

Driven Leverage and Credit Overlay

Recently clients have expressed interest in employing CGB® futures and Canadian spread products to replace relatively passive bond portfolios with a levered “yield enhanced” type of strategy. In this paper we demonstrate an easy implementation of this strategy using CGB futures contracts to achieve the leverage. We stress test the various quantities of leverage for the strategy against rate and spread moves to quantify the risk as well as back-test the strategy performance to 2009.

Strategy and Portfolio Construction

In general, the strategy to be examined consists of replacing a fully indexed¹ portfolio of 3-30 year Canada bonds that is augmented by a repo program with a new portfolio that consists of:

1. CGB futures contracts to achieve duration and leverage
2. Invest 20%, 50%, or 90% of the portfolio cash to buy ‘AAA’ or ‘A’ Canadian credits as well as run a repo program² to pick up additional yield
3. Remaining cash invested overnight

We examine different leverage amounts in order to gauge the risk and return of employing leverage and credit spreads to pick up additional yield and returns. The use of CGB futures contracts to achieve the portfolio leverage is simple and less expensive to implement compared to borrowing the funds elsewhere.

Summary of Results

Unsurprisingly given the performance of government and credit bonds in recent years, the levered credit overlay strategy has significantly outperformed the indexed cash bond portfolio in the years for which we back-test the strategy. A Portfolio Manager (PM) following this relatively simple strategy would have outperformed his or her benchmark by \$293,500 for each \$1 million of assets under management (AUM) by utilizing ‘AAA’ bonds and 50% leverage or \$350,000 for each \$1 million of AUM if he/she utilized ‘A’ bonds and 50% leverage. Greater returns accrued to a PM who was able to tolerate even more leverage, although that also resulted in more significant drawdown periods.

Outperformance

For the purpose of discussing results, we focus on the 50% leverage strategies but have tested 20% and 90% leverage as well. The results of the latter two strategies are shown in Appendix: Performance Charts at the end of this paper.

Figure 1 below shows the growth of a \$1 million portfolio from January 2009 to January 2018 for the 50% leverage strategies using total return indices as a proxy. As we can see in that figure, the credit and leverage enhanced strategies have outperformed a more conservative indexed cash bond portfolio by a wide margin over the nine year period examined³.

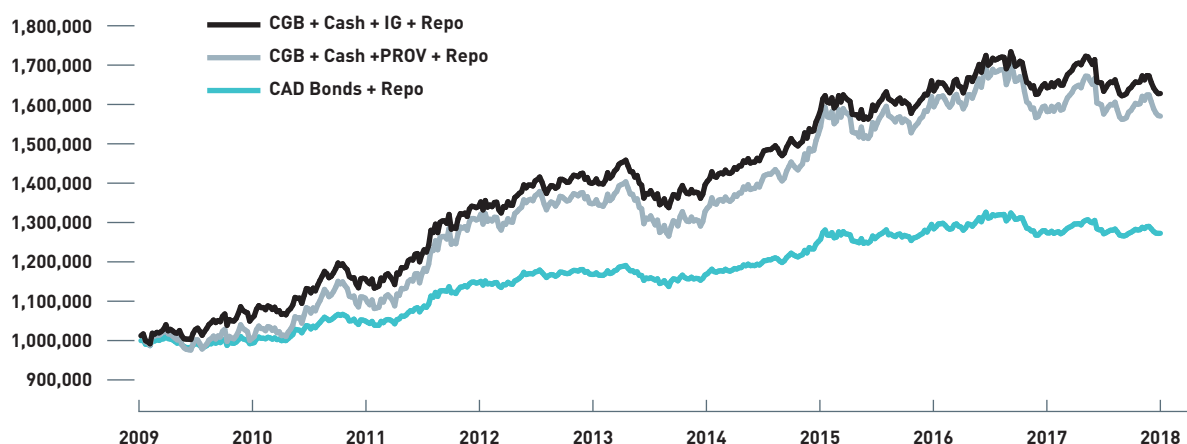
1. The index is market weighted according to the published methods for S&P bond indices but excludes short-term bonds.

2. The repo programs are not significant to the results found here. However, such a program could be used to generate additional leverage in other portfolios that are more difficult to fund, such as private equity, if the client desired.

3. Several S&P total return indices used to generate the back-test are available from no earlier than January 2009

Figure 1

Strategy Performance, Jan/09 to Jan/18 - 50% Leverage



Source: S&P Dow Jones Indices LLC, Montréal Exchange, Bank of Canada

Periods of Underperformance

The magnitude of drawdowns during past periods of underperformance will be crucial to the PM, of course. Periods of underperformance are evident in Figure 1 - for example through mid-2013 where the credit and leverage enhanced series exhibit steep drawdowns relative to the Canada bond portfolio. To quantify these periods of underperformance, we calculate in Figure 2 the average, minimum (ie. largest drawdown), and 1-sigma underperformance on a \$1 million portfolio over 3 month periods. For 50% leverage, the strategy of interest at the moment, we can see in the middle column that the maximum underperformance for the CGB + AAA strategy is about 75 basis points on the initial portfolio amount. A similar analysis for lower credit bonds shows a maximum three month underperformance of about 53 basis points. It should be evident from the strategy that these maximum drawdowns occurred at a time when bond yields were rising while spreads were either simultaneously widening or not tightening enough to compensate for the selloff in yields; in this case, autumn 2016.

Figure 2

Historical 3-Month Drawdown

	LEVERAGE AMOUNT		
	20%	50%	90%
Prov (AAA proxy), Average	4,892	8,301	12,847
Prov (AAA proxy), Minimum	-51,801	-74,826	-105,525
Prov (AAA proxy), 1 σ	18,823	26,357	36,747
IG (A proxy), Average	5,424	9,631	15,241
IG (A proxy), Minimum	-44,757	-53,348	-66,045
IG (A proxy), 1 σ	16,431	20,558	26,711

Source: S&P Dow Jones Indices LLC, Montréal Exchange, Bank of Canada

Ex-Ante Stress Testing

By constructing a reference portfolio as well as 'AAA' and 'A' portfolios of the appropriate size, depending on the leverage tolerated, we can construct estimates of ex-ante returns using a typical carry and rolldown analysis. By simulating returns under changing scenarios for bond yields as well as spreads, we can determine the expected range of results for the strategy. These results are shown in Figure 3 for a strategy that tolerates 50% leverage and in Appendix: Stress Test Tables for the strategies that employ 20% and 90% leverage.

As shown in Figure 3, and as expected, there is little tolerance for rising yields and widening spreads in the short term. In that figure, the left table shows the outperformance of the CGB+AAA bond strategy for 50% leverage at a forward-looking⁴ one month horizon. In just a single month, the additional carry and rolldown of the levered yield enhancement strategy do little to offset losses associated with rising yields (towards the right of the table) or widening spreads (towards the bottom of the table). However, over longer horizons of three and six months shown in the middle and right tables in Figure 3, widening spreads and rising rates are slowly offset by additional carry and rolldown associated with the levered credit strategy. In fact, at a horizon of six months, the strategy can outperform despite a 15 basis point widening of 'AAA' credit spreads or more than 20 basis points of selloff in bonds.

Figure 3

Strategy: CGB + 50% 'AAA' Bonds + 'AAA' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+130	+109	+89	+68	+48	+27	+7	-13
	-5	+103	+82	+62	+42	+21	+1	-19	-39
	0	+76	+56	+36	+16	-4	-24	-44	-64
	5	+49	+29	+9	-10	-30	-50	-70	-89
	10	+23	+3	-17	-36	-56	-75	-95	-114
	15	-3	-23	-42	-62	-81	-100	-120	-139
	20	-29	-49	-68	-87	-106	-125	-144	-163
	25	-55	-74	-93	-112	-131	-150	-169	-188

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+160	+140	+120	+99	+79	+59	+39	+19
	-5	+133	+113	+93	+73	+53	+33	+14	-6
	0	+107	+87	+67	+47	+28	+8	-12	-31
	5	+80	+61	+41	+22	+2	-17	-37	-56
	10	+54	+35	+16	-4	-23	-42	-62	-81
	15	+28	+9	-10	-29	-48	-67	-86	-105
	20	+3	-16	-35	-54	-73	-92	-111	-129
	25	-23	-41	-60	-79	-98	-116	-135	-153

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+209	+189	+169	+149	+130	+110	+90	+71
	-5	+182	+163	+143	+124	+104	+85	+65	+46
	0	+156	+137	+118	+98	+79	+60	+41	+21
	5	+130	+111	+92	+73	+54	+35	+16	-3
	10	+105	+86	+67	+48	+29	+10	-8	-27
	15	+79	+61	+42	+23	+5	-14	-33	-51
	20	+54	+35	+17	-1	-20	-38	-57	-75
	25	+29	+11	-8	-26	-44	-62	-81	-99

Source: CanDeal, Montréal Exchange, Bank of Canada

Similar, although even more pronounced, findings are shown in Figure 4 for the 50% leverage 'A' rated bond version of the levered credit strategy. In this version, a 15 basis point widening of spreads combined with a 20 basis point selloff in bonds still results in slight outperformance of a couple of basis points at the six month horizon point; the additional yield and leverage provides extra cushion against losses the longer one looks into the future.

Figure 4

Strategy: CGB + 50% 'A' Corporate Bonds + 'A' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+98	+85	+71	+57	+43	+29	+15	+1
	-5	+78	+65	+51	+37	+23	+9	-4	-18
	0	+58	+45	+31	+17	+4	-10	-24	-38
	5	+38	+25	+11	-2	-16	-29	-43	-57
	10	+18	+5	-8	-22	-35	-49	-62	-76
	15	-2	-15	-28	-41	-54	-68	-81	-94
	20	-21	-34	-47	-60	-73	-87	-100	-113
	25	-41	-53	-66	-79	-92	-105	-119	-132

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+132	+119	+105	+92	+78	+64	+51	+37
	-5	+112	+99	+86	+72	+59	+45	+31	+18
	0	+92	+79	+66	+53	+39	+26	+12	-1
	5	+73	+60	+47	+33	+20	+7	-7	-20
	10	+53	+40	+27	+14	+1	-12	-25	-39
	15	+34	+21	+8	-5	-18	-31	-44	-57
	20	+14	+2	-11	-24	-37	-50	-63	-76
	25	-5	-17	-30	-43	-55	-68	-81	-94

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+186	+173	+160	+147	+134	+121	+107	+94
	-5	+166	+154	+141	+128	+115	+102	+89	+75
	0	+147	+134	+122	+109	+96	+83	+70	+57
	5	+128	+115	+103	+90	+77	+64	+52	+39
	10	+109	+96	+84	+71	+59	+46	+33	+20
	15	+90	+77	+65	+53	+40	+28	+15	+2
	20	+71	+59	+46	+34	+22	+9	-3	-16
	25	+52	+40	+28	+16	+3	-9	-21	-34

Source: CanDeal, Montréal Exchange, Bank of Canada

4. We assume no credit defaults on the portfolios of 'AAA' and 'A' rated bonds, and parallel shifts in both the bond yield curve and spread curves.

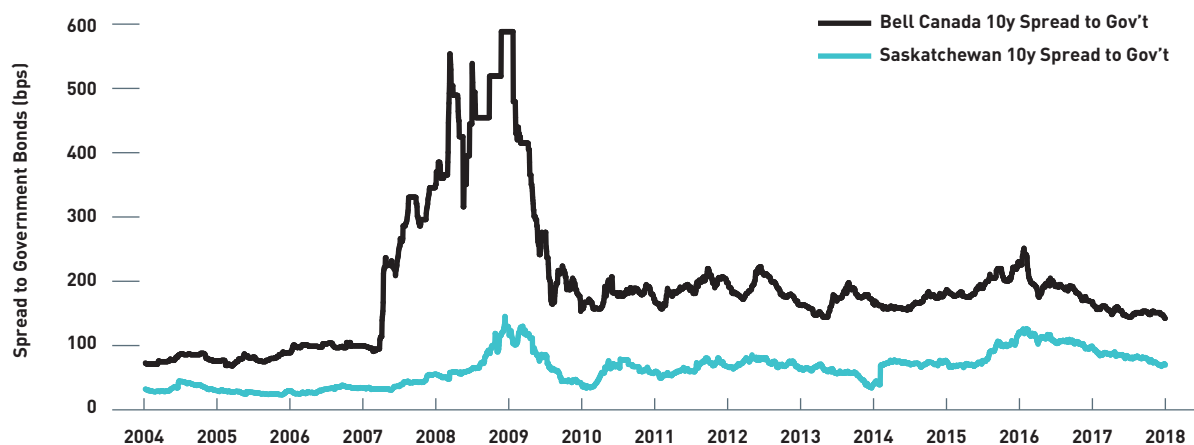
Of course, the risks of a strategy must be gauged against the potential gains and, as shown by the CGB+AAA and CGB+A strategies in Figure 3 and Figure 4, the gains are potentially attractive. For instance, utilizing just 50% leverage and investment grade 'A' rated bonds can result in outperformance of over 100 basis points at a six month horizon⁵ assuming an unchanged yield and spread curve. Investors with a tolerance for risk and the ability to weather medium-term losses should consider an enhancement strategy for their passive bond portfolios.

Risks

Implementation of this strategy entails a number of risks that would be inappropriate for conservative investors. Amplification of losses in a rising rate environment due to the leverage employed is significant, as is the potential for losses associated with widening of 'AAA' or 'A' yield spreads. In fact, Figure 5 shows that examples of both 'AAA' and 'A' spreads have tightened recently to levels that urge caution although they are not necessarily at the tightest observed levels in recent years. Investors who choose to implement a strategy such as this should consider scaling into it slowly at the very least.

Figure 5

Historical 'AAA' and 'A' Canadian Spreads



Source: BMO Capital Markets' Fixed Income Sapphire database

Appendices

Appendix: Back-Test Details

We utilized S&P total return bond indices as a proxy to the strategy in a nine year back-test. The indices utilized are: S&P Canada Sovereign Bond Index, S&P Canada Provincial & Municipal Bond Index⁶, S&P Canada Investment Grade Corporate Bond Index and a proprietary total return index created from the active CGB futures contract on the Montreal Exchange. The total return indices were augmented with calculated returns for gains on excess cash and the various repo programs⁷.

The resulting time series of gains and losses for each strategy is then compared to the reference portfolio consisting of cash bonds with an initial market value of \$1 million. See Appendix: Portfolio Construction for exact details of the benchmark and bond portfolios.

5. The outperformance includes both the effect of leverage as well as yield enhancement via credit.

6. Our proxy for 'AAA' bonds, although not all bonds in this index are rated 'AAA'.

7. Conservative assumptions are made for the repo programs. The Bank of Canada repo haircut guidelines are followed, and only modest repo squeezes are anticipated. Funds generated are invested for 2 months.

Appendix: Stress Test Details

In order to assess the risks and potential returns of these strategies today, we construct the following portfolios:

1. Reference portfolio that exactly matches a 3-30 year Canada bond portfolio constructed according to the methods used by S&P indices
2. CGB futures contract portfolio
3. 'AAA' and 'A' bond portfolios that utilizes x% of the original \$1 million of cash where x is 20%, 50% or 90%

These portfolios are shown in the Appendix: Portfolio Construction. After the portfolios were selected, we conducted a standard carry and rolldown analysis to forecast returns under scenarios of varying government yields and 'AAA' and 'A' spreads. The portfolios were then revalued at one, three, and six month horizon dates under these scenarios to create the stress test tables. Bonds are assumed to roll down the yield curve but not the credit spread curve.

Appendix: Portfolio Construction

The credit portfolios were selected for simplicity to demonstrate the ease in which such a strategy could be pursued, rather than with a focus on diversification or any other factor. A real-world implementation of this strategy would acquire appropriate bonds slowly via new issues, if possible, to reduce transaction costs and diversify considerably more than our example portfolios.

We used only three DV01 buckets in the credit portfolios to roughly match the composition, but not the total DV01, of the reference Canada bond portfolios. We relied on Moody's ratings to choose eligible bonds⁸ for each portfolio.

The resulting portfolios are shown below for the 50% leverage version of these strategies. Portfolios for the 20% and 90% version scale linearly but are not shown here.

Canada Cash Bond Portfolio (Fully Indexed)

Issuer	Coupon	Maturity	Price	Yield	Spread to CAD BM Spline	Notional	Market Value
CAN	0.750%	1-Mar-21	96.485	1.927%	2	68,865	66,656
CAN	3.250%	1-Jun-21	104.199	1.944%	1	39,597	41,468
CAN	9.750%	1-Jun-21	125.110	1.944%	1	985	1,248
CAN	0.750%	1-Sep-21	95.840	1.956%	0	51,648	49,659
CAN	0.500%	1-Mar-22	94.142	1.999%	0	51,648	48,729
CAN	2.750%	1-Jun-22	103.086	2.003%	-2	43,729	45,273
CAN	1.000%	1-Sep-22	95.452	2.043%	0	53,714	51,492
CAN	1.750%	1-Mar-23	98.375	2.088%	1	26,169	25,931
CAN	1.500%	1-Jun-23	97.031	2.091%	0	48,894	47,561
CAN	8.000%	1-Jun-23	129.681	2.094%	0	8,121	10,636
CAN	2.500%	1-Jun-24	102.081	2.147%	0	47,517	48,697
CAN	2.250%	1-Jun-25	100.388	2.192%	1	45,106	45,445
CAN	9.000%	1-Jun-25	145.953	2.187%	0	7,930	11,690
CAN	1.500%	1-Jun-26	94.492	2.227%	1	46,484	44,036
CAN	1.000%	1-Jun-27	89.595	2.241%	0	51,648	46,358
CAN	8.000%	1-Jun-27	148.332	2.236%	-1	13,897	20,793
CAN	2.000%	1-Jun-28	97.561	2.266%	0	20,659	20,222
CAN	5.750%	1-Jun-29	134.575	2.273%	-1	37,508	50,826
CAN	5.750%	1-Jun-33	144.360	2.301%	-4	42,637	61,947
CAN	5.000%	1-Jun-37	141.391	2.329%	-3	44,892	63,836
CAN	4.000%	1-Jun-41	129.424	2.354%	-1	52,272	67,991
CAN	3.500%	1-Dec-45	123.234	2.357%	0	56,469	69,908
CAN	2.750%	1-Dec-48	108.908	2.343%	0	51,304	56,102
CAN	2.000%	1-Dec-51	91.910	2.348%	2	3,788	3,493
Average:				2.173%			1,000,000

Source: CanDeal, Bank of Canada

8. Due to the extremely high quality 'AAA' restriction on one portfolio, only quasi-government bonds were eligible for inclusion.

'AAA' Bond Portfolio (DV01 Bucketed)

Issuer	Coupon	Maturity	Price	Yield	Spread to CAD BM Spline	Notional	Market Value
BC	2.700%	18-Dec-22	101.377	2.399%	33	142,593	145,000
SASK	2.550%	2-Jun-26	98.212	2.792%	58	10,140	10,000
CMB	2.350%	15-Jun-27	98.076	2.582%	34	127,077	125,000
BC	2.550%	18-Jun-27	98.264	2.761%	52	40,585	40,000
SASK	3.900%	2-Jun-45	114.847	3.091%	73	155,889	180,000
Average:				2.731%	50		500,000

Source: CanDeal, Moody's Investors Service

'A' Bond Portfolio (DV01 Bucketed)

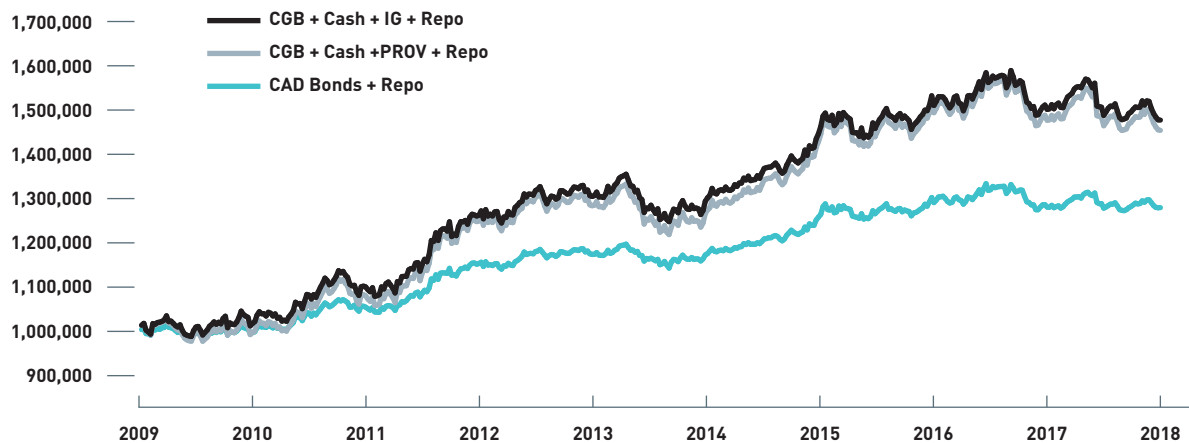
Issuer	Coupon	Maturity	Price	Yield	Spread to CAD BM Spline	Notional	Market Value
BNS	2.873%	4-Jun-21	101.176	2.504%	57	59,045	60,000
GE	4.600%	26-Jan-22	106.702	2.813%	82	79,633	85,000
RY	4.930%	16-Jul-25	113.405	2.918%	73	79,239	90,000
BMO	4.609%	10-Sep-25	111.591	2.901%	71	74,975	85,000
GE	5.730%	22-Oct-37	126.692	3.795%	143	19,494	25,000
TRPCN	0.0805	17-Feb-39	157.584	3.983%	162	62,026	100,000
HYDONE	0.0439	26-Sep-41	113.565	3.538%	117	47,798	55,000
Average:				3.173%	98		500,000

Source: CanDeal, Moody's Investors Service

Appendix: Performance Charts

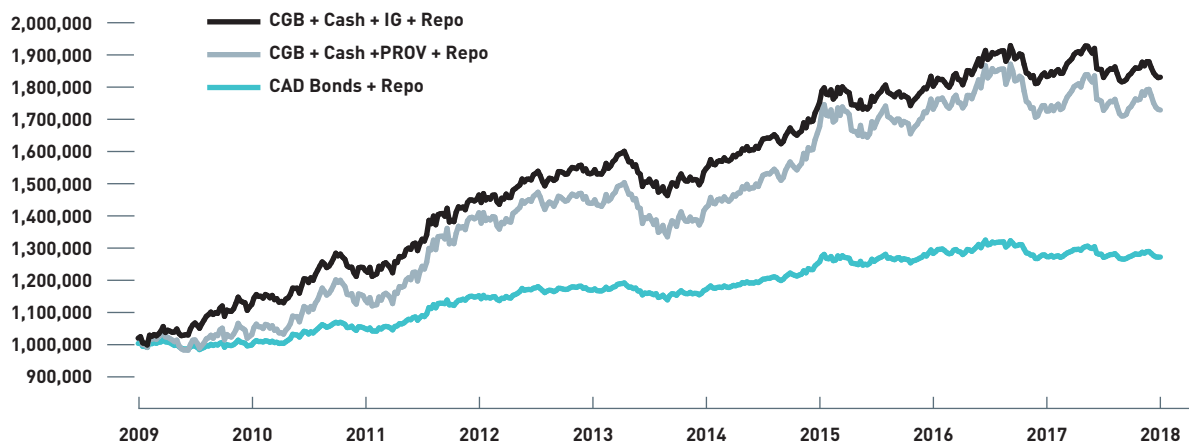
Additional performance charts, equivalent to Figure 1 but depicting 20% and 90% leverage, are shown below.

Strategy Performance, Jan/09 to Jan/18 - 20% Leverage



Source: S&P Dow Jones Indices LLC, Montréal Exchange, Bank of Canada

Strategy Performance, Jan/09 to Jan/18 - 90% Leverage



Source: S&P Dow Jones Indices LLC, Montréal Exchange, Bank of Canada

Appendix: Stress Test Tables

Additional stress test tables, similar to Figure 3 and Figure 4 but depicting 20% and 90% leverage, are shown below.

Strategy: CGB + 20% 'AAA' Bonds + 'AAA' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+46	+41	+37	+32	+28	+23	+18	+13
	-5	+35	+31	+26	+22	+17	+13	+8	+3
	0	+24	+20	+16	+11	+7	+2	-2	-7
	5	+13	+9	+5	+1	-3	-8	-12	-17
	10	+3	-1	-5	-9	-14	-18	-22	-27
	15	-8	-12	-16	-20	-24	-28	-32	-37
	20	-18	-22	-26	-30	-34	-38	-42	-47
	25	-28	-32	-36	-40	-44	-48	-52	-56

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+68	+64	+60	+55	+51	+46	+41	+37
	-5	+57	+53	+49	+45	+40	+36	+31	+26
	0	+47	+43	+39	+34	+30	+26	+21	+16
	5	+36	+32	+28	+24	+20	+15	+11	+7
	10	+26	+22	+18	+14	+10	+5	+1	-3
	15	+15	+12	+8	+4	-0	-4	-9	-13
	20	+5	+1	-2	-6	-10	-14	-18	-23
	25	-5	-9	-12	-16	-20	-24	-28	-32

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+105	+101	+97	+93	+89	+84	+80	+75
	-5	+95	+91	+87	+83	+78	+74	+70	+65
	0	+84	+80	+76	+72	+68	+64	+60	+55
	5	+74	+70	+66	+62	+58	+54	+50	+46
	10	+64	+60	+56	+52	+48	+44	+40	+36
	15	+53	+50	+46	+42	+39	+35	+30	+26
	20	+43	+40	+36	+33	+29	+25	+21	+17
	25	+33	+30	+26	+23	+19	+15	+11	+7

Source: Candeal, Montréal Exchange, Bank of Canada

Strategy: CGB + 20% 'A' Corporate Bonds + 'A' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+33	+31	+30	+28	+26	+24	+21	+19
	-5	+25	+23	+22	+20	+18	+16	+14	+11
	0	+17	+15	+14	+12	+10	+8	+6	+4
	5	+9	+7	+6	+4	+2	+0	-2	-4
	10	+1	-0	-2	-4	-5	-7	-9	-12
	15	-7	-8	-10	-11	-13	-15	-17	-19
	20	-15	-16	-17	-19	-21	-23	-24	-27
	25	-23	-24	-25	-27	-28	-30	-32	-34

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+57	+55	+54	+52	+50	+48	+46	+44
	-5	+49	+47	+46	+44	+42	+40	+38	+36
	0	+41	+40	+38	+36	+35	+33	+31	+29
	5	+33	+32	+30	+29	+27	+25	+23	+21
	10	+25	+24	+23	+21	+19	+18	+16	+14
	15	+17	+16	+15	+13	+12	+10	+8	+6
	20	+10	+9	+7	+6	+4	+3	+1	-1
	25	+2	+1	-0	-2	-3	-5	-7	-9

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+96	+95	+93	+92	+90	+88	+87	+84
	-5	+88	+87	+86	+84	+83	+81	+79	+77
	0	+81	+79	+78	+77	+75	+73	+72	+70
	5	+73	+72	+70	+69	+68	+66	+64	+62
	10	+65	+64	+63	+62	+60	+59	+57	+55
	15	+58	+57	+55	+54	+53	+51	+50	+48
	20	+50	+49	+48	+47	+45	+44	+42	+41
	25	+43	+42	+41	+39	+38	+37	+35	+33

Source: Candeal, Montréal Exchange, Bank of Canada

Strategy: CGB + 90% 'AAA' Bonds + 'AAA' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+242	+200	+158	+116	+74	+33	-8	-49
	-5	+193	+151	+110	+68	+27	-14	-55	-95
	0	+145	+104	+62	+21	-20	-60	-100	-141
	5	+97	+56	+15	-25	-66	-106	-146	-186
	10	+49	+9	-32	-72	-112	-152	-191	-231
	15	+2	-38	-78	-118	-157	-197	-236	-275
	20	-44	-84	-124	-163	-203	-242	-280	-319
	25	-91	-130	-169	-208	-247	-286	-325	-363

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+283	+241	+200	+158	+117	+77	+36	-5
	-5	+235	+193	+152	+111	+71	+30	-10	-50
	0	+187	+146	+105	+65	+25	-16	-55	-95
	5	+140	+99	+59	+19	-21	-61	-100	-140
	10	+93	+52	+12	-27	-67	-106	-145	-184
	15	+46	+6	-33	-73	-112	-151	-190	-228
	20	-0	-40	-79	-118	-157	-195	-233	-272
	25	-46	-85	-124	-162	-201	-239	-277	-315

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+347	+306	+265	+225	+185	+145	+105	+65
	-5	+299	+259	+219	+179	+139	+99	+60	+20
	0	+252	+212	+172	+133	+93	+54	+15	-24
	5	+206	+166	+127	+87	+48	+9	-29	-68
	10	+160	+120	+81	+42	+4	-35	-73	-112
	15	+114	+75	+36	-2	-41	-79	-117	-155
	20	+68	+30	-9	-47	-85	-123	-160	-198
	25	+23	-15	-53	-91	-128	-166	-203	-240

Source: Candeal, Montréal Exchange, Bank of Canada

Strategy: CGB + 90% 'A' Corporate Bonds + 'A' Repo Program

1m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+186	+156	+126	+96	+66	+36	+7	-23
	-5	+149	+119	+90	+60	+30	+1	-28	-58
	0	+113	+83	+54	+25	-5	-34	-63	-92
	5	+77	+48	+18	-11	-40	-69	-98	-127
	10	+41	+12	-17	-46	-75	-103	-132	-161
	15	+6	-23	-52	-81	-109	-138	-166	-195
	20	-30	-58	-87	-115	-144	-172	-200	-228
	25	-65	-93	-121	-149	-178	-206	-234	-262

3m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+233	+203	+174	+144	+115	+86	+57	+28
	-5	+197	+167	+138	+109	+80	+51	+22	-7
	0	+161	+132	+103	+74	+45	+17	-12	-41
	5	+125	+97	+68	+39	+11	-18	-46	-75
	10	+90	+62	+33	+5	-23	-52	-80	-108
	15	+55	+27	-1	-29	-57	-86	-114	-142
	20	+21	-7	-35	-63	-91	-119	-147	-175
	25	-14	-42	-70	-97	-125	-153	-180	-208

6m Outperformance (Bps)

		Δ Bond Yields (bps)							
		-15	-10	-5	0	5	10	15	20
Δ Spread (bps)	-10	+306	+277	+249	+220	+192	+163	+135	+107
	-5	+271	+242	+214	+186	+158	+130	+101	+73
	0	+236	+208	+180	+152	+124	+96	+68	+40
	5	+201	+173	+146	+118	+90	+62	+35	+7
	10	+167	+139	+112	+84	+57	+29	+2	-26
	15	+133	+105	+78	+51	+23	-4	-31	-58
	20	+99	+72	+44	+17	-10	-37	-64	-91
	25	+65	+38	+11	-16	-43	-70	-96	-123

Source: Candeal, Montréal Exchange, Bank of Canada



Kevin Dribnenki writes about fixed income derivatives and opportunities in Canadian markets. He spent over 10 years managing fixed income relative value portfolios as a Portfolio Manager first at Ontario Teachers' Pension Plan and then BlueCrest Capital Management. During that time he managed domestic cash bond portfolios as well as international leveraged alpha portfolios and has presented at several fixed income and derivatives conferences. He received a BA in Economics from the University of Victoria, an MBA from the Richard Ivey School of Business, and holds the Chartered Financial Analyst designation.

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