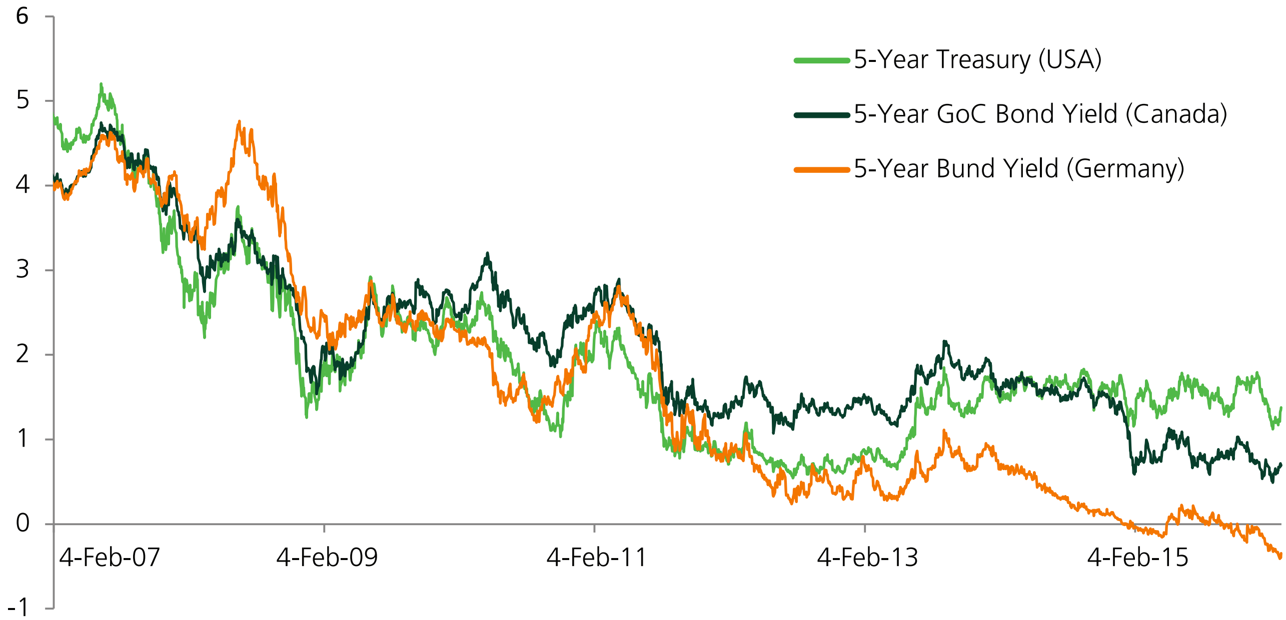
How low can rates go?

Monthly Perspectives | Portfolio Advice & Investment Research

March 2016



In this issue

Martha Hill, CFA

Lower for longer continues to be echoed by investors when discussing interest rates. However, with 25% of global government bonds now trading with negative yields and some central banks adopting a negative interest rate policy (NIRP), how low can they go could become the new mantra.

In this edition of Monthly Perspectives, we revisit the persistently low interest rates and discuss the implications of NIRP, a monetary policy tool that the Bank of Canada is willing to consider. Additionally, we discuss how low interest rates have impacted Canadian equity investors, focusing on the widely held banks and insurance companies, which have experienced significant declines in stock prices.

Finally, we interview three prominent fixed income portfolio managers to find out about their outlook for bond markets and the opportunities they see in the fixed income asset class.

Fixed Income

The negative interest rate experiment

Sheldon Dong, CFA

"We really can't forecast all that well, and yet we pretend that we can, but we really can't."
- Alan Greenspan
Chairman of the U.S. Federal Reserve (1987 to 2006)

A basic premise of finance that is widely understood by people from all walks of life is that if you lend someone money, they will have to pay you back with interest. Short of the borrower defaulting on the loan, you do not expect to be repaid less than what you have lent. However, that simple rule of finance has been broken. Negative interest rates were long assumed not to be feasible since it would always be possible for lenders to switch to cash, which offers an interest rate of zero. However, recent international experience indicates that negative policy rates are indeed a viable monetary policy tool and central banks around the world are developing a newfound fondness for experimenting with negative interest rate policies (NIRP), despite their unknown long-term consequences. Negative interest rates are no longer bizarre, but the fact that they are becoming an accepted form of monetary policy might be. The great experiment currently being conducted is how low negative interest rates can go and how long they can remain there before financial sector activity is impaired and negative policy rates become counter-productive.

Earlier this year, the Bank of Japan became the fifth central bank to adopt NIRP, which means it charges financial institutions (lenders) to deposit money. The others are the European Central Bank, along with central banks in Denmark, Sweden and Switzerland. The idea behind negative interest rates is to discourage foreign capital flows in order to weaken currencies, and to make it expensive to hold cash, forcing banks, businesses and consumers to start spending in order to promote economic growth.

Sweden's 2009 adoption of NIRP—seemingly without many of the negative consequences that some economists had predicted—paved the way for larger central banks to experiment with the approach. Experience has shown that commercial banks are willing to accept negative rates on their deposits with the central bank because there are considerable costs associated with holding and storing large amounts of currency. How low negative policy rates can go will be determined by factors such as the cost of storage, insurance, safekeeping and transportation of cash, along with the price of convenience.

The Bank of Canada recently unveiled a new unconventional policy framework that included using negative interest rates. Perhaps most intriguing is the central bank's calculation that the effective lower bound for its interest rate policy is not zero, but rather negative 0.50%. In its 2009 framework, it had considered 0.25% to be its effective lower limit, which matched the record low of the bank's key rate during the financial crisis.

Another tenet of finance is that the lower interest rates go, the more likely you are to spend and invest. There is no reason that should not continue if rates fall below zero because saving would cost you money. But that is what some people are actually doing, to the detriment of economic growth. With an aging demographic profile in most developed economies, very low and negative interest rates severely punish savers and retirees. As most people have a diminishing appetite for taking risk with their retirement funds as they grow older, they are left with the choice of investing in higher yielding, but more volatile assets such as stocks, or saving more. As a result, many have opted to save more and spend less. This would mean that cash is idle, rather than being invested in a productive economic activity. Negative interest rates affect the financial system in other adverse ways. Bank interest margins are reduced and their cost of capital is increased to compensate for reduced profitability. Banks attempt to pass on these costs to consumers and businesses; they also constrain credit and raise lending rates, weighing on growth. Insurance companies and pension funds may also come under stress as potentially reduced future portfolio returns make it harder to deliver on their commitments to policyholders and pensioners.

Although consumers may borrow money at lower rates, negative interest rates do not mean that banks will pay you to borrow money. In order to stay profitable, and to avoid the risk of a "bank run," banks have thus far been reluctant to charge small depositors to hold their money. However, if you pay fees on your banking account(s), you are likely already paying a negative interest rate in real terms, even if you do not know it. The experience in Sweden, which has had a negative interest rate policy since 2009, has created a massive housing bubble, inflated by investors entering the real estate market as an alternative investment. Closer to home, we are experiencing a similar effect in Vancouver and Toronto.

For investors, about 25% of global government bonds (equivalent to approximately US$7 trillion) are now trading with a negative yield. This helps to pull down, or constrain yields from rising elsewhere, as investors will go more global to get higher returns. On February 11, 2015, Government of Canada 5-year (0.39%), 10-year (0.908%) and 30-year (1.744%) bonds traded at new record low yields. The 2-year yield (0.253%) set its record low on January 20, 2016 amid speculation that the Bank of Canada would cut its policy rate.

In short, if pundits claim to know where interest rates are going and tell you the longer term consequences of negative interest rates, take it with a grain of salt. The efficacy of negative interest rates on economic growth is far from certain. If we cannot forecast all that well under general conditions, you can imagine the difficulty in doing so in the current environment where there is not a lot of historical evidence to base your outlook on.

Equities

Low rates, low profits

Robert Marck, CFA, CPA, CMA

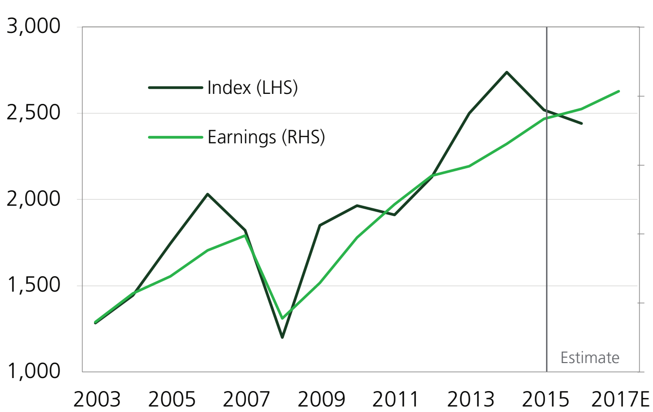
Volatile equity markets have resulted in sharp declines in share prices of many Canadian companies, most acutely felt in the energy and financials sectors. While depressed oil and gas prices have explained the weakness of the energy sector, do they also explain the weakness in the financial sector? In this article, we explore the causes of the weakness in share prices of Canadian banks and insurance companies, looking specifically at the financial companies' exposure to the energy sector, historical earnings and price trends.

Do weak energy prices explain the weakness in the financials sector?

Considering extremely low oil prices and oil's importance to the Canadian economy, an analysis of the banks' energy loan exposure may be prudent. Total oil and gas loans as a percentage of total bank loans range from approximately 2% to 4% (4% to 10% as a percentage of non-consumer loans). While not immaterial, given the recent capital builds at the banks, the exposure is expected to be manageable. The decline in market value of the banks in the past 13 months is less than the banks' direct exposure to oil, suggesting that investors' worries extend past the financial institutions' direct energy exposures. A rash of defaults in energy loans would certainly hurt bank profits; moreover, there could also be a contagion effect through lower capital markets business and perhaps even a higher level of regional consumer loan and credit card defaults. While the commodity market weakness does impact the credit books of Canadian banks, it appears these fears are more than realized in current share prices. Banks seem to be well capitalized and able to manage through the energy downturn, as do major insurance companies, which may also suffer from investment related losses as oil and gas shares and bonds decline in value. Overall, weak energy prices do not seem to fully explain the fall in the share prices of financial institutions.

A look at trading multiples

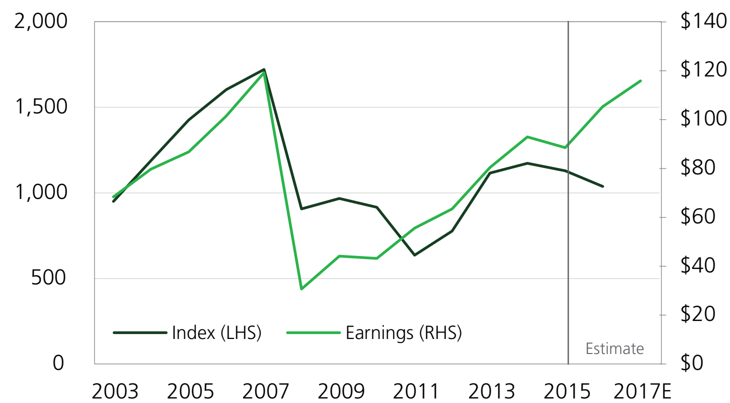
Figure 1: Canadian Bank Index vs. Earnings



Source: Bloomberg Finance L.P. As at February 19, 2016.

Looking at the Canadian Bank Index (major Canadian banks in aggregate) earnings plotted against the price of the index (figure 1), historically they have moved in lockstep, falling in 2008 during the financial crisis as earnings and share prices suffered. Earnings growth from 2009 to 2015 was impressive. According to current analyst forecasts (source: Bloomberg Finance L.P) earnings growth is expected to slow, but remain positive into fiscal 2017. Although earnings growth is expected to remain positive, the price of the Canadian Bank Index has fallen approximately 11% from the end of 2014. This would indicate that while analysts remain modestly bullish on the economic prospects of the banks, investors are decidedly less so.

Figure 2: S&P/TSX Life and Health Sub-Industry Index vs. Earnings



Source: Bloomberg Finance L.P. As at February 19, 2016.

In figure 2 we plot the earnings of the Canadian Life and Health Insurance Index (major Canadian life insurance companies in aggregate) against the price of the index. Once again in 2008, earnings and prices plummeted as the global financial crisis shook investor confidence and dampened earnings profiles. Earnings for the major Canadian life insurance companies have rebounded from the global financial crisis and are expected to reach pre-crisis levels by 2017. While earning profiles remain solid, the price of the insurance sector index has flattened since 2013 and has recently begun to decline. Similar to the banks, the divergence between insurance companies' earnings trajectories and share prices indicate that investors are concerned about the value of the underlying equities.

Are a flattening yield curve and low interest rates to blame for the share price pressure?

While earnings for banks and insurance companies are expected to continue growing, the multiple investors are willing to pay for them has fallen. A major component of bank earnings is the net interest margin (NIM), which is the difference between what a

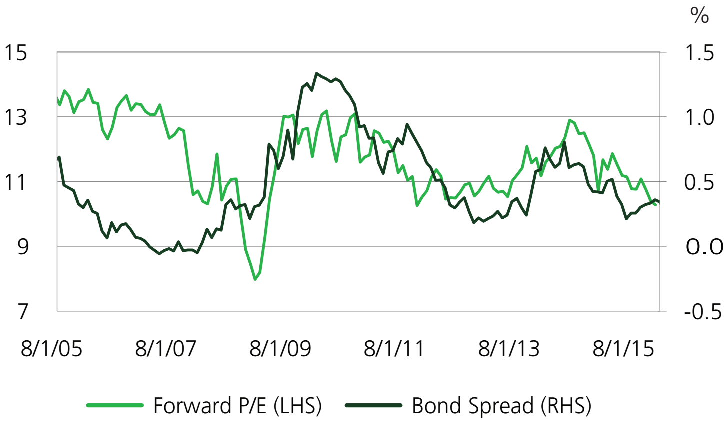
Equities

Low rates, low profits (cont'd)

Robert Marck, CFA, CPA, CMA

bank earns on its loans and pays on its deposits (60% of TD Bank's 2015 revenues and 42% of Royal Bank of Canada's). Canadian banks pay interest on deposits and GICs (among other sources of funding) and lend this money out in the form of loans, mortgages and credit cards. The majority of the funding for the banks is short term in nature as bank deposits are generally available on demand and GICs range from cashable to medium term locked-in rates. The interest rate banks pay on their source of funding is separate from the interest they earn on their loans, including mortgages, which tend to be longer in duration. The NIM will vary depending on what the short-term interest rates and longer-term interest rates are.

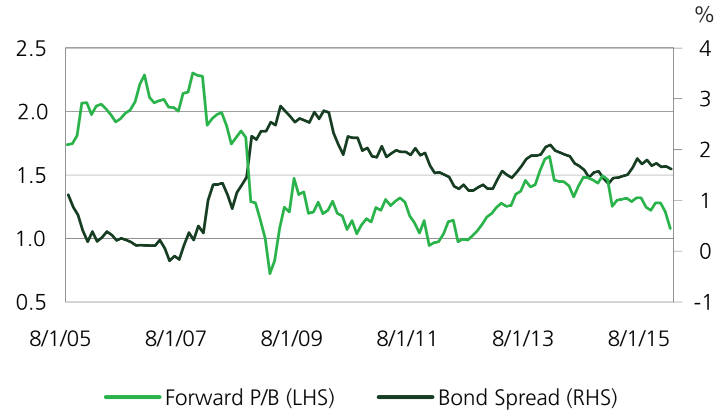
Figure 3: Bank Forward P/E vs. Government of Canada 2-year and 5-year Spread



Source: Bloomberg Finance L.P. As at February 19, 2016.

In figure 3 , we illustrate the difference between the Government of Canada 2-year bond yield and 5-year bond yield (bond spread). We use this as a proxy for banks' NIMs, although a bank's actual NIM will vary greatly depending on duration, funding source and asset base. The spread varies over time and we can see that in 2006 and 2007 it was negative, which indicates an inverted yield curve. An inverted yield curve is challenging for financial institutions as it compresses NIMs and hurts profitability. A wider spread helps financial institutions as they are able to earn increased margin. Along with the spread between 2-year and 5-year Canadian bonds; the banks' forward price to earnings multiple is charted. The forward price to earnings multiple (P/E) is what investors are willing to pay for each expected dollar of bank earnings. From 2006 to 2008, investors continued to pay a 12-13x multiple for bank earnings even though the inverted yield curve signaled trouble may be ahead and pressures on bank earnings may be forthcoming. The multiple again lagged spread expansion in early 2009 as rates increased exiting the financial crisis. More recently, the multiple has declined in lockstep with the bond spread, helping to explain the recent weakness in share prices.

Figure 4: Life Insurance Forward P/B vs. Government of Canada 2-year and 30-year Spread



Source: Bloomberg Finance L.P. As at February 19, 2016.

Figure 4 shows the government of Canada 2-year and 30-year bond spread, plotted against the life insurance forward (or estimated) price-to-book multiple. Insurance companies benefit from higher interest rates and a steeper yield curve as bond and investment returns improve. An inverted yield curve and lower rates are negative for insurance companies as they are unable to invest premiums at a profit. Low long-term interest rates and a flat or inverted yield curve can also have a negative impact on the demand for, and the profitability of, spread-based products such as fixed annuities and universal life insurance. In figure 4 we also plot the forward price to book multiple, which is a valuation metric illustrating what investors are willing to pay for each dollar of equity in the company. Similar to figure 3, life insurance valuations remained elevated even when the yield curve inverted in 2007 but fell soon thereafter. Post the 2008 financial crisis, the bond spread between 2- and 30-year Canadian government bonds thinned and multiples contracted. The recent multiple contraction would indicate that investors are currently concerned about the economic climate and the pressures it could have on the insurance companies' earnings. They are therefore paying less for expected book value of the underlying companies.

The recent share price weakness in the financials sector has investors wondering why the banks and insurance companies have performed so poorly since the end of 2014. Energy loan losses will likely lead to increased provisioning and pressure on earnings per share, and lower interest rates and a flattening or inverted yield curve make it more difficult for banks and life insurance companies to increase earnings. It appears that the valuation multiples for the banks are likely the greater cause of the decline in share prices than expected earnings weakness. While large Canadian financial institutions are now well diversified with respect to revenue sources (lending, insurance, wealth management, capital markets), interest rates continue to be a major factor in their profitability.

Managed Solutions

Where's the yield?

Wilson Clark, CFA

Low, and in some cases, negative interest rates have created a challenging environment for fixed income investors. However, fixed income still has a role in a well-diversified portfolio. Typically, Canadian investors sought exposure to fixed income within the domestic bond market but with Canadian yields at very low levels, investors are increasingly looking beyond Canada's borders for incremental yield in the current low yielding world.

To better understand where fixed income yield opportunities may be found, we asked several portfolio managers to provide their perspective on fixed income markets and where they see opportunities. The portfolio managers that we spoke with were Robert Pemberton, Head of Fixed Income at TD Asset Management, Alfred Murata, lead portfolio manager for the PIMCO Monthly Income Fund and Dan Janis, lead portfolio manager for the Manulife Strategic Income Fund.

Q: In the current environment, where do you see yield opportunities in fixed income?

Pemberton: Now is not the time to reach for yield in the portion of the portfolio that should provide diversification and stability. Central banks remain accommodative, and investors' beliefs in the liquidity and support they are providing has driven asset price growth. However, if investors lose confidence in central banks' ability to effect meaningful change, a risk-off sentiment would likely take hold, leading to increased investment in perceived safe-haven assets such as government bonds and the U.S. dollar. We do see some opportunities for yield pick-up in high-quality investment grade bonds. While absolute yields are very low, investment grade spreads over government bonds are reasonable. High yield bonds have seen spread widening driven by widening in the energy sector and select pockets of stress. We anticipate default rates to rise particularly in commodity sectors and are concerned with the potential for limited liquidity in high yield. However, we have been cautiously adding to select positions in non-commodity related bonds that have sold-off alongside commodity related issues. We would stress that a selective approach would be required, and position sizing should reflect the current backdrop for high yield.

Murata: Two things are very important regarding an income strategy. One is investing in assets that will generate attractive income that we think will perform well if economic growth is stronger than expected. Another is investing in assets that we believe will provide some good downside protection if economic growth is weaker than expected. In the higher yielding component of the portfolio, the asset class we find to be most attractive is U.S. non-agency mortgage-backed securities due to their reasonable yield and potential capital appreciation if housing prices go up by more than expected. In the higher quality part of the portfolio, we view Australian interest rate duration to be attractive and providing the portfolio with some downside protection. We think there is potential for a slowdown in Chinese growth, which could be negative for commodity prices, leading to slower growth in Australia and prompting its central bank to lower interest rates.

Janis: It is our view that higher volatility will continue into the first part of 2016 across all asset classes (fixed income, equities, commodities, and foreign exchange) as markets digest the first rate hike by the U.S. Federal Reserve and low commodity prices continue to put pressure on certain sectors of the credit markets. We continue to embrace credit risk in the portfolio but have been de-risking and reducing our non-investment grade corporate exposures, recognizing that sector, quality and issuer selection are more important factors today than they were earlier in the credit cycle. Also, we have been adding to our commercial mortgage-backed, asset-backed and municipal bond exposure, which provides diversification away from pure corporate risk. We are being selective in our emerging markets exposures, recognizing that there will be wider performance deviations across countries, qualities and currencies moving forward.

Q: What is your outlook for fixed income over the next 12 to 18 months?

Pemberton: Accommodative central bank policies and strong investor demand have combined to depress bond yields to very low levels. We expect bonds will deliver coupon-like returns, with lower volatility than equities. However, we believe bonds have a role to play in investor portfolios offering significant and essential diversification. Corporate bonds offer a yield advantage that can provide investors with income, and government bonds provide diversification and stability.

Murata: Speaking to Canadian investors, what they earned in high quality fixed income is basically the yield on their securities. The yield on a five-year Government of Canada bond is around 60 basis points and on a 10-year it's around 1.1%. So we think that a reasonable return expectation in Canadian fixed income is low single digits. Broadening out the opportunity set to include the entire fixed income universe and giving an active manager the flexibility to tactically allocate during different market climates can help improve an investor's risk-adjusted return.

Janis: We anticipate that the U.S. economy will continue to grow at a moderate pace in the year ahead, outperforming most of its developed market peers. We believe that U.S. Treasury yields will rise over time, however, external factors, such as foreign economic growth, monetary policies and relative yield levels across developed markets, may keep long-term rates in the U.S. lower for an extended period of time. Across Europe, China and Japan, we would expect further easing policies in 2016 to bolster growth and attempt to increase inflation, which remains below target levels in most parts of the world. Given the absolute level of yields, we would continue to maintain a slightly lower duration bias.

The Last Word

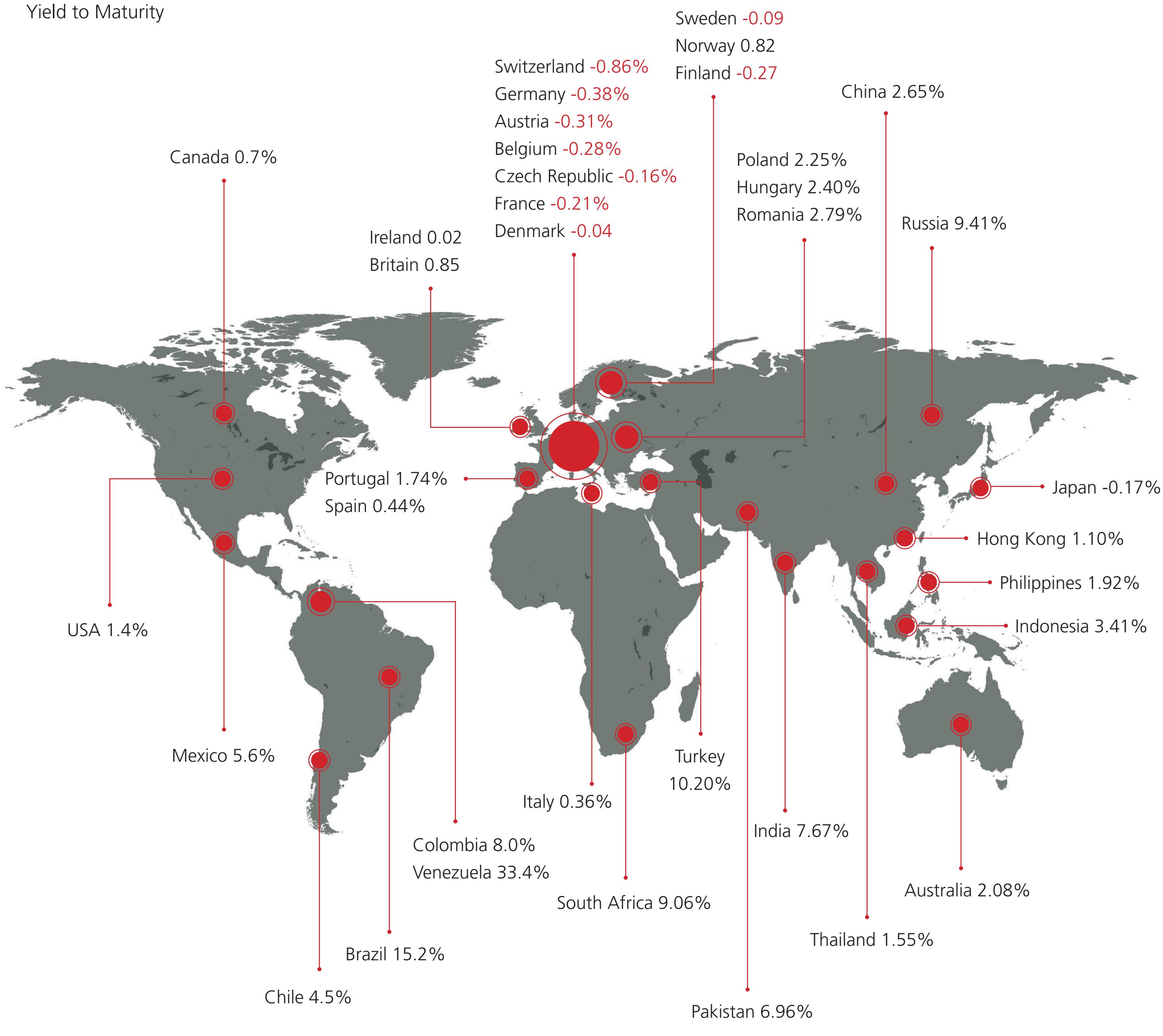
The (rate) world is not flat

Scott Booth, CFA

The data points on the map below provide some perspective on global interest rates. They display the yield to maturity on five-year sovereign debt for various nations. Low, zero or negative interest rates have become the norm in developed markets, with central bank policies pushing rates down below the levels that growth and inflation expectations would seem to dictate. The impact of the adoption of negative policy rates by the Bank of Japan and the European Central Bank are clearly visible as five-year yields in the euro zone and Japan now sit below what we once believed was the zero bound.

Five-Year Sovereign Debt

Yield to Maturity



Source: Bloomberg Finance L.P. As at March 3, 2016.

Performance Monitor

Monthly market review

		(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Canadian Indices ($CA) Return	Index Level	1 Month	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	20 Years
S&P/TSX Composite (TR)	40,593	0.47	-3.75	-0.71	-12.93	3.18	1.08	3.91	7.33
S&P/TSX Composite (PR)	12,860	0.30	-4.52	-1.15	-15.58	0.10	-1.87	0.96	4.91
S&P/TSX 60 (TR)	1,926	0.21	-3.86	-0.78	-12.50	3.86	1.51	4.17	7.92
S&P/TSX SmallCap (TR)	735	5.35	-0.55	1.04	-15.55	-2.57	-6.10	-0.38	-
U.S. Indices ($US) Return	**Index Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
S&P 500 (TR)	3,627	-0.13	-6.59	-5.09	-6.19	10.75	10.13	6.44	7.67
S&P 500 (PR)	1,932	-0.41	-7.12	-5.47	-8.19	8.45	7.80	4.20	5.68
Dow Jones Industrial (PR)	16,517	0.30	-6.79	-5.21	-8.91	5.53	6.20	4.15	5.67
NASDAQ Composite (PR)	4,558	-1.21	-10.78	-8.98	-8.17	12.98	10.38	7.17	7.37
Russell 2000 (TR)	4,954	0.00	-13.38	-8.80	-14.97	5.72	6.11	4.95	7.37
U.S. Indices ($CA) Return	**Index Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
S&P 500 (TR)	4,905	-4.09	-5.26	-7.27	1.42	21.33	17.61	8.29	7.60
S&P 500 (PR)	2,613	-4.36	-5.80	-7.64	-0.74	18.81	15.12	6.01	5.61
Dow Jones Industrial (PR)	22,335	-3.67	-5.47	-7.39	-1.52	15.61	13.41	5.97	5.60
NASDAQ Composite (PR)	6,164	-5.13	-9.51	-11.07	-0.72	23.78	17.86	9.03	7.29
Russell 2000 (TR)	6,699	-3.97	-12.15	-10.89	-8.07	15.82	13.31	6.77	7.30
MSCI Indices ($US) Total Return	**Index Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
World	5,941	-0.68	-8.20	-6.60	-10.49	5.90	5.51	4.40	6.02
EAFE (Europe, Australasia, Far East)	5,812	-1.80	-10.10	-8.89	-14.80	0.81	1.01	1.95	4.30
EM (Emerging Markets)	1,532	-0.15	-8.65	-6.62	-23.13	-8.58	-5.08	2.15	4.82
MSCI Indices ($CA) Total Return	**Index Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
World	8,034	-4.62	-6.90	-8.75	-3.23	16.01	12.67	6.21	5.95
EAFE (Europe, Australasia, Far East)	7,860	-5.69	-8.82	-10.98	-7.89	10.44	7.86	3.73	4.23
EM (Emerging Markets)	2,071	-4.11	-7.36	-8.77	-16.89	0.16	1.36	3.93	4.75
Currency	**Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
Canadian Dollar ($US/$CA)	73.95	4.13	-1.40	2.35	-7.50	-8.72	-6.35	-1.71	0.07
Regional Indices (Native Currency) Price Return	**Index Level**	**1 Month**	**3 Months**	**YTD**	**1 Year**	**3 Years**	**5 Years**	**10 Years**	**20 Years**
London FTSE 100 (UK)	6,097	0.22	-4.07	-2.33	-12.23	-1.40	0.34	0.52	2.49
Hang Seng (Hong Kong)	19,112	-2.90	-13.11	-12.79	-23.01	-6.01	-3.92	1.85	2.74
Nikkei 225 (Japan)	16,027	-8.51	-18.84	-15.80	-14.74	11.51	8.57	-0.11	-1.13
Bond Yields		**3 Months**		**5 Years**		**10 Years**		**30 Years**	
Government of Canada Yields		0.47		0.67		1.19		1.98	
U.S. Treasury Yields		0.32		1.22		1.74		2.62	

Canadian Bond Indices ($CA) Total Return	Index Level	1 Month	3 Month	YTD	1 Year	3 Year	5 Year	10 Year
FTSE TMX Canada Universe Bond Index	1000.86	0.21	1.75	0.60	-0.33	3.75	4.97	5.10
FTSE TMX Canadian Short Term Bond Index (1-5 Years)	689.99	-0.15	0.56	0.08	0.75	2.25	2.80	3.84
FTSE TMX Canadian Mid Term Bond Index (5-10)	1099.03	0.09	1.89	0.69	0.94	4.36	5.86	5.91
FTSE TMX Long Term Bond Index (10+ Years)	1573.10	0.79	3.28	1.26	-2.55	5.37	7.78	6.64

Sources: TD Securities Inc., Bloomberg Finance L.P. TR: total return, PR: price return. As at February 29, 2016.

Appendix A

Important information

The information has been drawn from sources believed to be reliable. Where such statements are based in whole or in part on information provided by third parties, they are not guaranteed to be accurate or complete. Graphs and charts are used for illustrative purposes only and do not reflect future values or future performance of any investment. The information does not provide financial, legal, tax or investment advice. Particular investment, trading, or tax strategies should be evaluated relative to each individual's objectives and risk tolerance. TD Wealth, The Toronto-Dominion Bank and its affiliates and related entities are not liable for any errors or omissions in the information or for any loss or damage suffered.

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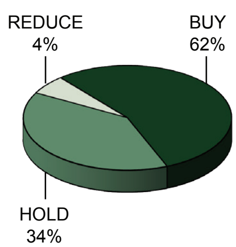
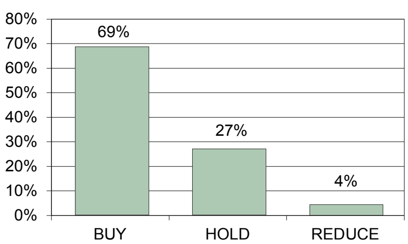
Overall Risk Rating in order of increasing risk: Low (7.1% of coverage universe), Medium (34.5%), High (44.5%), Speculative (13.9%)

Distribution of Research Ratings



Percentage of subject companies under each rating category—BUY (covering Action List BUY, BUY and Spec. BUY ratings), HOLD and REDUCE (covering TENDER and REDUCE ratings).
As at March 1, 2016.

Investment Banking Services Provided



Percentage of subject companies within each of the three categories (BUY, HOLD and REDUCE) for which TD Securities Inc. has provided investment banking services within the last 12 months.
As at March 1, 2016.

Action List BUY: The stock's total return is expected to exceed a minimum of 15%, on a risk-adjusted basis, over the next 12 months and it is a top pick in the Analyst's sector. BUY: The stock's total return is expected to exceed a minimum of 15%, on a risk-adjusted basis, over the next 12 months. SPECULATIVE BUY: The stock's total return is expected to exceed 30% over the next 12 months; however, there is material event risk associated with the investment that could result in significant loss. HOLD: The stock's total return is expected to be between 0% and 15%, on a risk-adjusted basis, over the next 12 months. TENDER: Investors are advised to tender their shares to a specific offer for the company's securities. REDUCE: The stock's total return is expected to be negative over the next 12 months.

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