

Fixed Income & Relative-Value Weekly

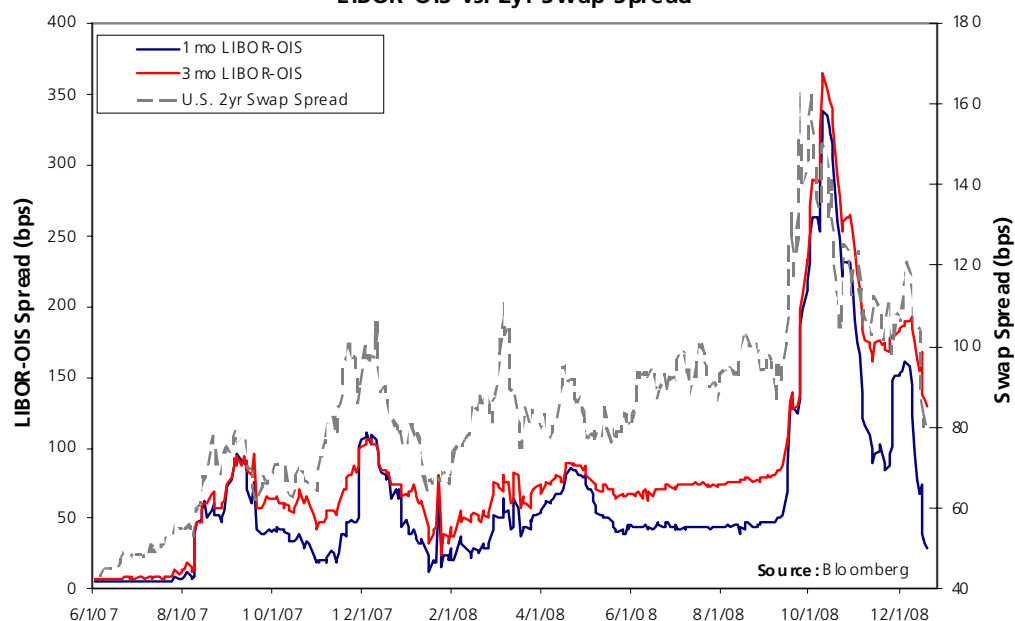
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Friday, December 19, 2008

Highlights

- The 5-year butterfly in Canada is expensive, richening a lot more than we would have expected during the latest market rally. Our constant-maturity data show that it is the richest it has been in at least 10 years.
- Our recommendation to buy long bonds two weeks ago worked very well—yields are some 30 bps lower. We still think long Canada yields can decline to 3.0% - 3.25% in the new year.
- We think there is some good value in the US TIPS market, especially in the mid-term area, e.g. 5 years, for those investors who are prepared to ride out some potentially huge volatility in the next six months or more.
- Buying TIPS might sound like a strange recommendation given that we do not think inflation will be a concern for several years. However, the TIPS market is now pricing in a sustained deflation scenario that is too extreme. The Fed cannot fix everything in the economy, but it has learnt the lessons of the 1930s, and has signaled that it will continue to act aggressively. We bet the Fed will succeed in averting a 1930s-style Great Deflation.
- LIBOR continues to tighten vs OIS in response to the Fed measures and government guarantees. We still think 3-month LIBOR/OIS should return to the pre-Lehman levels inside 100 bps, which should help US swap spreads tighten more.
- Swap spreads in Canada have already moved a lot, and should continue to move back to positive levels across the curve in 2009. We reiterate the recommendation to pay Canadian swap spreads.
- Canada curve: we still like the flattener as a long-term trade for Canada, given that the BoC will be reaching the end of its easing campaign soon.
- Bond and stock seasonals? The most noteworthy near-term pattern is the tendency for stocks to do well in January. See the charts in the appendix.
- We will not be publishing until the week of Jan 5th. Happy Holidays!

LIBOR-OIS vs. 2yr Swap Spread



Canada 5-Year Sector

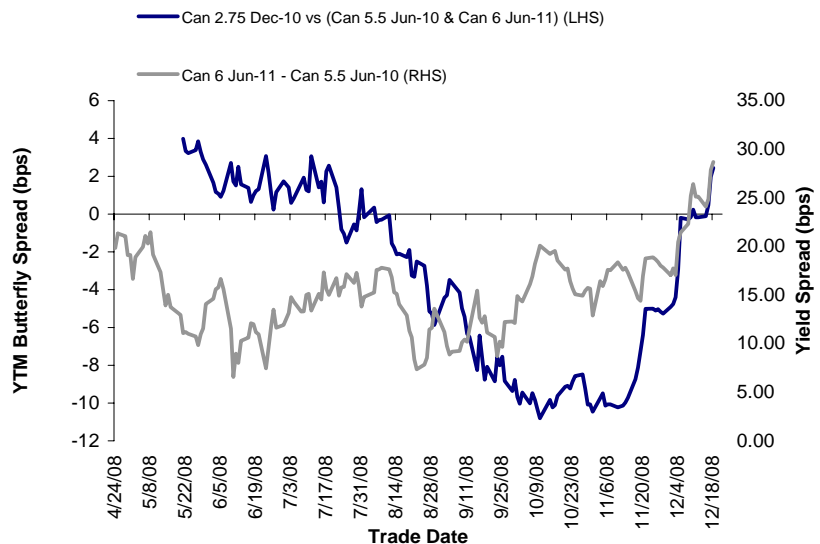
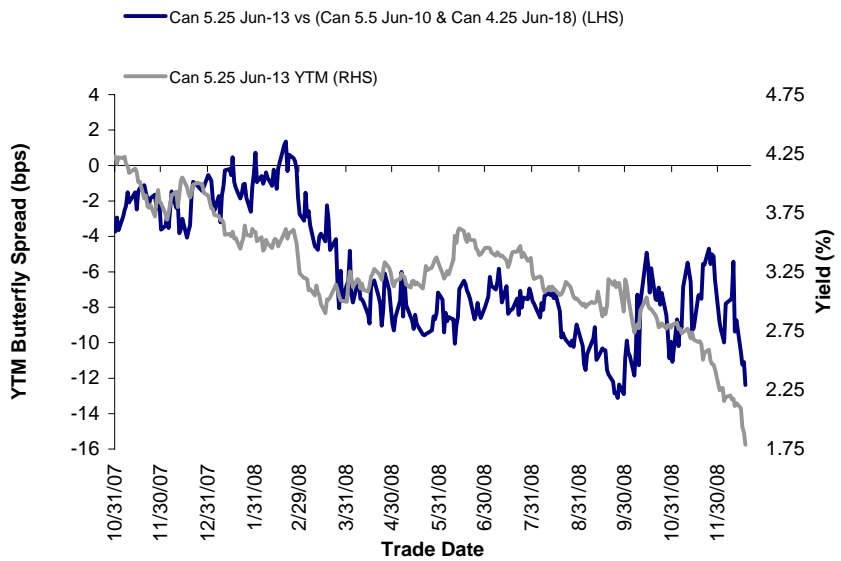
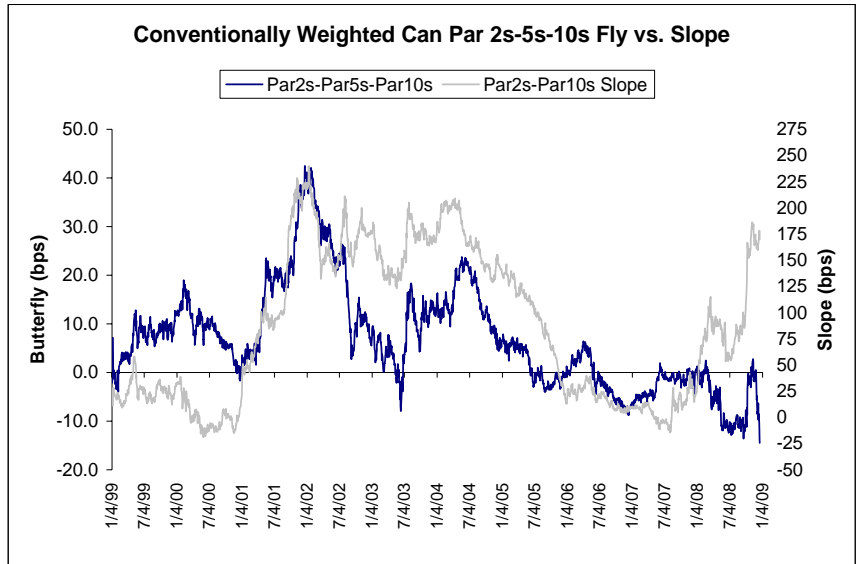
The 5-year sector in Canada has become extremely expensive. As the first chart shows, the 2/5/10 fly is now at its richest absolute levels in at least 10 years, based on our constant-maturity par bond series. It is a similar story in swaps, though not quite as extreme (not shown).

The 2/5/10 fly tends to be a bullish trade, i.e. it richens as the market rallies. Over the long run it also tends to be related to the slope of the curve, like most "normal" butterflies. The usual relationship to the curve however has been weak or nonexistent over the past year. Market direction has been the much bigger driver of this butterfly this year, increasingly so in recent months, and in the past week. This can be seen in the 2nd chart, which shows the 2/5/10 butterfly vs the 5-year yield (using J10 as the 2-year because of the longer history).

Dec 2010 Cheapened Back to Neutral

Note that part of the extreme richening of the 2/5/10 benchmark fly is related to the substantial cheapening of benchmark 2s (2.75% Dec 2010) relative to other bonds in the 2-year sector.

The Dec 2010 bond had been extremely rich throughout the fall, due to its benchmark status and low issuance size. This situation began to change with the government issuing new Canadas to fund the MBS liquidity program, which included reopening the Dec bond. The last two charts show the J10/D10/J11 fly, which is now back to neutral levels, and the 2/5/10 fly using benchmark Dec 10 bonds.



The Case for TIPS (Part 1): Break-Even Deflation and the Historical Evidence

US TIPS vs nominal bond market is pricing in significant deflation over the next 5 years, even after the big TIPS rally since the FOMC statement. This can be seen the first graph, which shows the bootstrapped break-even inflation curve (details of calculation on next page).

For example, the break-even inflation rate on July 2013 TIPS is around negative 175 bps. That is minus 1.75% each year for 5 years. This kind of deflation is not unheard of, but it has not been seen in the US since the Great Depression.

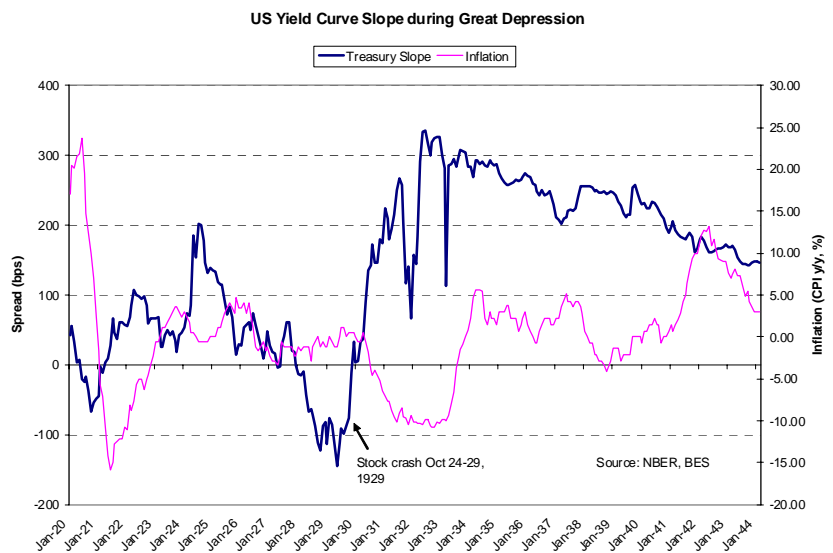
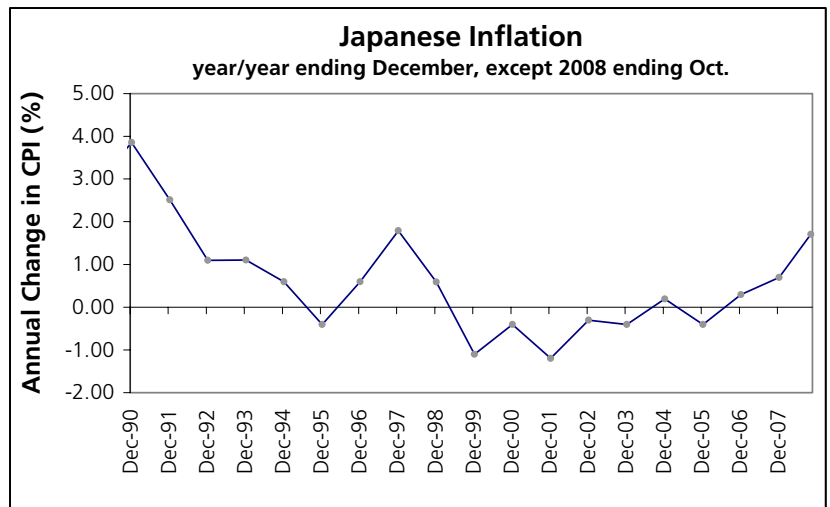
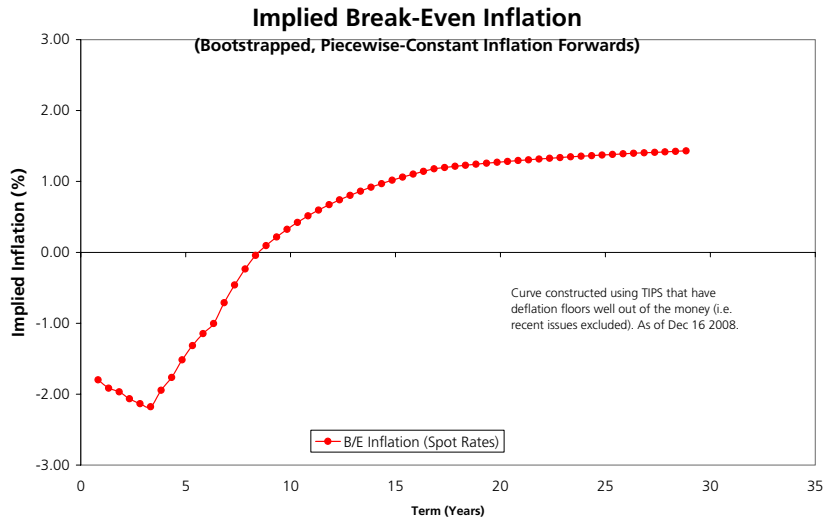
To put this in context, the market today is assuming a far worse deflation than Japan experienced in the 1990s and 2000s. During Japan's recent deflation, the worst single year was about minus 1.5% (chart 2).

The US had worse during the depression. For example, there were back to back annual rates of negative 10% in 1932 and 1933 (chart 3). The worst 5-year inflation during this time was minus 6% per year, for the 5 years ending in May 1933.

The next page shows the distribution of annual changes in the US CPI since 1913, and of 5-year average changes in the CPI over the same period (for overlapping as well as non-overlapping 5-year intervals).

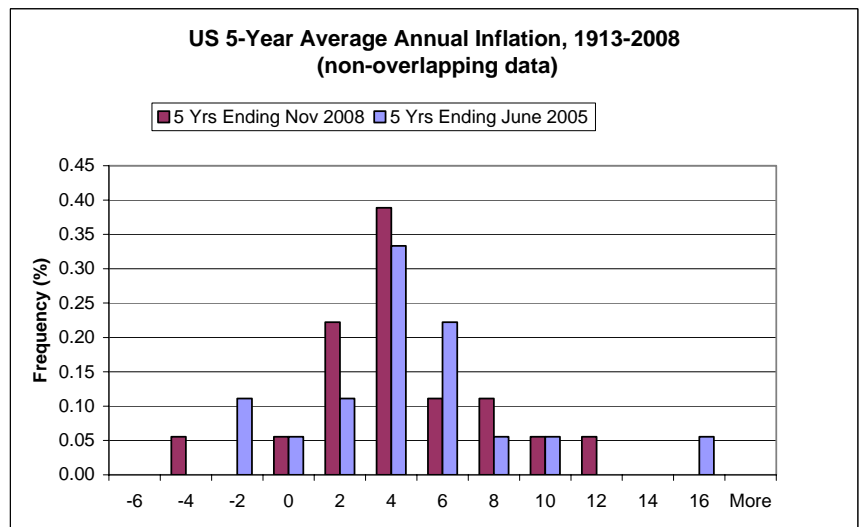
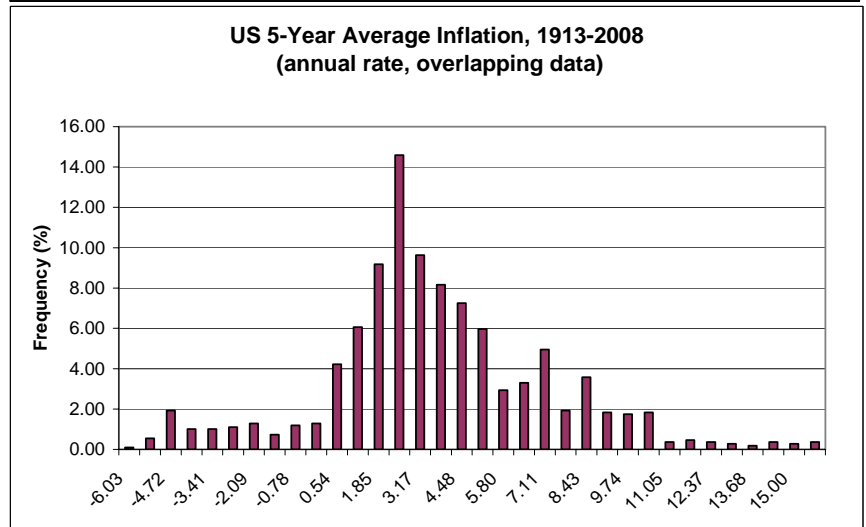
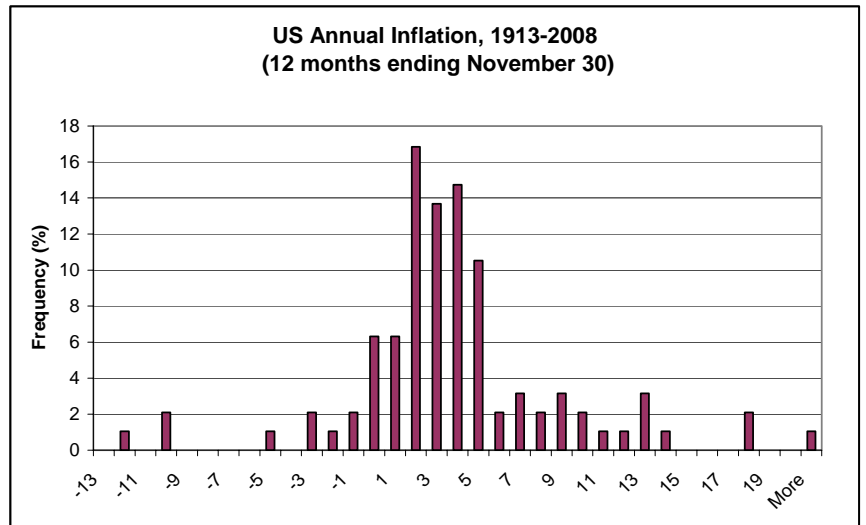
Conclusion: one of the big drivers of deflation in the 1930s was excessively tight monetary policy (due to gold standard) and big delays in dealing with the banking problems. Japan similarly was slow to react, and even when it implemented quantitative easing it did so in a half-hearted way. The US in contrast, and to a reasonable degree in conjunction with authorities in other countries, has already embarked on an unprecedented, aggressive rescue mission. The Fed plainly indicated it will do far more than it has already done if necessary to control deflation. The conclusion is that deflation on the scale of 1.75% or worse per year over the next 5 years is very unlikely today, which means 5-year TIPS are cheap vs the nominals.

One caveat: the negative US inflation of recent months hasn't fully hit TIPS yet, because inflation compensation is paid with a 3-month lag. Between today and the end of January, the CPI values we already know about mean that the inflation-adjusted principal on TIPS will decline by 2.3%, non-annualized. i.e. if yields don't change, buying today means you lock in a loss through the end of January. More negative CPI numbers are possible in the first half, which could make for some pretty volatile returns to TIPS. But over a longer horizon the potential gains are massive if the market starts to price in a much more modest deflation.



Note on break-even inflation: the implied break-even inflation rates are bootstrapped from off-the-run TIPS because their deflation floors are well out of the money. Recently issued TIPS have floors that are either very close to being at or in the money, thanks to the dramatic drop in the CPI in recent months. The floors on these recent issues therefore have a lot of value, and as a result the straight bond yield you see quoted on screen is far lower than it would be on an otherwise equivalent TIPS that is deep out of the money.

Historical US Inflation: 1913 Present

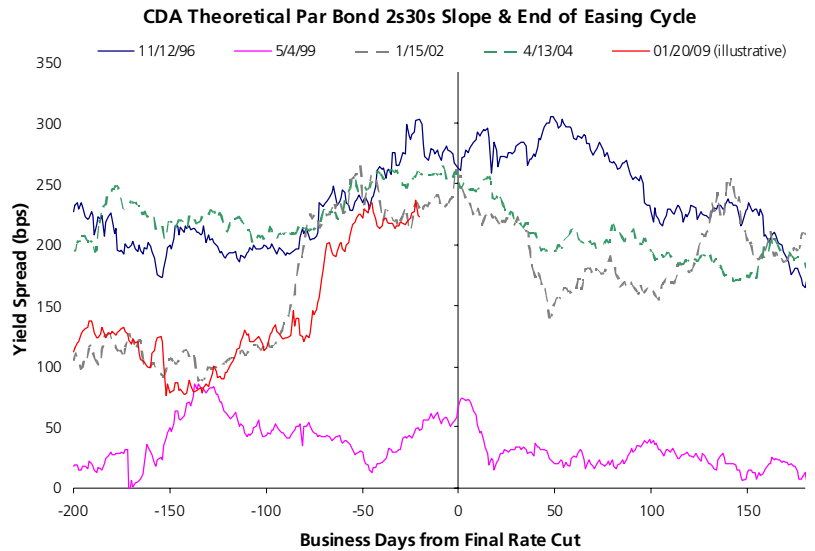


Update: Canada Curve-Flattener

As argued in previous weeks, we think there will be a significant flattening of the curve in 2009. If we are correct that the BoC leaves rates low through 2009, and that inflation remains low, we would expect investors to move further out the curve, which should support a bull-flattening trade.

The chart shows the 2/30 slope in Canada compared to previous easing cycles. It is well off its steepest historical levels, but it is broadly consistent with the slope of the curve at the end of previous easing cycles. For further details on the historical easing cycles, see the Dec 5 and 12 reports.

(The big exception was 1999, but that period was unusual, insofar as most of the rate cuts were simply reversing the 100 bps rate hike from August 2008 that the BoC did in an attempt to defend the currency).

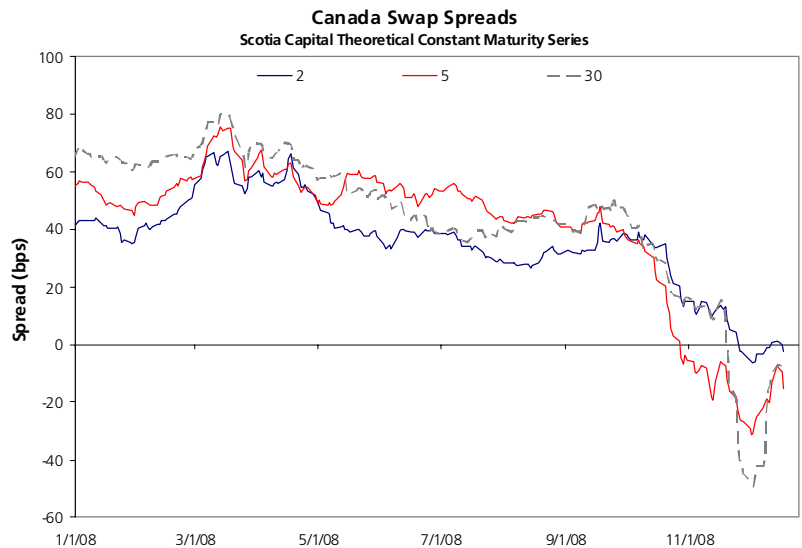


Update: Pay Swap Spreads in Canada

Swap spreads in Canada have moved a lot in the past two weeks, to less negative levels, or, in the case of the front end, back to positive.

We think Canadian swap spreads will normalize and move back to positive levels in 2009. We therefore reiterate the previous recommendation to pay swap spreads.

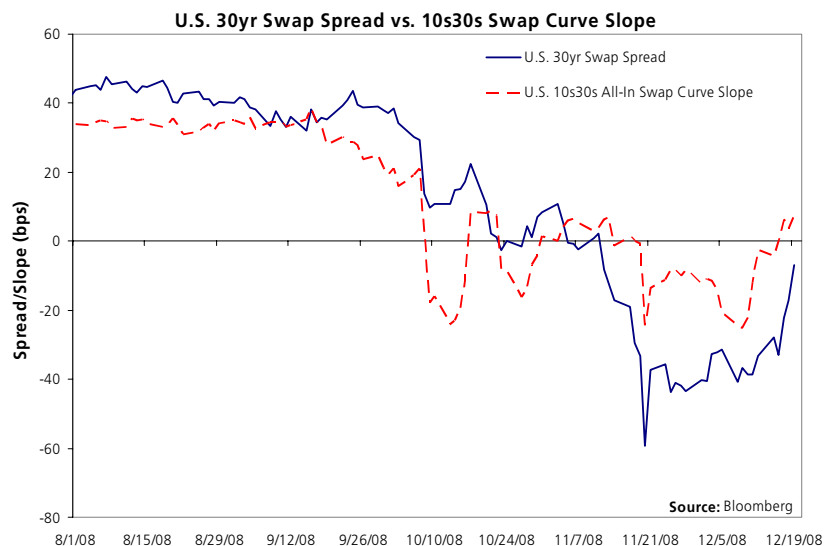
One good way to take advantage of negative swap spreads and of wide high-grade credit spreads would be to asset-swap Canada Mortgage Bonds and/or provincial bonds.



Update: Long US Swap Spreads Normalizing?

Swap spreads first went negative at the long end in other countries, initially in Europe, then in the US. There was much speculation that this was driven by hedging flows related to structured notes that were triggered when the 10/30 all-in swap curve slope first began to invert. Concern about deflation and flows related to anticipation of the Fed buying mortgages may have further contributed to the move in spreads.

Perhaps the recent disinversion of the long end of the swap curve is now driving a reversal of those hedging flows? We don't know for sure. Nonetheless, it is significant that the swap spread at the long end of the US curve is now well off its most negative levels, and is moving back toward positive.



Long Canada Bond Update

Long Canadas rallied some 30 bps this week, to a yield low of 3.43%. We had recommended buying long Canadas two weeks ago when the yield was 3.75%, arguing that yields should decline to 3.0% - 3.25% (Dec 5). That view was based on a combination of our outlook for the BoC to cut rates to 1.0% and hold them there throughout 2009, and our view that the curve was entering a long-term flattening trend. We are sticking with this view. Indeed, if our crack economics team is correct and the BoC cuts even more than we were previously expecting (to 0.50% in Q1), a test of 3.0% on longs is even more likely now.



US Long Bond

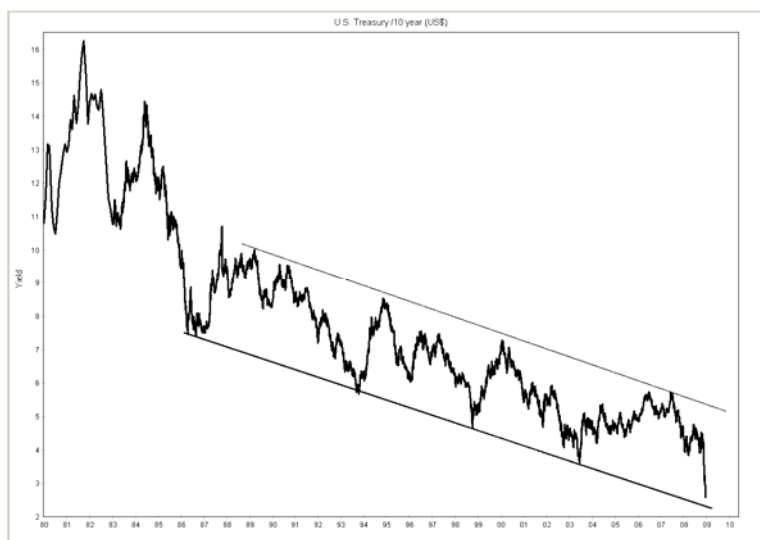
The 30-year yield in the US has rallied an astonishing amount in the past 5 weeks, about 190 basis points in yield, close to \$40 in price. The rally has been driven by 1) anticipation of the Fed buying agency debt, MBS, and possibly Treasury securities; 2) concerns about deflation, and 3) the move to near-zero interest rates from the Fed. We recommended buying US 30-year yields after the November auction, when the yield reached the mid 4.30s (of course, we were already surprised by how fast the yield reached 3.40%, and this week it tested 2.50%!).

We think US government yields will generally remain very low throughout 2009. First, inflation is unlikely to reemerge for a long time, given that the money-creation channels are broken, and the ongoing process of deleveraging could cause lending to contract further and put further downward pressure on prices (debt-deflation). Second, although Treasury supply is increasing dramatically, it looks like it will just take the place of borrowing that is no longer occurring in the private sector, even allowing for a pretty large increase in government spending to try to combat the recession.

Compared to the one-way market of the past few months, we will almost surely see more of a sideways market in the first half of 2009, but a very volatile one. For example, many people are probably hoping to buy the bottom in the equity market, something that could cause Treasury yields to back up 50 bps or more as the safe-haven premium subsides. The historical seasonal tendency for stocks to rally in January may help fuel those hopes (see bond and stock seasonal charts in Appendix). There could also be a lot of optimism/ wishful thinking that the Obama administration can fix everything, and/or concern that government spending will increase even more. There could well be an opportunity to buy long Treasury bonds at cheaper levels in the new year.

US 10-Year

We attached this chart to a daily comment back in early December, when we were talking about the 10-year Treasury note reaching 2.50%. We didn't even bother mentioning that the bottom of the technical channel was near 2.0%, because it seemed so far away. Well, this week the yield reached 2.05%. For the record, the bottom of that trendline is about 1.80% (though there's a fair bit of leeway as to how you draw it).



FOMC and Quantitative Easing

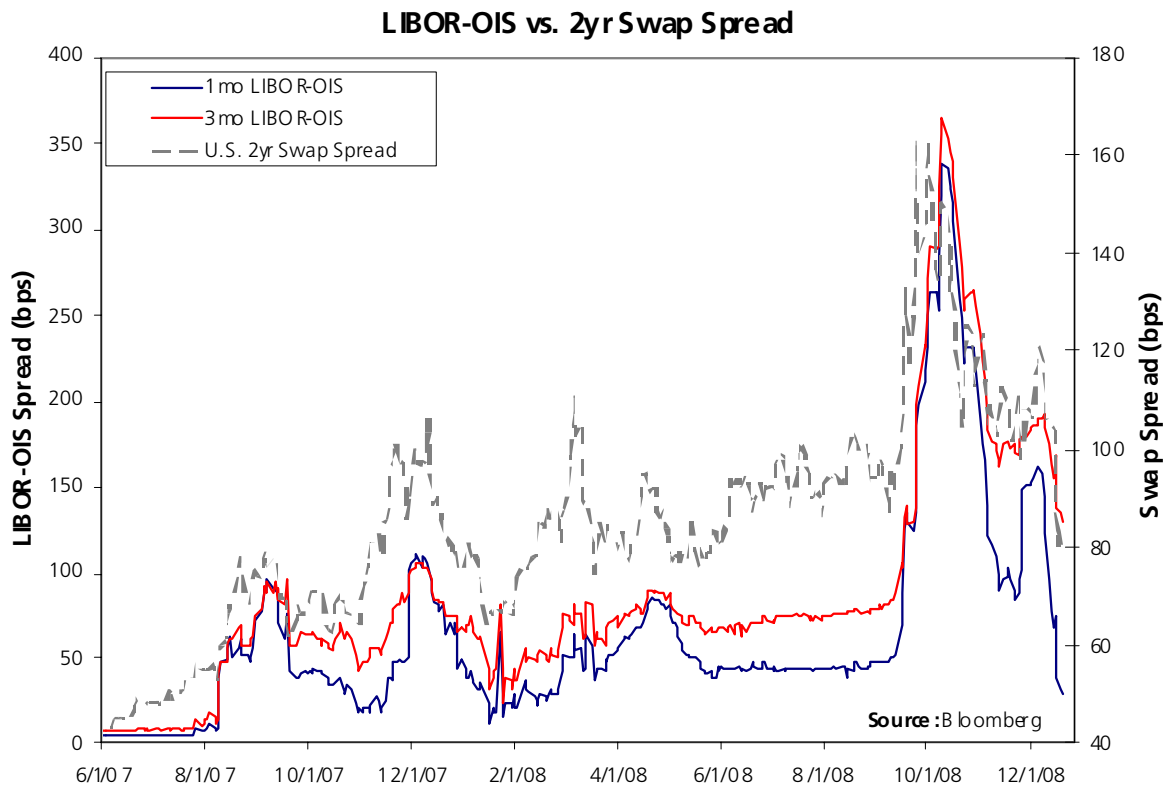
The FOMC delivered a very strong statement that they will do whatever they can to support the financial system and combat recession and deflation. The statement was as much about expectations as about actual new measures. Effective fed funds were already around 25 bps, and the program to purchase agency and MBS has already started (at least the agency debt part). The Fed however also said it would consider further quantitative easing measures, possibly buying Treasury securities, and possibly other measures.

Immediately cutting the fed's policy rate to as low as possible was also very significant in terms of expectations management – the Fed is signaling that rates will remain low a long time. The Fed is hoping that this will feed through into expectations for low rates in the future, which in turn should help bring down longer-term yields (via lower expectations and lower risk premiums). Managing expectations, like buying longer-term bonds, is straight out of Bernanke's "playbook" for combating deflation risk and conducting policy when the administered rate is near zero (the playbook is actually a series of speeches and papers from around 2002 to 2004).

The Fed cut its funds target to a range of 0.0% to 0.25%, recognizing that it has not been able to keep the effective fed funds rate trading at the target in recent months. Note, though, that the Fed is still going to pay the upper end of that target range, 0.25%, on both required and excess reserves. In other words, the Fed is stopping short of driving rates all the way to zero, which seems to be a nod of recognition to Japan's difficulties when rates actually fell to zero. Our money market colleagues point out that one of the big potential problems of a fed funds rate that is literally zero is the disruption it could cause in repo markets, where a zero or negative repo rate could lead to a significant increase in fails, which in turn would seriously disrupt the functioning of the government bond market.

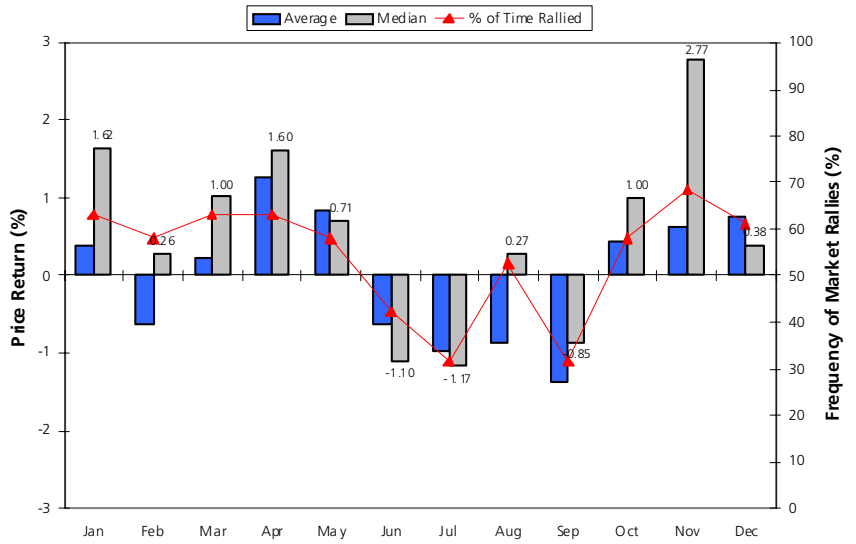
LIBOR/OIS Continues to Decline

There continue to be signs of improvement in interbank lending, though conditions are far from normal. We argued in recent months that the various Fed measures should help to bring 3-month LIBOR/OIS back to pre-Lehman crisis levels of 100 bps or less. The 3-month spread tightened to 127 bps this week, helped by the Fed statement, from a peak of 365 bps in October. We still think it gets back to 100 bps in the next few months, which would still be very high by historic standards. This should continue to support a further tightening in shorter-term US swap spreads.

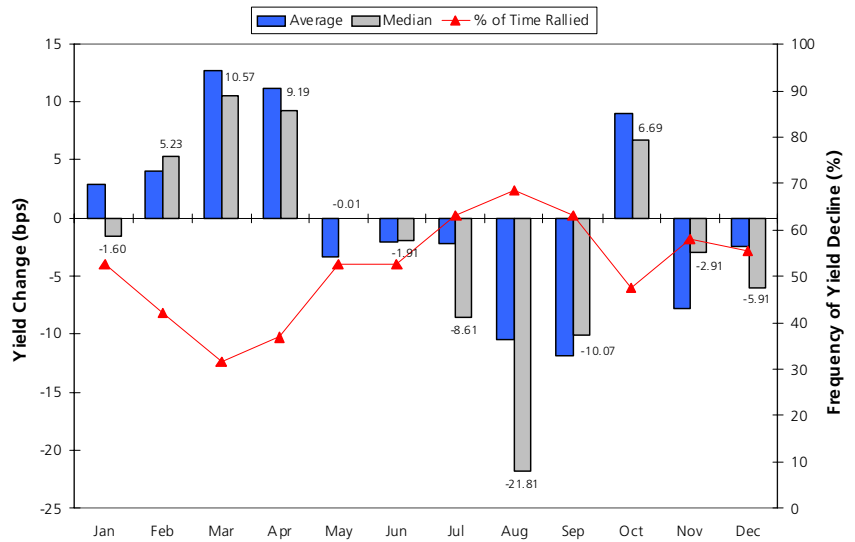


Appendix: Seasonal Pattern in Bonds & Stocks

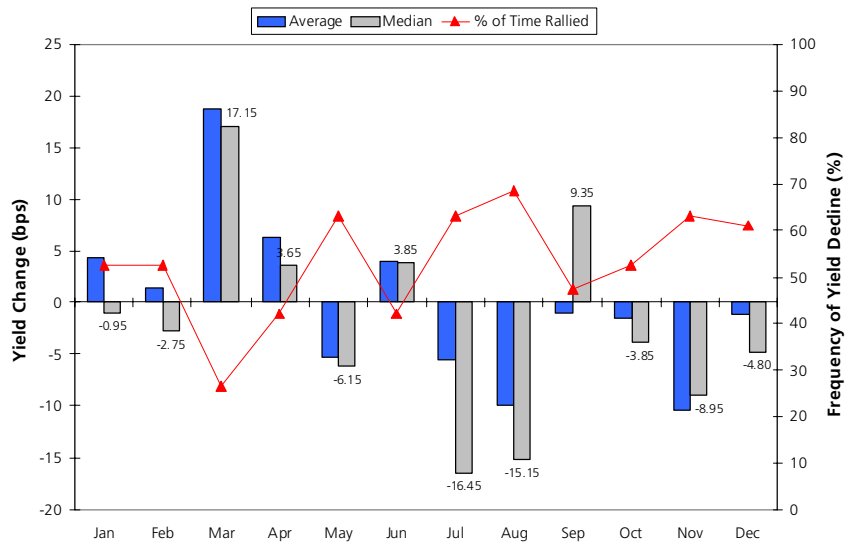
Seasonal Pattern in S&P 500 Returns Since 1990, Trend Removed



Seasonal Pattern in 10-Yr U.S. Yields Since 1990, Trend Removed

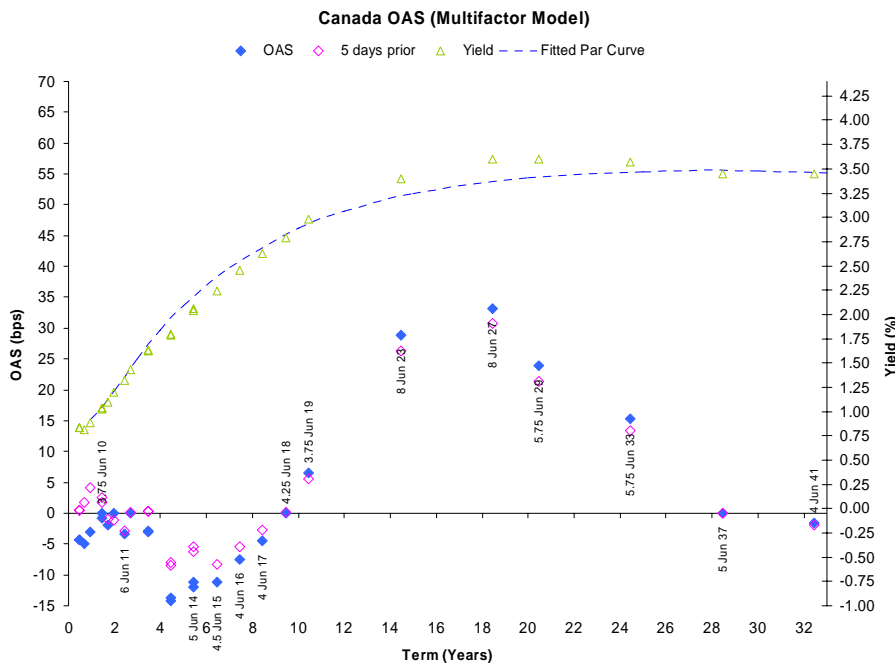


Seasonal Pattern in 10-Yr CDA Yields since 1990, Trend Removed



Appendix: Canada bonds vs Theoretical Yield Curve

Coupon	Maturity Dt	Yield	OAS	Chg 1	Chg 5	Chg vs				Chg vs			
						Avg 20	20 MA	SD 20	# SD 20*	Avg 60	60 MA	SD 60	# SD 60*
3.750	6/1/09	0.833	-4.4	2.4	-4.8	-1.1	-3.2	3.7	-0.9	7.4	-8.5	14.3	-0.8
5.500	6/1/09	0.833	-4.3	2.4	-4.8	-1.2	-3.1	4.0	-0.8	7.2	-8.4	14.4	-0.8
4.250	9/1/09	0.818	-5.0	-0.9	-6.8	0.9	-5.9	2.8	-2.1	6.3	-5.4	8.2	-1.4
4.250	12/1/09	0.884	-3.1	-0.8	-7.1	4.8	-7.9	2.9	-2.7	6.7	-1.9	4.7	-2.1
3.750	6/1/10	1.040	0.0	-0.6	-2.5	2.9	-2.9	1.2	-2.4	4.3	-1.3	1.5	-2.8
5.500	6/1/10	1.030	-0.8	-0.6	-2.5	2.3	-3.1	1.3	-2.4	3.8	-1.6	1.6	-2.9
4.000	9/1/10	1.094	-1.9	0.3	-0.9	0.0	-1.9	1.2	-1.6	0.6	-0.6	1.1	-2.2
2.750	12/1/10	1.198	0.0	0.3	1.0	-3.4	3.4	2.4	1.4	-7.8	4.4	3.7	2.1
6.000	6/1/11	1.317	-3.4	0.1	-0.5	-4.5	1.1	1.3	0.8	-5.1	0.6	2.1	0.8
3.750	9/1/11	1.435	0.0	0.1	-0.1	0.1	-0.2	0.9	-0.2	-0.7	0.9	1.6	0.4
3.750	6/1/12	1.634	-3.1	-0.9	-3.4	1.7	-4.8	2.5	-1.9	2.1	-0.4	3.4	-1.6
5.250	6/1/12	1.628	-2.9	-0.9	-3.2	1.9	-4.7	2.5	-1.9	2.6	-0.8	3.4	-1.6
5.250	6/1/13	1.787	-13.8	-1.9	-5.7	-5.6	-8.2	3.5	-2.3	-6.3	0.7	3.1	-2.4
3.500	6/1/13	1.797	-14.2	-1.9	-5.7	-6.0	-8.2	3.5	-2.3	-7.3	1.3	3.3	-2.1
5.000	6/1/14	2.042	-11.2	-1.4	-5.7	-4.8	-6.3	2.5	-2.5	-4.2	-0.7	3.0	-2.3
3.000	6/1/14	2.057	-11.9	-1.4	-5.7	-5.6	-6.4	2.6	-2.5	-4.6	-0.9	2.4	-3.0
4.500	6/1/15	2.242	-11.1	-1.1	-2.9	-6.3	-4.8	2.2	-2.2	-3.9	-2.4	3.0	-2.4
4.000	6/1/16	2.455	-7.5	-0.8	-2.2	-3.2	-4.4	2.3	-1.9	-0.3	-2.8	3.1	-2.3
4.000	6/1/17	2.630	-4.5	-0.6	-1.8	-0.6	-3.8	2.1	-1.8	2.3	-2.9	3.3	-2.0
4.250	6/1/18	2.793	0.0	0.0	-0.1	0.3	-0.3	0.2	-1.7	0.4	-0.2	0.3	-1.3
3.750	6/1/19	2.977	6.6	0.1	1.1	5.3	1.2	0.5	2.4	4.3	1.0	1.2	2.0
8.000	6/1/23	3.395	28.8	0.9	2.5	27.3	1.6	1.2	1.3	22.8	4.4	4.0	1.5
8.000	6/1/27	3.596	33.1	0.1	2.4	31.6	1.5	1.4	1.1	26.6	5.1	4.4	1.5
5.750	6/1/29	3.596	23.9	1.0	2.5	22.4	1.5	1.1	1.3	18.6	3.8	3.4	1.6
5.750	6/1/33	3.568	15.4	0.8	2.0	14.3	1.1	0.8	1.5	11.0	3.3	2.8	1.5
5.000	6/1/37	3.450	0.0	0.0	0.0	-0.1	0.1	0.1	1.5	-0.2	0.1	0.3	0.8
4.000	6/1/41	3.447	-1.6	0.0	0.2	-1.1	-0.5	0.8	-0.7	-0.5	-0.6	1.5	-0.7



Description of the model: The option-adjusted spread (OAS) is the spread to the theoretical curve that would equate the model price to the market price. A positive OAS means that a bond is cheap to the theoretical curve, all else equal, while a negative OAS means that a bond is rich.

The term-structure model that underlies this report is similar to models used for option pricing, in that it explicitly models the uncertainty in the future evolution of interest rates (as a simplified analogy, think of the standard binomial option-pricing tree). However, it differs from the usual option pricing model in two main ways. First, the term structure model used here has multiple, partially-correlated sources of risk, which enables it to capture a wide range of interest-rate and volatility term structures. Second, it is a so-called equilibrium model. Models for interest-rate options typically try to fit the underlying term structure exactly. In contrast, the equilibrium model is calibrated to fit the prices of just a few key benchmark bonds (typically 6-month T-Bills, and 2, 10, and 30-year benchmarks). We do, however, make use of option-market data to estimate the model's volatility and correlation parameters.

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