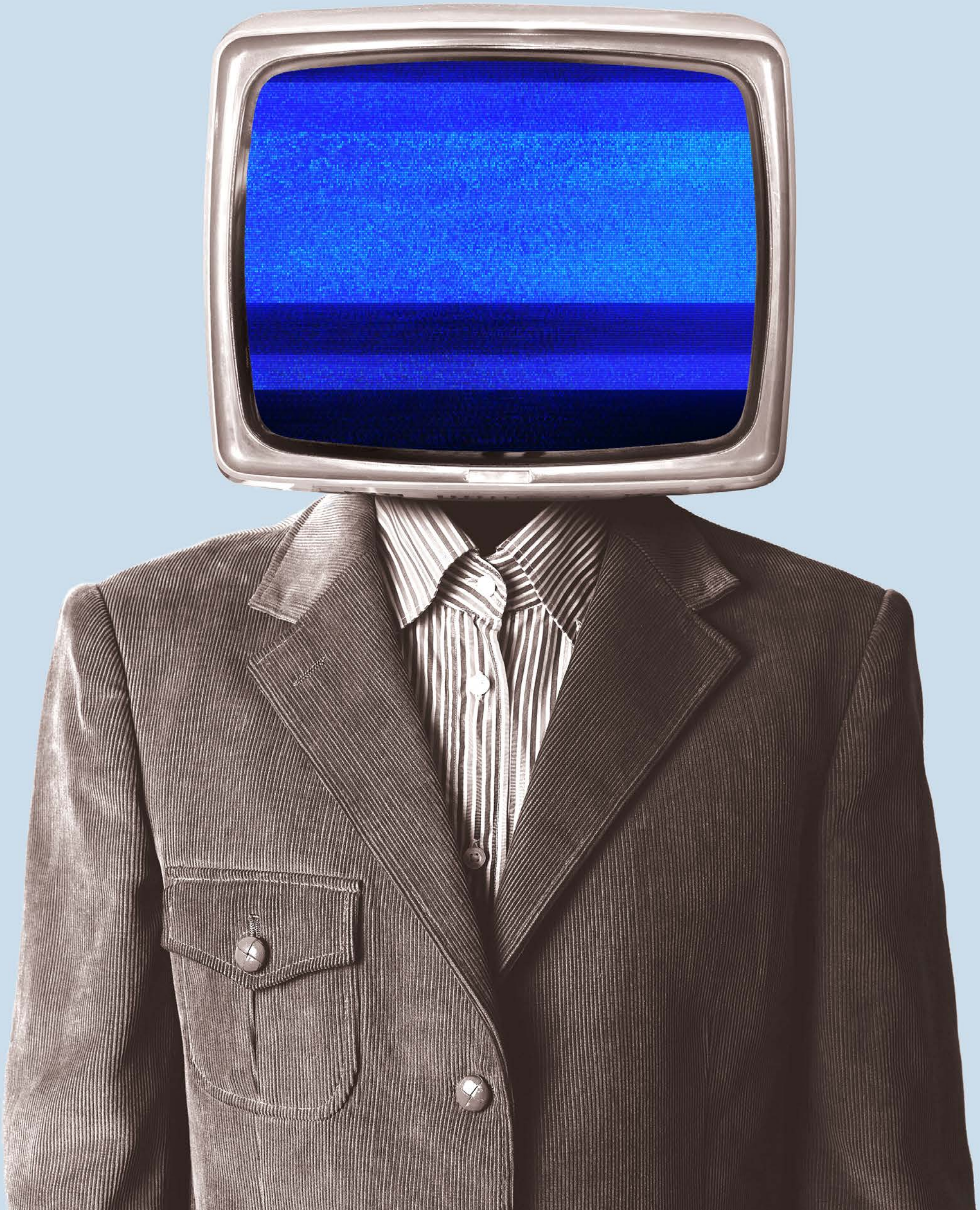
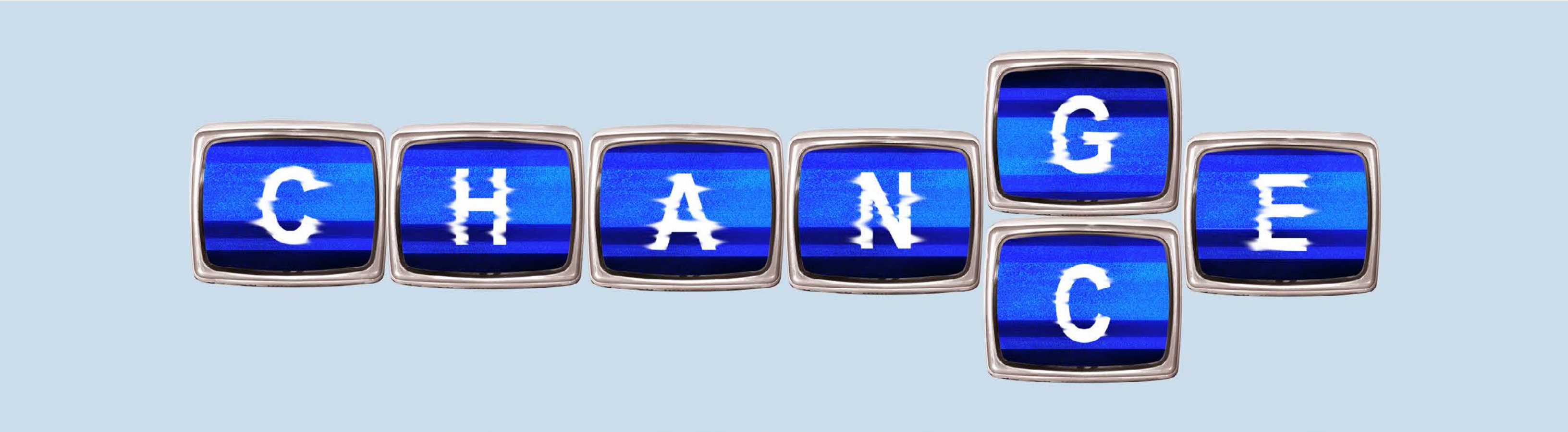


What is … a game changer?

Brad Simpson, Chief Wealth Strategist, Head of Portfolio Advice & Investment Research, TD Wealth



Well, it finally happened. James Holzhauer, the professional gambler from Las Vegas who had been blowing away the competition on *Jeopardy!,* finally lost a game. After 32 consecutive wins, Holzhauer had racked up $2.46 million, coming within a hair's breadth of the all-time record in less than half the number of games. (By comparison, it took Ken Jennings 74 games to win $2.52 million.)

I must admit, I'm not an avid viewer, but my interest was piqued a few weeks ago when my son brought Holzhauer to my attention. "Dad, you have to check this guy out," he said, marveling at the gambler's unorthodox approach. "He's a *game changer*."

My son's use of the term "game changer" was deliberate; he knows it's one of my trigger words. Why? Because that bit of hyperbole gets thrown around so often that it has come to describe anybody who happens to be pretty good at something, without achieving anything transcendent.

When you find a real game changer, though, it's magical—like watching Wayne Gretzky switch directions behind the net the first time, or Bob Dylan play his electric guitar at the Newport Music Festival, or Steve Jobs launch his iPod/iPhone revolution. Not only are these real examples of dramatic change, they are examples of change that led to something dramatically better.

Holzhauer, for his part, may have forever changed the game of *Jeopardy!* His tactics were unlike anything we'd ever seen. Instead of dipping his toe into a category and then moving progressively into deeper water, Holzhauer dove right in. He attacked the toughest and most valuable clues at the bottom of the board first, moving from category to category—displaying his formidable breadth of knowledge—before wandering around the board looking for Daily Doubles, which would allow him to double and then quadruple his earnings with enormous bets. Holzhauer wasn't just playing to win; he was playing to maximize earnings.

As Holzhauer explained to The *New York Times*, "There are big advantages to having a lot of chips early on in a poker tournament. You can make plays that other people can't. Hitting a Daily Double on the first clue is nice, I guess, but you can do a lot more damage if you have $5,000 in front of you already."

Creative genius like this may seem obvious in hindsight, but when iconoclasts start breaking stuff, there's always going to be some resistance. Take Wayne Gretzky. When old-timers first saw him play, they sneered that he was too skinny and too slow—that he was hiding behind the net because he lacked the grit to approach head on.

The *New York Times* reported that Dylan "was roundly booed by folk-song purists, who considered this innovation the worst sort of heresy." And when Steve Jobs unveiled the iPod Nano in 2005, Motorola's then CEO, Ed Zander, ridiculed him for creating an MP3 player that stored more music than anyone could ever listen to: "Screw the [iPod] Nano. … Who listens to 1,000 songs?" As it turns out, quite a few of us, Ed.

The point is, we are hardwired to resist change. In a *Forbes* article published a few years ago entitled "Why we're so afraid of change—and why that holds businesses back" (bit.ly/2KV6TSx), cultural anthropologist Andrea Simon takes our deep-seated resistance to change and boils it down to three key elements:

1. Habits are powerful and efficient.

As you mature, your brain creates a mind map that sorts reality into a perceptual order and creates effective, quickly established habits. The result: your brain limits what it sees, and reality conforms to past perceptions. Early lessons in life and business play a heavy-handed role in keeping you from seeing things in fresh ways.

2. Your brain hates change.

When you're learning something new, your prefrontal cortex must work very hard as you experiment with unfamiliar ideas. Since your brain uses 25% of your energy, no wonder you feel tired and your head hurts when learning!

3. You have to "see and feel" new ways of doing things, not just read about them.

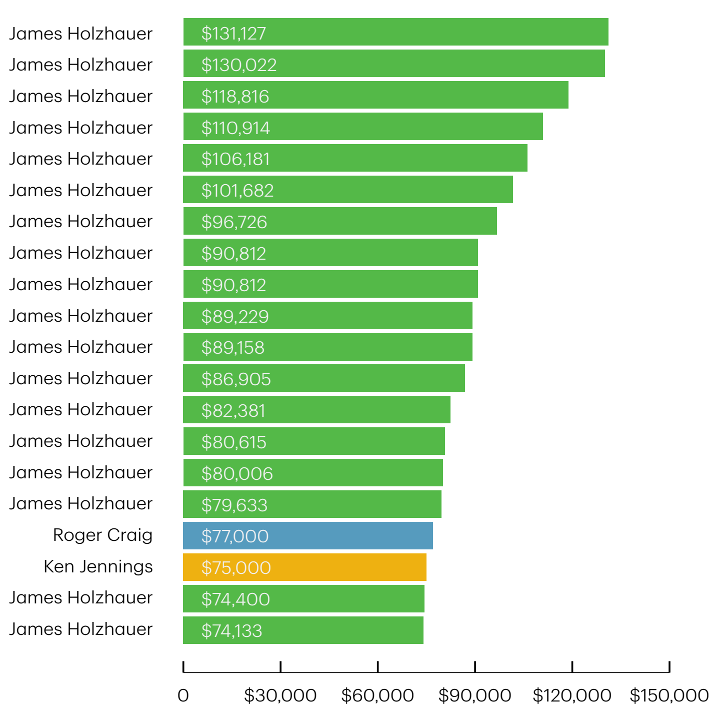
Experiential learning is critical. As you learn, your brain actually changes, reflecting new decisions, mind maps, and reality sorting. As soon as a challenge presents itself, your brain will want to hijack the new thought patterns.

So, what does our resistance to change and game changers have to do with investing? A lot, actually. Competitive activities like *Jeopardy!* and hockey—and, yes, investing—appear at first to be closed systems. The rules and motives seem simple, and as you watch the action, familiar patterns begin to emerge. In time, participants start to believe they can predict outcomes based on observable patterns.

But the notion that markets operate within a closed system is one of the biggest myths purveyed by the financial pseudoscience industry. It's the reason we read annual outlooks and analyst forecasts. It's the reason we watch CNBC religiously and lend credence to talking heads who don't really don't know what's going to happen tomorrow—at least not any better than you or I.

James Holzhauer changed the game of *Jeopardy!* by writing a whole new playbook. Before him, the most money ever won in a single game was $77,000. Over the course of 33 appearances, Holzhauer beat that record 16 times, earning an incredible $131,127 on his 10th appearance. He was the most dominant *Jeopardy!* champion ever. But if you were expecting Holzhauer to eclipse the 74-game win streak set by Ken Jennings, you would be wrong.

Figure 1: In 33 appearances, James Holzhauer tallied the 16 highest single-game scores in Jeopardy! history.



Source: Jeopardy!

That's because the game of *Jeopardy!*, like most other games, is played out in the open, where winning strategies can be studied and, for the most part, replicated. Whereas Ken Jennings had beaten his opponents on pure trivia virtuosity, Holzhauer had been using sleight of hand, exploiting a weakness in the game—and it wouldn't take long before others would start to exploit the same weakness.

On his 18th appearance, Holzhauer faced off against Adam Levin, a sports information director at Brandeis University. Levin had been selected as an alternate the day before and, as a result, had been allowed to sit in the audience and watch Holzhauer crush his opponents five times in a row. (The *Jeopardy!* crew produces five episodes in a single day.) That gave Levin an advantage that many other contestants hadn't benefited from.

In the end, Holzhauer managed to beat him anyway, but only by the thinnest of margins: $18. In an interview with *Slate*, Levin describes how he managed to adapt to the new playbook:

Q: So you watched James's 13th to 17th games in person. Did it help?

Levin: I think it helped. Had I been the first game on the first day, I would have had no idea. Being able to see that strategy in play—going towards the bottom row and pushing all-in or wagering high on all of the Daily Doubles, that was a little bit of a shock to the system.

Q: Did watching him for five games give you a sense that you had to adjust?

Levin: A little bit. I would have been aggressive on Daily Doubles anyway. I would have had a similar approach as some players in the past have. But would I have bet $12,000 of my $13,000 in the second round in a non-James environment? Probably not.

Q: It does seem like some of the challengers are starting to adjust their game play, as you did.

Levin: Yes. I think challengers are looking lower in the board for Daily Doubles. That's the only way he's going to be beatable.

The same thing happens with financial markets. Investment strategies are always changing, always susceptible to disruption, which invariably leads to adaptation. It may be impossible to time the arrival of a disruptive influence like James Holzhauer, but with enough foresight and a strong investing philosophy, you can incorporate the inevitability of disruption into your plan.

Our investing philosophy at TD Wealth, Risk Priority Management, has seven principles, the first of which is to "innovate and look forward."

Risk Priority Management I Priciple 1

Innovate and look forward

A critical component to investment success is the relentless pursuit of being prepared for what comes next. Grand distortions caused by unorthodox monetary policy in recent years may mean that the era of simply gathering data and using it to calibrate future allocations is over. We believe investors are better served by directing their efforts to what they can control: building a robust portfolio that can weather the inevitable volatility and unknown elements of financial markets.

And what are those unknown elements? If we were playing a game of macroeconomic *Jeopardy!*, there would still be two big questions (er, answers) on the board right now.

1. Where are we in the current growth cycle?

Frustratingly, it's not a clear-cut answer, given that purchasing and services indices are going in different directions.

An equally weighted review of Purchasing Manager Indices (PMIs) from 18 countries reads 49.9 as of May 31, 2019. (An index reading above 50 indicates growth, while anything below 50 indicates a contraction.) While the data in the U.S. and Canada are positive, countries like China, Japan and Germany are negative and suggest that we are indeed flirting with a global manufacturing recession.

This is consistent with the Cass freight index, which shows that shipments of North American goods were down 6% year over year in the month of May. This represents the sixth consecutive month that the annual numbers were down.

The good news is that global services PMIs are still good and expansionary. Consumer spending in the U.S. continues to be a good news story, with household numbers improving thanks to lower credit costs. (Jerome Powell, the American consumer salutes you!)

Ignore the predictions and prepare for a slower phase of economic growth

Speaking of Jerome Powell, the prognosticators were all talking two to three rate increases for 2019. Now these same folks are predicting the opposite—not that anyone needs a crystal ball to read Chairman Powell's clear signals. I'd say ignore the predictions, listen to the Chair and prepare for a slower phase of economic growth, what people in the business like to call "late-stage."

2. When will the U.S.-China trade war end?

The consensus call last year was that, while this was going to be an ongoing saga, both the U.S. and China had enough skin in the game to come to some sort of interim agreement by the spring of 2019. Since I have been liberally applying suntan lotion and reading about heat waves, I am thinking this prediction failed to materialize. Again, I would contend that this is adaptation at work. A year ago, U.S. trade policy seemed to catch the Asian giant off guard. China also seemed a bit sheepish about U.S. accusations that it hadn't implemented enough reform measures.

A year later, the world hasn't come to an end, and China appears to be singing a different tune, comforted by the fact that the American consumer is picking up the tab on all the tariffs. Overall, China seems better positioned than they had expected, and are now able to hunker down in order to endure what seems to be a long-term U.S. containment strategy.

Our Wealth Asset Allocation Committee has a theme on the current financial environment entitled "Estranged," which anticipates "protracted conflict between China and the U.S." This would continue to a good guideline for making investment decisions. I can't say you will win Final Jeopardy! with it, but it's probably a pretty good answer on a Daily Double.

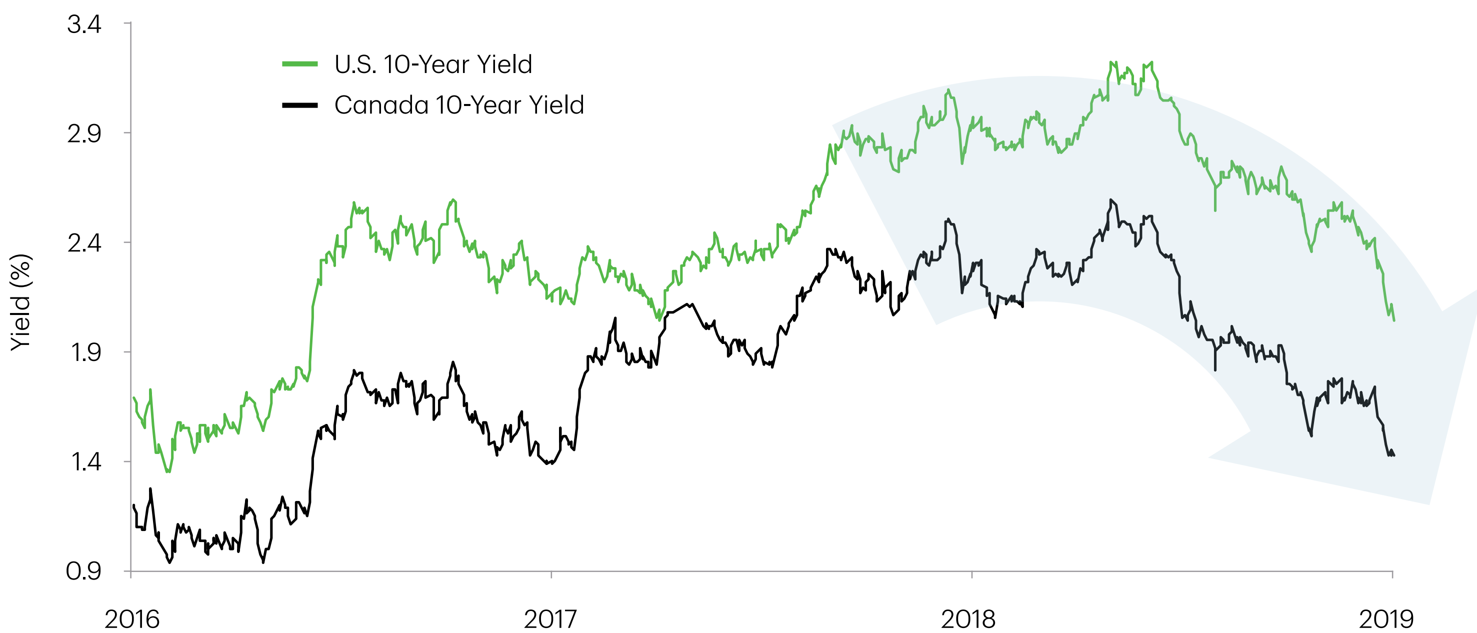
As for Holzhauer, his impressive streak came to an end in early June when, on his 33rd appearance, he met librarian Emma Boettcher, who had studied the Holzhauer playbook and was ready for him. She replicated his strategy admirably, beating him to the buzzer, hunting around for Daily Doubles and betting big at every opportunity.

Holzhauer evolved to beat the game, and then the game, in the form of studious contestants like Adam Levin and Emma Boettcher, evolved to beat Holzhauer. □

Expectations make a U-turn

Liam O'Sullivan, Head of Client Portfolio Management, RP Investment Advisors

Figure 2: Interest rate markets repriced lower in 2019, accelerating in May



Source: Bloomberg Finance L.P., as at June 6, 2019.

The following is a lightly edited excerpt from the RPIA's monthly commentary, published in early June 2019.

How quickly things change. It seems like only yesterday that every investor we spoke to was concerned about the impending end of the secular bull market in bonds, brought about by ever increasing interest rates. While the Fed (and Bank of Canada to a lesser extent) successfully embarked on this path to normalization by hiking rates from ultra-low levels, the journey was surprisingly short-lived.

Things really began to change in late 2018 with the "Fed pivot" to a more patient policy. Then, as U.S.-China trade negotiations broke down in early May, investors were left with serious concerns over a looming recession and the unpredictable nature of geopolitical risks. This shift in expectations has fundamentally changed the current direction of interest rates.

Markets are now expecting the Federal Reserve to cut rates twice in 2019 in response to concerns about trade tensions and slowing global economies—a far cry from the "auto-pilot" hikes that were the norm in mid-2018. These concerns have also led investors to reallocate to the safety of government bonds, causing 10-year US Treasury yields to decline from 2.50% to 2.12% and Canadian 10-year yields to drop from 1.71% to 1.48%. In response, credit spreads widened modestly in May as investors demanded higher compensation for taking on corporate bond risk.

Market dynamics are further distorting yield curves

Expectations of future easing have led distortions in North American yield curves to become even more pronounced, leaving us with an accentuated "checkmark" shape. This shape is a result of investors who are willing to lend money to the U.S. government for 10 years at a rate that is 20 basis points less than what they would receive to lend money for only three months. (The yield on the U.S. 10-year is 2.15%, versus 2.35% on 3-month treasury bills.)

This phenomenon makes little sense relative to the "normal" upward sloping curve, but also speaks to how quickly the market has shifted to pricing in slower economic growth and the reemergence of accommodative central bank policy.

This narrative, moreover, is not contained to North America. European governments have also been relatively accommodative, with serious concerns around the threat of recession, to the point where we are starting to see dynamics that remind us (to some extent) of prior periods of coordinated easing that pushed interest rates to extremely low levels.

These distortions are resulting in wider credit spreads

With this change in expectations for central bank accommodation and global economic slowing, we are starting to see distortions in the market that, for a flexible manager such as RPIA, offer interesting opportunities.

U.S. corporate bonds offer one example. As yields fall, bond prices increase, leading to some profit-taking from the investors that want to realize gains. This tends to result in wider credit spreads, as new buyers are enticed into the market with additional yield. Given our flexible mandate, we are more than happy to act as a liquidity provider when that additional spread adequately compensates us.

Rates market impacting preferred shares

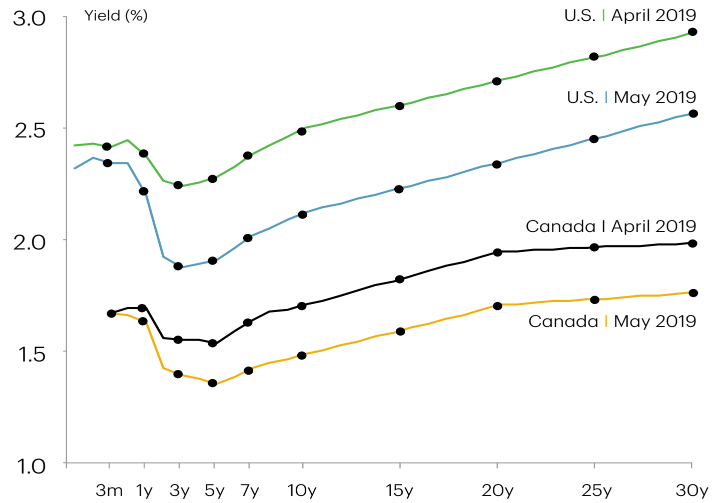
Another knock-on effect from the change in interest-rate outlook has surfaced in the Canadian preferred-share market, which has performed very poorly as of late.

The Canadian preferred-share market is a unique beast. Because preferred shares pay dividends rather than a coupon (which is treated as income) they often form a constant allocation in the portfolios of retail investors. However, these instruments are highly sensitive to moves in interest rates.

Specifically, when forward expectations for interest rates decline, the instruments tend to fall in value, as expected future coupons are lower. With such a sharp U-turn in May expecations, the preferred-share market posted a 12-month total return of -13%.

Thanks to this most recent period of performance, preferred shares have offered investors a near-zero return over the past five years—and with plenty of volatility along the way.

Figure 3: North American yield curves have further distorted over the month of May

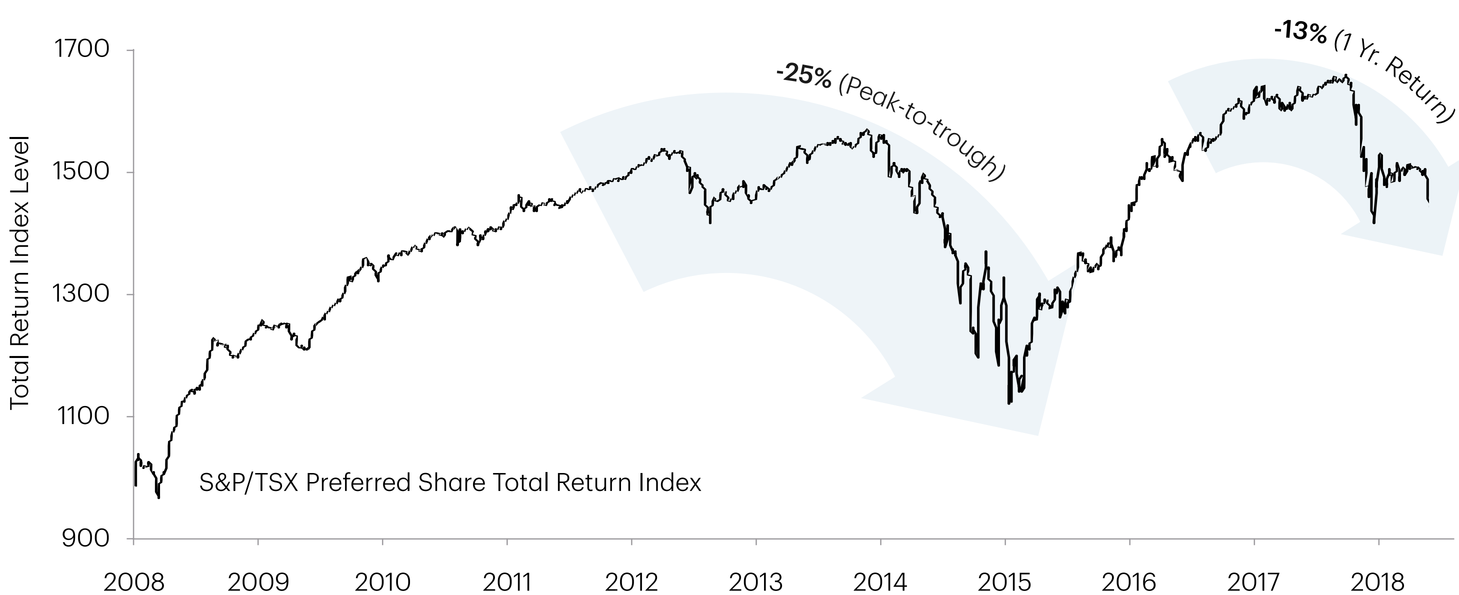


U.S. April 2019: U.S. Treasury Actives Curve 05/31/19 Mid YTM; U.S May 2019: U.S. Treasury Actives Curve 04/30/19 Mid YTM; Canada April 2019: Canada Sovereign Curve 04/30/19 Mid YTM; Canada MAY 2019: Canada Sovereign Curve 05/31/19 Mid YTM. Source: Bloomberg Finance L.P., as at June 6, 2019.

This is the risk/reward profile we generally try to avoid, and believe this fact should bring into question whether preferred shares are better treated as tactical rather than strategic allocations.

Once again, however, where we see large disruptions is also where we begin to see opportunities. These instruments are less sensitive to changes in interest-rate expectations, as they have a larger credit spread "cushion," insulating them (to a degree) from future interest-rate drops. The recent repricing has been dramatic, with new issues offering yields close to 2015/16 levels even though today's interest rates are close to 100 basis points higher versus that period.

Figure 4: Canadian preferred share markets have experienced significant periods of negative performance and high volatility



Source: Bloomberg Finance L.P., as at June 6, 2019.

Slicing up the Apple pie

Chris Blake, Senior Portfolio Manager, Portfolio Advice & Investment Research

The tech leaders are coming up against some intractable problems. In early June, the chairman of the U.S. House of Representatives Antitrust Subcommittee announced that it would launch an investigation into "anti-competitive conduct" by the tech giants, and whether existing laws are adequate to deal with the behaviour of technology platform companies—business models that were never contemplated when the existing regs were drawn up.

Tech stocks fell on the news for a couple of days before investors, exhibiting typical short-termism, got distracted by something else ... and all was forgiven (see Figure 5). Certainly the risk of an antitrust investigation has been around for some time; many have called for such an inquiry over the past three to four years. What's different this time is that we're no longer looking at just one or two grandstanding politicians. This is real action that could have teeth.

Actually, the worst part may not be the imposition of new regulations; it may be the process. The act of parading the CEOs of tech giants like Google and Facebook in front of a televised committee to publicly humiliate them about their "unfair" business practices is certain to result in a negative headline overhang on these stocks, as investors work through their fears.

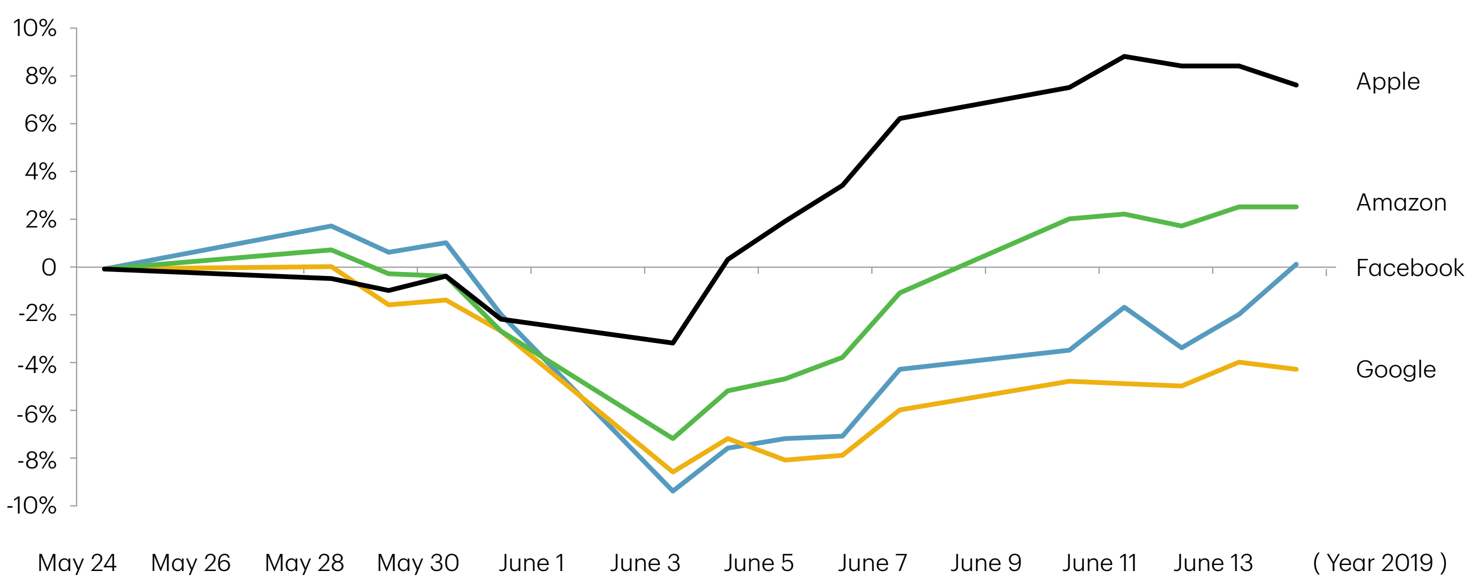
Just over twenty years ago, Microsoft was put through a similar antitrust wringer. From beginning to end—starting with the May 1998 filing of numerous government antitrust lawsuits and ending with a consent decree on April 27, 2011—it took 13 years to complete the process. It would be impossible for us to disaggregate the effect that case had on the relative performance of Microsoft stock since it started in the great internet bubble and ended long thereafter. What we do know is that the scrutiny of this nature is likely to lead companies to be a little more circumspect in their strategic moves.

Apple's walled-off orchard

New antitrust rules could have a particularly deleterious effect on Apple, given its dependence on proprietary—and some might argue, uncompetitive—systems. In mid-May, Apple lost a ruling in the U.S. Supreme Court that gives iPhone owners the right to sue the company for uncompetitive practices.

The case originated as a 2011 class action by iPhone owners who alleged that Apple gouged its customers by forcing them to buy apps from the iTunes App Store, where prices are inflated by Apple's 30% margin on all app sales. Apple, for its part, claims that this practice serves as a quality control, ensuring apps are secure and in compliance with Apple's terms of service.

Figure 5: Antitrust investigation blip



Source: Bloomberg Finance L.P., as at May 24, 2019.

Spotify, meanwhile, has had a very public spat with Apple over the iTunes store pricing policy, arguing that Apple Music has an unfair advantage because of the margin that other music service providers are forced to pay. And there are a pile of other music service providers that I'm sure would sign on to help break the iTunes store monopoly. If Apple were to lose exclusivity of the pipeline feeding its devices, it would lead to a significant drop in iTunes sales, as well as a decline in the margin associated with those sales.

That would be bad news, particularly as the market for iPhones hits maturity. After an absolutely fantastic run of growth—from around 173 million annual units in 2019 to 1.555 billion units in 2018—revenue attributable to Apple's magical money-making machine have plateaued. Sales in 2018 were barely above the prior year's, at 1.536 billion.

iPhone sales, which comprised 63% of Apple's US$265.6 billion in revenue last fiscal year, are expected to decline about 15% this year—mainly because of lengthening product-replacement cycles, but also at least partially due to President Trump's trade war with China. That leaves a US$25-billion hole to fill, and while some other product lines (watches, apps, subscriptions, etc.) are growing, these growth areas represent only about half of the remaining 27% of the business. The other half (Mac computers, iPads and iPods) are all shrinking slightly.

The good news for Apple is that, with two dominant operating system platforms (iOS and macOS), customers are locked in to a certain extent. The bad news is that these proprietary systems are now under intense scrutiny. As these business lines come under attack and the smartphone market matures, leading to longer product-replacement cycles, Apple is in desperate need of a new growth engine.

Chill wind of trade policy could stifle global economic 'green shoots'

Derek Burleton, Deputy Chief Economist, TD Economics

Following a few exceptional, stimulus-boosted years of growth, global growth expectations have been on a one-way ride down over the past year. Consensus forecasts1 for real GDP growth in 2019 have fallen from nearly 4% more than a year ago to a below-trend 3.2%. There are three main culprits for this dramatic adjustment: growing trade tensions; falling world trade volumes; and the confidence-sapping impact of elevated market volatility in late 2018.

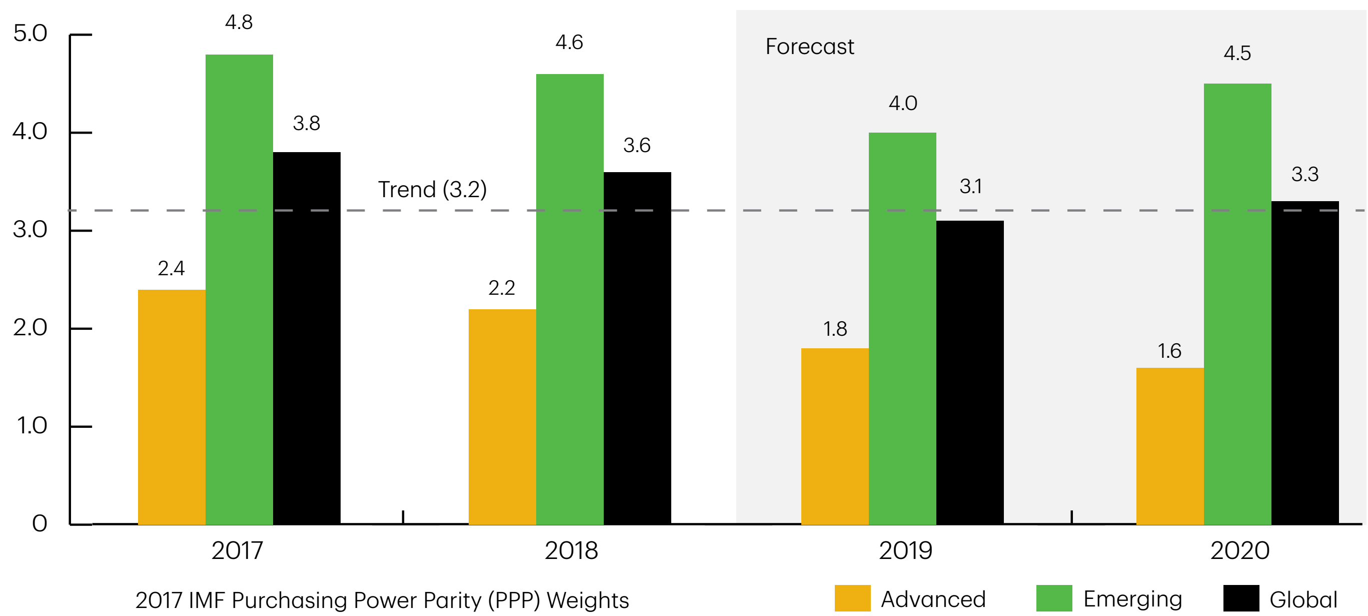
The world economic landscape remains rife with potholes. Fortunately, forecasts of world expansion have steadied since falling to this more modest pace in the winter. The first notable step in the process towards stabilization has been the broad improvement in global financial conditions since late 2018, which was in turn supported by the pivot to patience by major central banks. Notwithstanding the wobbles of late, global equity markets have recorded gains since hitting a nadir in January, while bond yields have fallen another leg down and risk spreads have remained contained.

As financial conditions have firmed, forecasters have been actively hunting for signs of feed-through to the real economy. Here, evidence of "green shoots" has been far from widespread, but we would point to the following: (1) Consumer and business sentiment surveys have stabilized or edged higher from recent lows in most major economies; (2) Strong job gains and firming wage growth in recent months have been providing support to household spending across the G7; (3) Signs of life have been concentrated in service industries. However, global trade and industrial production have also shown some indication of firming, albeit at relatively low levels.

Among the regions, the U.S. has been a special case, as its economy in 2018 managed to buck the trend of a slowdown, aided by tax cuts and increased government spending. Consensus1 had predicted growth to return to a more sustainable rate of 2% in 2019 as the impact of past stimulus faded. If anything, consensus estimates for 2019 have been nudged up, with the U.S. economy on track to grow around 2.5% (annualized) in the first half.

In Canada, there has been mounting evidence that economic activity is awakening from its recent hibernation. Oil industry output remains depressed, but production curtailment impacts are easing. Moreover, highly indebted households appear to be showing more confidence. After months in the doldrums, retail sales and home sales are firming heading into the summer. Looking ahead, we anticipate that a robust job market and decent wage growth will be keys to supporting a moderate rebound in economic activity beginning in the second quarter of 2019. This assumes that households remain on pace to boost spending on services and propel the economy forward, offsetting a manufacturing sector that remains stuck in neutral.

Figure 6: Economic Growth, global growth set to slow back to trend



Source: TD Economics. Forecast as of June 2019.

Similar themes are playing out elsewhere. European economic activity is expected to firm up after a soft end to last year as manufacturing activity continues to recover from temporary setbacks. Moreover, the low-interest-rate environment, together with decent wage growth, remains conducive to a firming in consumer spending this year. As in the case of Canada, stronger spending on services is expected to offset lower manufacturing output and weaker foreign demand.

In Asia, it's no secret that China's slowing economy has been hurt by U.S. tariffs. In response, Chinese authorities have launched programs to support employment and the manufacturing sector more broadly by encouraging household spending. That said, the escalation of tariffs to 25% on about US$200 billion of Chinese exports is likely to trigger another round of stimulus by Chinese authorities, just to ensure that growth for this year falls within the 6% to 6.5% target range.2 All told, pieces that should allow the global economy to gain some modest traction in the second half of this year are starting to fall into place.

That said, just as some "green shoots" have started to sprout, there is the potential for a severe bout of chill winds to stifle their development. Since May, there has been a re-escalation in trade tensions between the U.S. and China, and more recently, the U.S. and Mexico. As this is being written, on June 4, the situation remains extremely fluid. Suffice to say that these tariff threats can prove quite harmful to the U.S. and global economies, with U.S. consumers expected to foot much of the bill. Moreover, the U.S. administration continues to threaten the European Union and Japan with automobile tariffs as part of its negotiating tactics as it pursues trade talks with both parties this year.

Like most economies, Canada's economy would feel collateral damage of increased global financial risk aversion and market volatility as well as the knock-on effects relating to lower export demand. The Canadian dollar, which has remained stable in recent months in the 74 to 77 U.S. cent range, would almost certainly be pressured lower if these downside risks materialize.

Largely in light of this downside risk, investors have aggressively moved to price "insurance" rate cuts by the U.S. Federal Reserve. In response, government bond yields have fallen to their lowest levels in more than a year. Rate cuts have typically coincided with recessions, but not always. We believe the market has over-priced the extent of accommodation the Fed will ultimately need or be willing to provide absent a significant deterioration in the economic data. However, the persistent elevated risk environment does open the door for the US central bank to provide modest accommodation later this year as "insurance." We have incorporated a 50-basis-point cut beginning in September.

It's not certain the Bank of Canada will follow, as markets so often expect. In fact, we suspect any modest cuts by the Fed will not be matched by the BoC given signs the economy is strengthening from its early year. Further, the BoC is likely to be more cautious in cutting rates at the risk of re-fuelling leverage dynamics □.

[1] Bloomberg survey of economic forecasters;
[2] China lowers 2019 GDP growth target to 6-6.5% range, *South China Morning Post*

Market performance

		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Canadian Indices ($CA) Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
S&P/TSX Composite (TR)	55,778	-3.06	1.07	13.36	3.03	7.62	4.98	7.20	7.56	6.98
S&P/TSX Composite (PR)	16,037	-3.28	0.24	11.97	-0.15	4.47	1.89	4.04	4.46	4.35
S&P/TSX 60 (TR)	2,710	-3.08	1.71	13.37	4.55	8.69	6.01	8.00	7.39	7.10
S&P/TSX SmallCap (TR)	897	-4.16	-5.46	5.82	-12.21	0.45	-1.10	1.26	5.39	-
U.S. Indices ($US) Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
S&P 500 (TR)	5,519	-6.35	-0.67	10.73	3.78	11.72	9.66	13.49	13.95	5.83
S&P 500 (PR)	2,752	-6.58	-1.16	9.78	1.73	9.49	7.43	11.13	11.59	3.81
Dow Jones Industrial (PR)	24,815	-6.69	-4.25	6.38	1.64	11.74	8.22	10.02	11.31	4.36
NASDAQ Composite (PR)	7,453	-7.93	-1.05	12.33	0.15	14.63	11.93	15.22	15.43	5.68
Russell 2000 (TR)	7,345	-7.78	-6.64	9.26	-9.05	9.75	6.71	11.14	12.84	7.64
U.S. Indices ($CA) Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
S&P 500 (TR)	7,466	-5.63	2.03	9.79	8.42	12.92	14.57	17.94	16.37	5.36
S&P 500 (PR)	3,723	-5.86	1.52	8.85	6.27	10.66	12.23	15.49	13.96	3.36
Dow Jones Industrial (PR)	33,566	-5.97	-1.64	5.47	6.17	12.94	13.06	14.34	13.67	3.91
NASDAQ Composite (PR)	10,081	-7.22	1.64	11.37	4.62	15.86	16.94	19.74	17.89	5.21
Russell 2000 (TR)	9,935	-7.07	-4.10	8.33	-4.99	10.93	11.49	15.50	15.24	7.17
MSCI Indices ($US) Total Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
World	8,555	-5.68	-0.93	10.08	0.27	9.62	6.22	10.51	10.57	5.22
EAFE (Europe, Australasia, Far East)	7,615	-4.66	-1.16	8.05	-5.26	6.35	1.76	6.99	6.72	4.35
EM (Emerging Markets)	2,253	-7.22	-4.44	4.19	-8.34	10.28	2.16	3.97	5.38	7.83
MSCI Indices ($CA) Total Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
World	11,571	-4.95	1.76	9.14	4.75	10.80	10.97	14.85	12.92	4.76
EAFE (Europe, Australasia, Far East)	10,301	-3.92	1.53	7.13	-1.03	7.49	6.31	11.19	8.99	3.89
EM (Emerging Markets)	3,048	-6.51	-1.84	3.30	-4.25	11.47	6.73	8.05	7.62	7.36
Currency	Level	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
Canadian Dollar ($US/$CA)	73.93	-0.77	-2.65	0.86	-4.27	-1.06	-4.28		-2.08	0.44
Regional Indices (Native Currency) Price Return	Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs	20 Yrs
London FTSE 100 (UK)	7,162	-3.46	1.23	6.44	-6.73	4.75	0.91	4.73	4.95	0.01
Hang Seng (Hong Kong)	26,901	-9.42	-6.05	4.08	-11.71	8.93	3.11	8.06	4.00	4.06
Nikkei 225 (Japan)	20,601	-7.45	-3.67	2.93	-7.21	6.13	7.08	18.17	8.02	1.24
Benchmark Bond Yields		3 Month		5 Yr		10 Yr		30 Yr		
Government of Canada Yields		1.66		1.39		1.48		1.72		
U.S. Treasury Yields		2.13		1.77		2.01		2.53		
Canadian Bond Indices ($CA) Total Return		Index	1 Month	3 Months	YTD	1 Yr	3 Yrs	5 Yrs	Since 1/1/2012	10 Yrs
FTSE TMX Canada Universe Bond Index		1,110	1.69	3.98	5.56	7.00	9.12	3.72	3.45	4.58
FTSE TMX Canadian Short Term Bond Index (1-5 Yrs)		728	0.51	1.63	2.53	4.17	4.96	1.89	2.01	2.56
FTSE TMX Canadian Mid Term Bond Index (5-10 Yrs)		1,202	1.38	3.69	5.36	14.80	8.24	3.69	3.72	5.08
FTSE TMX Long Term Bond Index (10+ Yrs)		1,876	3.37	7.23	9.74	10.17	12.33	6.23	5.17	7.46

Sources: TD Securities Inc., Bloomberg Finance L.P. TR: total return, PR: price return, as of May 30, 2019.