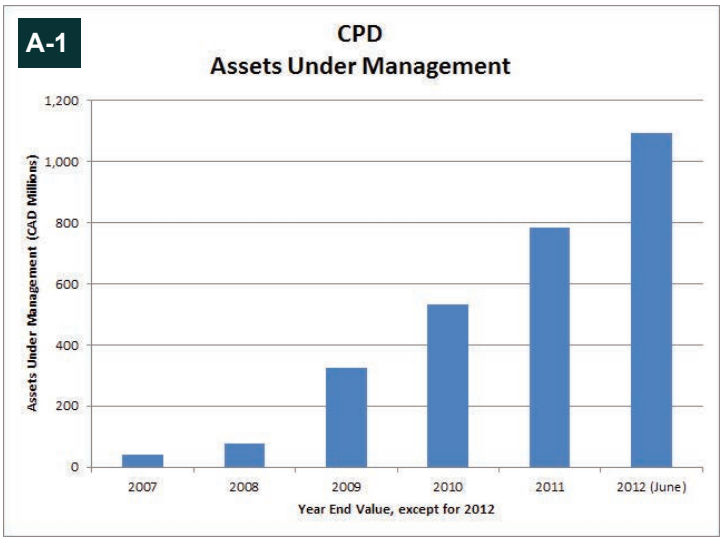
MAPF and Some Competitors

Index Changes

Perhaps the most important structural change in the market over the year since my last review in the October, 2011, edition of this newsletter has been the increase in size of the S&P/TSX Canadian Preferred Share Index Fund (formerly sponsored by Claymore until its acquisition; now sponsored by BlackRock, Inc.[1]) from 'large' to 'immense', as shown on Chart A-1.[2] The chart, if anything, downplays the growth of the fund – iShares reports that Assets under Management reached 1,230-million in September, 2012,[3] compared to the charted 1,091-million as of June, 2012.



This is significant due to the relatively small size of the Canadian preferred share market, which BMO Nesbitt Burns states has a market capitalization of only 58.8-billion[4] – in other words, the single fund constitutes slightly over 2% of the entire market. By way of comparison, the "Adjusted Market Cap" of the S&P 500 index is about 12.3-trillion[5] and the largest single ETF based on this index, the SPDR S&P 500 (SPY), has a market capitalization of about 108.5-billion,[6] about 0.9% of the market – although to be fair, there are a great many investment products tracking the S&P 500[7], with varying degrees of discretion regarding differences between the fund and the index.

However, examination of market capitalization underestimates the importance of CPD to the Canadian preferred share market – liquidity is very important. For instance, S&P states[8] that their criteria for adding equity issues to the index includes consideration for liquidity: *The ratio of annual dollar value traded to float adjusted market capitalization for the company should be 1.0 or greater*. If we apply this ratio to a preferred share market capitalization of $200-million (representative of the higher end of the market), we see that to be as liquid as an S&P 500 equity, the issue would have to trade $200-million annually, or roughly $800,000 every trading day.

Reality does not come anywhere close to this figure. The HIMIPref™ measure of liquidity, Average Daily Trading Value, has an average value of $100,000 – but this measure deprecates by design the influence of intermittent block trades.[9] It is, perhaps, more reasonable to compare liquidity by the mean three month daily average trading value, which gives full weight to intermittent block trades.

Using this definition, S&P states[10] that for inclusion into the S&P/TSX Preferred Share Index (TXPR), *The preferred stocks must have a minimum trailing three-month average daily value traded of C$ 200,000 as of the rebalancing reference date* while *The preferred stocks with a minimum trailing three-month average daily value traded of less than C$100,000, as of the rebalancing reference date, are excluded from the index*.

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1 BlackRock, Inc., *BlackRock Completes Acquisition of Claymore Investments*, Press Release, 2012-3-7, available on-line at http://ca.ishares.com/content/stream.jsp?url=/content/en_ca/repository/resource/press_release/pr_2012_03_07_en.pdf&mimeType=application/pdf (accessed 2012-11-8)

2 iShares, *2012 Interim Management Report of Fund Performance*, June 2012, available via http://www.sedar.com

3 iShares, *iShares Exchange Traded Funds Performance Report As of 30 September 2012*, available on-line at http://ca.ishares.com/content/stream.jsp?url=/content/en_ca/repository/resource/monthly_performance/performance_can_en.pdf (accessed 2012-11-8)

4 BMO Capital Markets, *BMO CM 50 Preferred Share Index, October 31, 2012*

5 S&P Dow Jones Indices, *S&P 500, November 8, 2012*, available on-line at http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usduf--p-us-l-- (accessed 2012-11-8)

6 State Street Global Advisors, *SPDR S&P 500*, available on-line at https://www.spdrs.com/product/fund.seam?ticker=spy (accessed 2012-11-8)

7 ETFdb, *S&P 500 Index ETF List*, available on-line at http://etfdb.com/index/sp-500-index/ (accessed 2012-11-8)

8 S&P Dow Jones Indices, *S&P 500 Equity Indices*, available on-line at
http://www.standardandpoors.com/servlet/BlobServer?blobheadername3=MDT-Type&blobcol=urldata&blobtable=MungoBlobs&blobheadervalue2=inline%3B+filename%3Dfs-sp-500-ltr.pdf&blobheadername2=Content-Disposition&blobheadervalue1=application%2Fpdf&blobkey=id&blobheadername1=content-type&blobwhere=1244142397091&blobheadervalue3=UTF-8

9 Basically, there is a cap on the possible value of each day's contribution to the average, equal to five times the prior average. That is, if your average is 4,000 shares per day and a new day's trading brings a volume of 100,000 shares, you update the average with the capped value of 20,000 shares rather than the actual amount.

10 Standard & Poor's, *S&P/TSX Preferred Share Index Methodology*, July 2010, available on-line via http://ca.spindices.com/indices/fixed-income/sp-tsx-preferred-share-index (accessed 2012-11-8)

These figures are a far cry from the $800,000 average daily value we would expect from a fair-sized preferred share issue if its liquidity proportional to its market capitalization was comparable with equities included in the S&P 500 index.

In the following discussion of actual volumes and changes thereof, only trading on the Toronto Stock Exchange is considered; inclusion of other venues in the volume total should not have a meaningful effect on the conclusions.

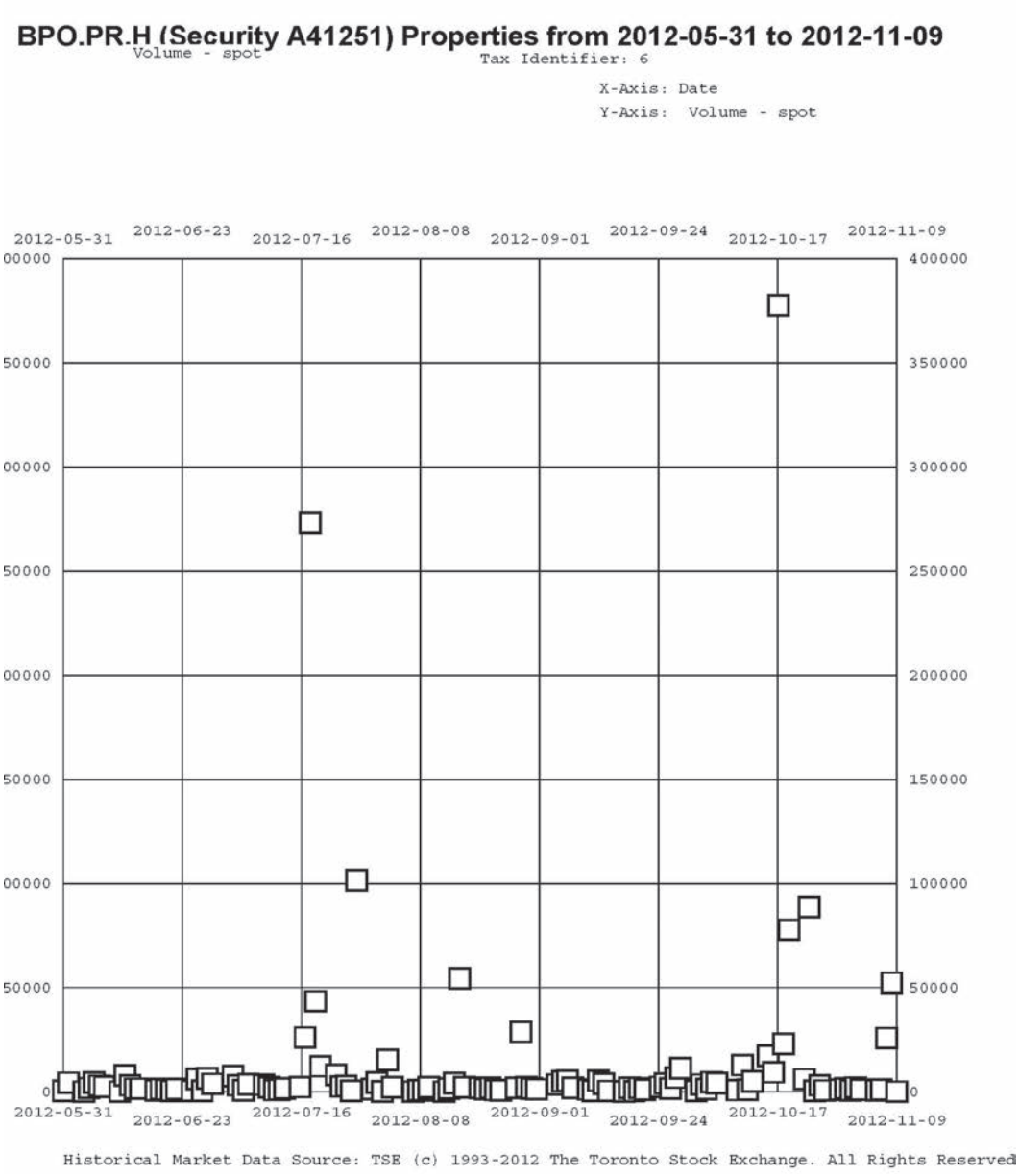
Table A-1 shows the immense effects upon trading volume that were experienced by the issues added to and deleted from TXPR. Overall, volume increased by a factor of about 9.4 in the two weeks following the announcement relative to that which might have been expected from the trading levels of the prior four weeks, while some individual issues experienced increases far in excess of this already gigantic number.

Charts of two issues are shown – BPO.PR.H has both its spot and average volume charted from May 31 to November 9 in Charts A-2 and A-3; note that this issue was deleted in July and added in October and shows the expected double peak resulting from the changes. It is tempting from a quick look at the chart to conclude that the damping effect of the HIMIPref™ calculation of average volume is not very effective at its task – until one looks at the relative scale of the two charts. A single grid element of the daily volumes plotted in Chart A-2 is ten times the scale of the entire average volume graph plotted in Chart A-3!

RY.PR.D, deleted in its first TXPR change in two years, is also plotted; see Charts A-4 and A-5.

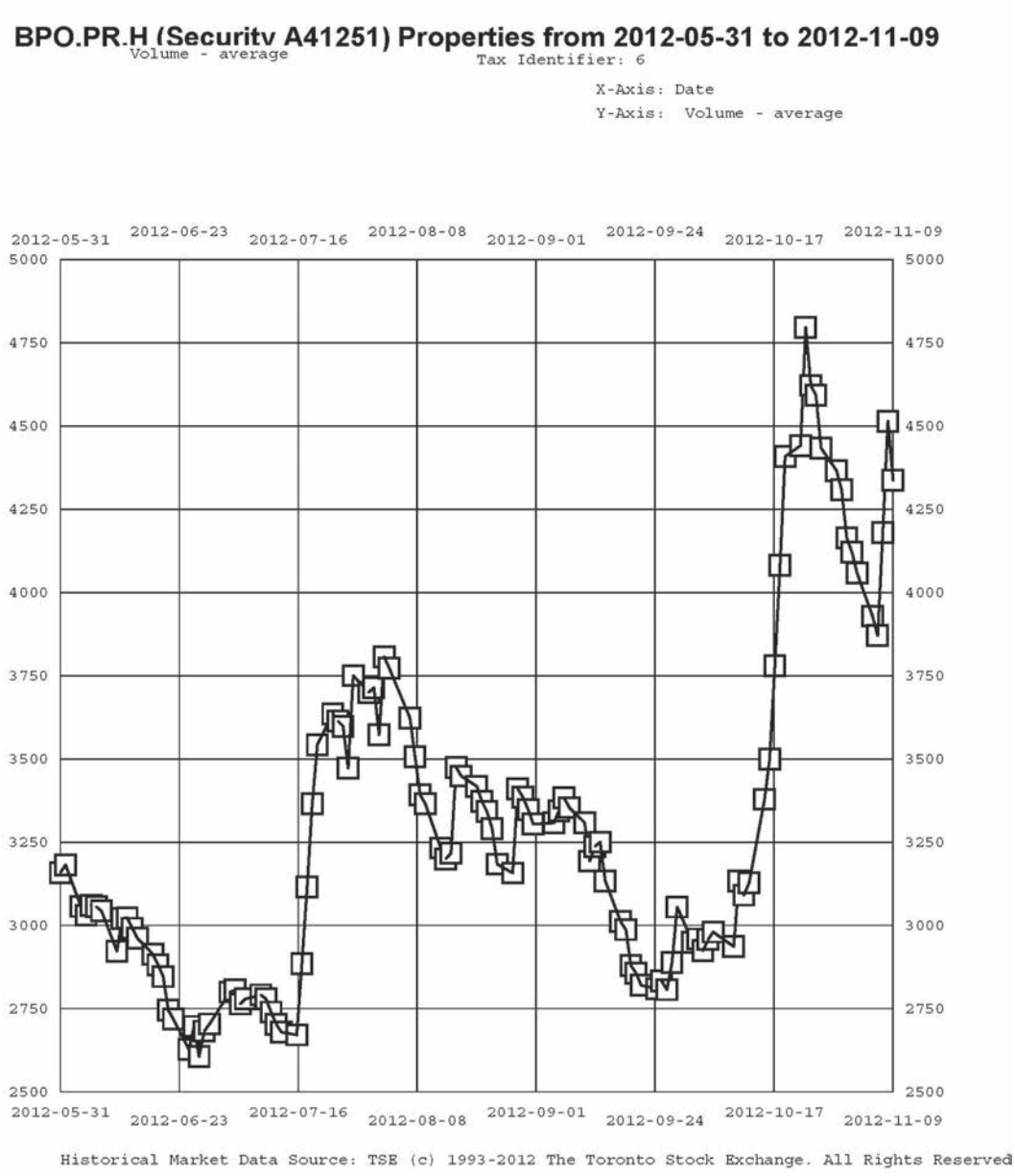
A-2

BPO.PR.H, Daily Volume



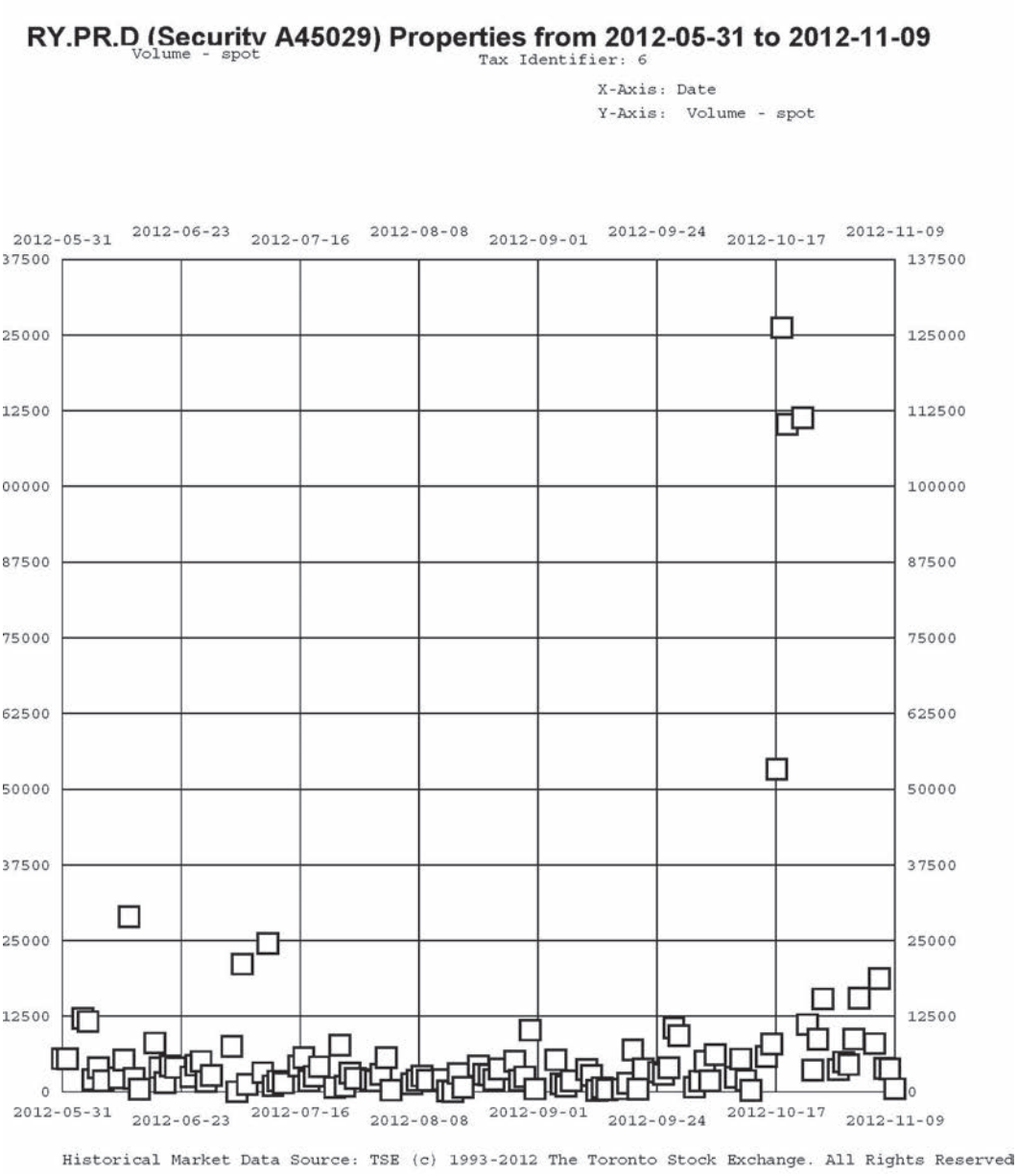
A-3

BPO.PR.H, Average Volume per HIMIPref



A-4

RY.PR.D, Daily Volume



A-5

RY.PR.D, Average Volume per HIMIPref

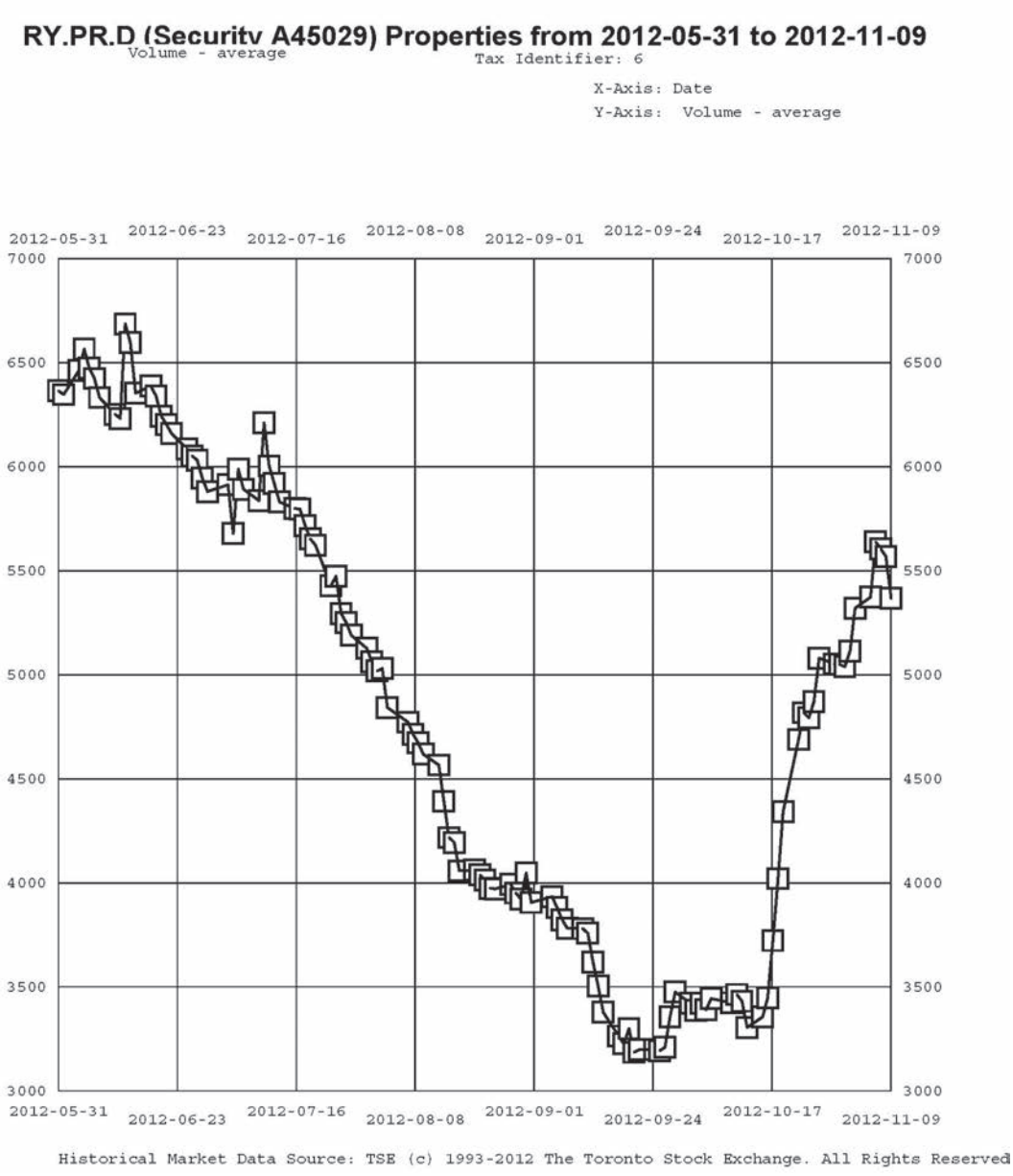


Table A-1: Effects of TXPR Changes on Trading Volume					
Ticker	Volume, 20 Trading Days prior to October 12	Volume, Week of October 15	Volume, Week of October 22	Actual Volume/Expected Volume, Two Weeks Commencing October 15	Performance, Week of October 15
Instruments Added					
BCE.PR.R	117,320	274,620	17,414	5.0	+0.08%
BCE.PR.Y	140,365	441,405	163,566	8.6	+1.77%
BPO.PR.H	64,372	504,998	98,793	18.8	+0.34%
BPO.PR.J	89,619	251,145	812,029	23.7	+0.43
DC.PR.A	59,476	149,953	69,031	7.4	+1.34%
FTS.PR.H	109,190	787.165	243,407	18.9	+0.79%
GWO.PR.L	121,251	101,929	22,967	2.1	+0.57%
IGM.PR.B	45,267	9,265	12,368	1.0	+0.37%
NA.PR.M	130,970	125,991	107,150	3.6	+1.43%
TCA.PR.Y	33,578	8,543	4,847	0.8	+0.39%
Effect on meta-index (equally weighted; total weight equal to weight of deletions)					***0.0651%***
Instruments Deleted					
BAM.PR.M	76,721	17,149	29,361	1.2	-0.08%
BAM.PR.R	78,444	429,289	29,507	11.7	+0.35%
BCE.PR.G	65,350	566,365	607,780	18.6	-0.55%
BMO.PR.N	217,964	393,543	23,549	3.8	-0.26%
BNS.PR.O	97,225	253,185	152,457	8.3	+0.19%
BRF.PR.A	119,320	295,269	145,355	7.4	-0.63%
CM.PR.M	90,296	422,451	107,709	11.7	+0.15%
GWO.PR.G	96,279	425,195	455,004	18.3	-0.24%
GWO.PR.M	87,437	376,147	34,932	9.4	-0.19%
HSB.PR.C	54,255	192,711	92,042	10.5	-1.01%
IAG.PR.C	27,483	176,759	34,365	15.4	-0.57%
L.PR.A	130,557	324,629	146,006	7.2	-0.64%
POW.PR.D	63,679	13,554	358,055	11.7	-0.08%
RY.PR.D	69,534	303,511	150,051	13.0	-0.12%
RY.PR.G	67,250	429,440	55,148	14.4	-0.04%
TD.PR.P	144,781	512,437	14,367	7.3	-0.27%
TD.PR.Q	61,339	235,237	139,996	12.2	-0.45%
Effect on Meta-Index (using weights in CPD as of 2012-8-31)					***-0.0194%***
Performance of CPD, week of October 15					***0.00%***

The implications of these volume benchmarks relative to the size of CPD are fascinating. CPD currently holds 163 issues[11] and given its current AUM of about $1,277-million, it follows that the average holding has a value of about $8-million. And aye, there's the rub: the threshold for inclusion in the index is an average daily trading value of $200,000 over a quarter, or a total of about $13-million; and the index is rebalanced quarterly. In other words, should an issue fall below the $100,000 threshold for deletion, the $8-million in trading triggered by CPD alone to give effect to this deletion represents well over half the entire amount of trading required to add the issue back into the index at the next rebalancing! In other words, it appears very likely that any deletions from the index will result in enough trading to trigger the reversal of the index change at the next quarterly rebalancing!

[11] BlackRock Inc., *CPD- S&P/TSX Canadian Preferred Share Index Fund*, available on-line at http://ca.ishares.com/product_info/fund/overview/CPD.htm (accessed 2012-11-8)

We may check this hypothesis by examining the index additions and deletions over the past two years, working backwards from the 12Q4 rebalancing announced October 12,[12] which are shown in Table A-2. Examination of this table leads to the very interesting conclusion that of the nine issues deleted in the 12Q3 rebalancing[13], eight were added back into the index at the 12Q4 rebalancing; and there were only two issues added in 12Q4 that were not reversals of 12Q3 deletions (ignoring new issues).

It's starting to look as if BlackRock and S&P have inadverdently created a perpetual motion machine. Or perpetual commission machine, anyway! In the six months to June 30, 2012, CPD had a portfolio turnover of 11.19%, giving rise to a Trading Expense Ratio of 0.02% which, based on Assets Under Management of $1,091-million, indicates direct trading expenses of over $200,000.

However, as I never tire of pointing out, direct trading expenses are a misleading indicator of the cost of trading. Commissions are cheap, and any retail investor with an account at a discount brokerage can trade for less than $10 per order, even when that order is in excess of 1,000 shares. The real cost of trading is market impact.

Table A-2a: Two Years of TXPR Index Changes

Ticker	12Q4	12Q3	12Q2	12Q1	11Q4	11Q3	11Q2	11Q1
12Q4 Additions								
BCE.PR.R	A	D						A
BCE.PR.Y	A					D		A
BPO.PR.H	A	D						
BPO.PR.J	A	D					A	
DC.PR.A	A		D				A	
FTS.PR.H	A	D						A
GWO.PR.L	A	D						
IGM.PR.B	A	D						
NA.PR.M	A	D						
TCA.PR.Y	A	D	A	D			A	
12Q4 Deletions								
BAM.PR.M	D							
BAM.PR.R	D							
BCE.PR.G	D							A
BMO.PR.N	D							
BNS.PR.O	D							
BRF.PR.A	D							
CM.PR.M	D		A	D				
GWO.PR.G	D							
GWO.PR.M	D		A		D			A
HSB.PR.C	D		A	D				
IAG.PR.C	D			A				
L.PR.A	D				A	D		
POW.PR.D	D							
RY.PR.D	D							
RY.PR.G	D							
TD.PR.P	D							
TD.PR.Q	D							A

[12] S&P Dow Jones Indices, *S&P Dow Jones Indices Announces Quarterly Index Reviews*, Press Release, 2012-10-12, available on-line at http://www.newswire.ca/en/story/1052019/s-p-dow-jones-indices-announces-quarterly-index-reviews (accessed 2012-11-8)

[13] S&P Dow Jones Indices, *S&P Dow Jones Indices Announces Quarterly Index Reviews*, Press Release, 2012-7-13, available on-line at http://www.newswire.ca/en/story/1007597/s-p-dow-jones-indices-announces-quarterly-index-reviews (accessed 2012-11-8)

Table A-2b: Two Years of TXPR Index Changes								
Ticker	12Q4	12Q3	12Q2	12Q1	11Q4	11Q3	11Q2	11Q1
				Prior issue Changes				
BAM.PR.B								A
BCE.PR.B				D		A		
BCE.PR.C								A
BCE.PR.T				D				A
BMO.PR.H								A
BPO.PR.I					A	D		
CIU.PR.B		A			D			
DC.PR.B						D		
EMA.PR.A						D		
FTS.PR.C			D				A	
FTS.PR.E		A	D					A
FTS.PR.F			A					
GMP.PR.B				D			A	
GWO.PR.F						D		A
GWO.PR.J				A	D			
GWO.PR.N								A
HSB.PR.D			A	D				
IAG.PR.F						D		A
NA.PR.L								A
POW.PR.B				D				
POW.PR.C					D			
PWF.PR.L			A					
PWF.PR.O				D				A
REI.PR.A					D		A	
RY.PR.F								A
TCA.PR.X		D	A	D			A	
TCL.PR.D				A		D		
TD.PR.N							A	
TD.PR.Y								A
TRI.PR.B		A						
WN.PR.A								A
WN.PR.D					A	D		
Instruments added shortly after their listing date with no subsequent deletion are not reported in this table.								

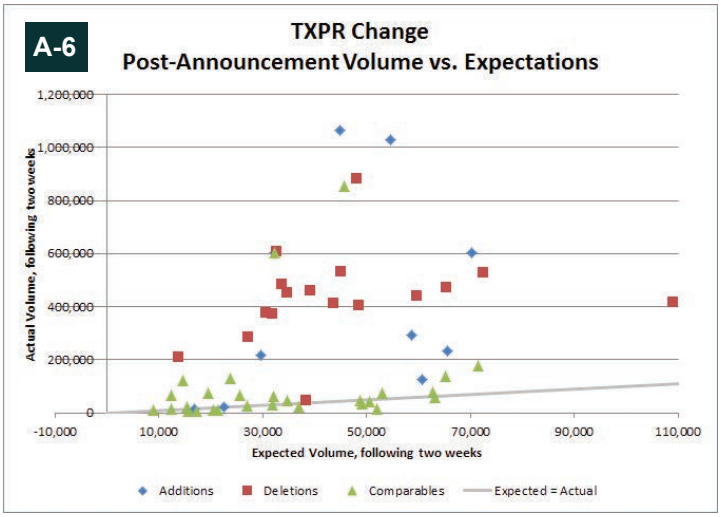
Market Impact of the 12Q4 TXPR Revision

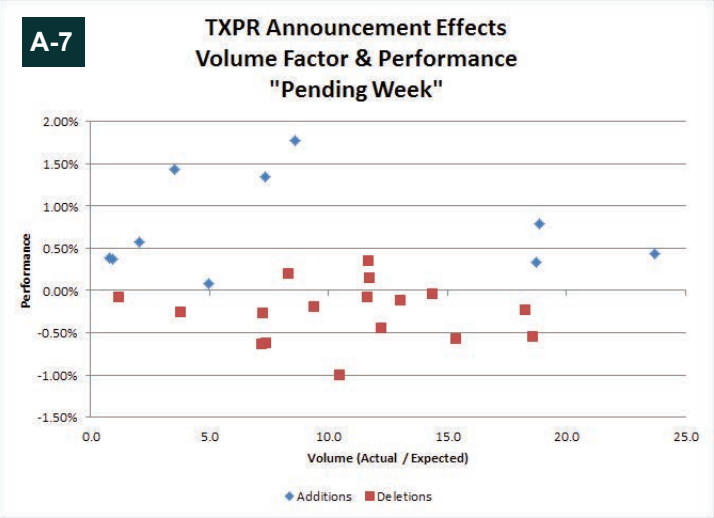
As noted in Table A-1, there was a very marked effect on performance in the week following the October 12 announcement of the index changes, which I have dubbed the "Pending Week". I call it the Pending Week because for the week following the announcement there is no actual change in the indices; as stated in the press release[14]. "These changes will be effective at the open on Monday, October 22, 2012".

It will be recalled that there was a major revision of index methodology in July, 2010, which had the effect of reducing the frequency of changes and reducing the proportions of individual issues included in the index. I commented upon in the October, 2011, edition of this newsletter: "It seems clear that these changes were introduced for the purpose of decreasing the proportion of the index represented by any given issue; it may that Claymore Investments, the only licensed user of the index for ETF purposes of which I am aware, is quite reasonably seeking to reduce its tracking error that results from trading triggered when issues are added or deleted to the index."

[14] http://www.newswire.ca/en/story/1052019/s-p-dow-jones-indices-announces-quarterly-index-reviews

These changes were successful – in the October 2011 edition I was unable to discern any difference in performance during the Pending Week between issues that had been added and those that had been deleted. However, it appears that the size of the index-linked market (which includes CPD and possibly other portfolios that may take investment action due to index changes) has grown relative to the market in the intervening period: Charts A-6 and A-7 plot the relevant data from Table A-1.





It is well known that changes in the composition of the S&P 500 Index can have a great influence on performance during the relevant Pending Week[15] and it appears this effect has returned to the Canadian preferred share market. In Table A-1, I calculated the overall effect on CPD of the poor performance of the issues that were deleted using their weight in the portfolio reported on 2012-8-31 (note that this calculation assumes that no investment action was taken by the fund during the Pending Week) and estimated the effect that would have been observed had the proceeds from these sales been invested in the issues added at their announcement date prices. The total effect is that a notional fund, which had given effect to these replacements on the Announcement Date would have outperformed an equally notional fund that waited a week before taking the same action, by about 8.5bp.

Some might be inclined to scoff at a figure of 8.5bp, which amounts to about $0.015 on a $17 fund – but it must be remembered that these rebalancings occur quarterly. An annualized figure of 34bp might not be considered so much of a joke! Surprisingly, this figure is comparable with what academics at Wharton found with respect to the S&P 500 in a 2002 paper:[16] *To minimize tracking error, S&P 500 index funds often follow inflexible, nearly exact replication strategies. This inflexibility causes stocks with relatively low floating supply to experience abnormally high negative or positive returns upon addition or deletion on average. Moreover, the alternative of trading at the open following the announcement of a change, rather than when the change occurs, results in 25.9 basis points more return per year with virtually no incremental variance*.

Given the immense volume during the Pending Week, it is clear that many market participants were trading in advance of the official change. However, the important thing to note is that the adverse effects on return of price changes during the Pending Week will not have no effect on tracking error – they are absorbed by the index itself and hence will be observable only through comparison with another index that does not implement such changes. With an efficient and aggressive trading strategy, an index fund may even be able to achieve a positive tracking error over the pending week (by executing its trades at prices better than those which are assumed by the index based on prices at the opening a week after the announcement date). This will allow a fund to absorb tracking error that emanates from other sources:

- Differences between securities transferred and the composition of the index when units are created and destroyed
- Delays in receiving dividends (the index notionally invests dividends on the ex-date, which is of course impossible for a real investor)
- Holding cash (either due to small trading differences, or accumulation in anticipation of a unitholder dividend)
- Direct costs of trading (the Trading Expense Ratio – considered important only by regulators[17])

It is in everybody's interest that the reported index fund tracking fund be minimized: it's good for the fund sponsors and it's good for the organizations that calculate their indices. However, the practice of pre-announcing index changes does nothing to address the poor effects on performance that results when many index players are all attempting to take the same investment action – it serves merely to bury this frictional cost of index investing in the index itself.

[15] Anthony W. Lynch, Richard R. Mendenhall, *New Evidence on Stock Price Effects Associated with Changes in the S&P 500 Index*, Journal of Business, 1997, available on-line at http://pages.stern.nyu.edu/~alynch/pdfs/jb97lm.pdf (accessed 2011-10-14)

[16] Marshall E. Blume, Roger M. Edelen, *On Replicating the S&P 500 Index*, April 2002, available on-line

[17] http://www.fasken.com/files/Publication/3bc9d493-a818-4129-a6f0-56d8842921e2/Presentation/PublicationAttachment/69082efe-b653-4820-b0f4-0442a83f6a92/SMA_Bulletin_Amendments_to_Prospectus_Rules_August_10_2011.pdf

Addressing the Issue

There is no way to eliminate the problem – it is clear that a great many people want index funds and that therefore there will be a large pool of capital that executes trades on the market for reasons that are irrelevant either to the intrinsic value of the security, or to a (possibly informed) view on the price at which such a trade can be reversed. Any market player who does such a thing must expect to incur market impact costs.

However, Table A-2 and the related discussion make it clear that the methodology currently in use by S&P for the TXPR index has given rise to a whipsaw effect: there were many issues added to the index in the 12Q4 revision for no reason other than an increase in measured volume; and the increase in measured volume arose as a direct result of deletion in the 12Q3 revision.

There are many ways in which these whipsaw effects can be minimized. One way would be to use the HIMIPref™ definition of average trading volume, which deprecates the effect of intermittent block trades, but this would not be satisfactory. This definition was developed in order to force a conservative approach towards backtesting: it does no good to identify wonderful trades if you cannot execute a significant amount at those prices. In this methodology, the ability to get a large trade done at a specific price is considered to be a bonus – but for funds the size of CPD, block trading is a necessity. There is not necessarily any relationship between the Average Daily Trading Value measured by HIMIPref™ and the ability to call your institutional salesman and get a fill for 100,000 shares at a given price in the course of trading day. In addition, using the HIMIPref™ methodology would require highly paid industry professionals to be familiar with grade nine arithmetic, and that's not going to happen any time soon.

Another possibility is to raise the average daily volume (the simple mean average, as calculated by S&P) required for inclusion in the index to a figure higher than its current $200,000. An increase in the volume "buffer" (the difference between the threshold for deletion, currently $100,000, and the threshold for inclusion) would, logically, reduce the number of issues that switch back and forth. However, this has the disadvantage that it might make the index unresponsive to changes in the market, which is equally bad.

I suggest that the most straightforward method of reducing the volume whipsaw effect is simply to reduce the period over which average volume is calculated to two months, rather than the current three. Given quarterly rebalancing, each successive calculation using a three-month period necessarily includes the volume effects of the prior rebalancing, which is the source of the whipsaw; while use of a two-month period would have the effect of completely ignoring volume changes in the months not used, regardless of whether these volume effects are the result of index changes or legitimate market changes, I suggest that the latter source of changes is far less important than the former – at least at present! After all – as shown in Table A-3, some issues deleted in 12Q4 have already qualified to be added back in 13Q1, even if not a single share more trades between now and the year-end index reference date!

Table A-3: Issues Deleted From TXPR in 12Q4 and the Value of Two Weeks' Trading relative to the 13Q1 Inclusion Threshold

Ticker	Shares Traded, Two weeks from October 15	Price, October 12	Approximate Value Traded in period	% of total volume required for addition in 13Q1 Rebalancing
BAM.PR.M	46,510	24.26	1,128,000	9.4%
BAM.PR.R	458,796	25.75	11,814,000	98.4%
BCE.PR.G	607,780	23.45	14,252,000	118.8%
BMO.PR.N	417,092	26.80	11,178,000	93.2%
BNS.PR.O	405,642	26.60	10,790,000	89.9%
BRF.PR.A	440,624	25.55	11,258,000	93.8%
CM.PR.M	530,160	26.70	14,155,000	118.0%
GWO.PR.G	880,199	25.31	22,278,000	185.6%
GWO.PR.M	411,079	26.50	10,894,000	90.8%
HSB.PR.C	284,753	25.86	7,364,000	61.4%
IAG.PR.C	211,124	26.15	5,521,000	46.0%
L.PR.A	470,635	26.77	12,599,000	105.0%
POW.PR.D	371,609	25.40	9,439,000	78.7%
RY.PR.D	453,562	25.89	11,743,000	97.9%
RY.PR.G	484,588	25.83	12,517,000	104.3%
TD.PR.P	526,804	26.25	13,829,000	115.2%
TD.PR.Q	375,233	26.56	9,966,000	83.1%

Tracking Error of CPD

As all fund comparisons in this essay are done with a August 31 end-date, that is the end-point for the computations of tracking error shown in Tables A-4 and A-5.

However, it is interesting to note that the tracking error (including 4–5 bp of MER) in the index-change month of October was -10bp, while in September the figure was +1bp – the fund actually outperformed its benchmark, even after management fees!

It will be most interesting to observe future tracking errors, particularly in index-change months, now that the fund has achieved such impressive size.

Table A-4: Performance of CPD & TXPR

Year Ending August 31	1–Year	2–Year	3–Year	4–Year	5–Year
2012	**4.72%** 5.24%	**6.18%** 6.83%	**5.81%** 6.56%	**5.86%** 6.53%	**3.19%** 3.81%
2011	**7.66%** 8.44%	**6.36%** 7.22%	**6.24%** 6.97%	**2.82%** 3.46%	
2010	**5.08%** 6.02%	**5.54%** 6.24%	**1.25%** 1.85%		
2009	**6.01%** 6.47%	**-0.61%** -0.18%			
2008	**-6.82%** -6.41%				

Table A-5: Excess Tracking Error of CPD (fund) Relative to TXPR (index)

Year to August 31	Excess Tracking Error
2012	-0.02%
2011	-0.28%
2010	-0.44%
2009	+0.04%
2008	+0.09%

Excess Tracking Error has been defined as the difference between CPD total return with an approximate MER of 50bp added back, versus the return of the TXPR index. A negative tracking error implies the fund underperformed this expectation.

Comparing Funds

Abbreviations used in this section are:

- CPD: S&P/TSX Canadian Preferred Share Index Fund
- BMO-CM "50": Index maintained by BMO Capital Markets
- DPS.UN: Diversified Preferred Share Trust
- HPR: Horizons AlphaPro Preferred Share ETF
- JLF: Jov Leon Frazer Preferred Equity Fund Class I Units
- Omega: Omega Preferred Equity Fund
- Manulife: Manulife Preferred Income Fund
- MAPF: Malachite Aggressive Preferred Fund

Table A-6: Sector Composition of Several Funds and Index

Class	CPD	BMO-CM "50"	DPS.UN	HPR	JLF	Omega	Manulife	MAPF
Liquid Investment Grade								
Ratchet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fix-Float	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Floater	0.7%	3.0%	4.0%	1.2%	2.1%	0.1%	2.4%	0.0%
OpRet	1.3%	3.5%	2.1%	2.5%	5.8%	3.1%	0.0%	0.0%
SplitShare	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	10.0%
Interest-Bearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Perpetual-Premium	7.6%	7.7%	17.8%	8.7%	14.0%	13.5%	24.8%	0.0%
Perpetual-Discount	1.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%
FixedReset	45.6%	46.9%	22.8%	36.7%	39.4%	40.7%	23.7%	19.9%
Deemed-Retractible	23.5%	25.6%	21.4%	32.6%	12.2%	20.2%	16.6%	60.6%
Total Liquid Investment-Grade	**79.6%**	**86.8%**	**69.7%**	**81.5%**	**73.6%**	**78.5%**	**67.6%**	**90.4%**
Scraps								
Ratchet	0.0%	1.4%	5.1%	2.5%	4.6%	2.5%	1.8%	1.3%
Fix-Float	2.4%	5.2%	2.9%	3.0%	0.7%	1.3%	3.5%	0.0%
Floater	0.0%	0.0%	0.9%	0.2%	0.0%	1.3%	0.0%	0.0%
OpRet	1.1%	1.2%	6.4%	4.4%	10.8%	7.7%	0.0%	0.1%
SplitShare	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%
Interest-Bearing	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
Perpetual-Premium	1.5%	1.5%	3.2%	1.7%	3.8%	0.5%	0.3%	0.0%
Perpetual-Discount	0.5%	0.0%	0.8%	0.6%	0.0%	0.0%	3.2%	2.3%
FixedReset	14.4%	3.9%	9.0%	6.1%	4.2%	7.5%	23.6%	2.3%
Deemed-Retractible	0.0%	0.0%	2.4%	0.0%	2.5%	1.3%	0.0%	0.6%

"Scraps" are mostly sub-investment grade ("junk") issues, rated Pfd-3(high) or lower, but include some issues that do not warrant inclusion in the main index due to an Average Daily Trading Value (as calculated by HIMIPref™) of less than $25,000 as of the prior month's index rebalancing.

Table A-7: Credit Quality of Several Funds and Index									
Credit Rating	CPD	BMO-CM "50"	DPS.UN	HPR	JLF	Omega	Manulife	MAPF	Scoring Factor[18]
Pfd-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.22%
Pfd-1(low)	52.2%	49.4%	38.4%	53.8%	36.6%	48.3%	21.6%	53.3%	0.33%
Pfd-2(high)	10.7%	13.8%	12.3%	13.8%	11.7%	14.4%	16.1%	27.2%	0.66%
Pfd-2	0.9%	1.2%	1.5%	1.7%	1.2%	0.7%	0.0%	0.0%	0.86%
Pfd-2(low)	15.5%	22.3%	20.5%	13.1%	30.6%	18.4%	29.9%	10.0%	1.06%
Pfd-3(high)	11.0%	11.8%	15.9%	12.9%	9.0%	11.6%	23.0%	1.5%	2.12%
Pfd-3	8.8%	1.5%	7.0%	3.7%	5.4%	4.2%	9.5%	2.1%	2.62%
Pfd-3(low)	0.4%	0.0%	2.3%	1.1%	2.5%	1.8%	0.0%	0.0%	3.12%
Pfd-4(high)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	4.24%
Pfd-4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	5.24%
Pfd-4(low)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	6.24%
Pfd-5(high)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.48%
Pfd-5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.48%
Pfd-5(low)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	12.48%
Undefined	0.5%	0.0%	0.0%	0.0%	3.0%	0.7%	0.0%	0.9%	0
Weighted Average Scoring Factor	0.89%	0.79%	1.03%	0.83%	0.94%	0.87%	1.23%	0.83%	

It may be of interest to compare these scoring factors with the "capital factor" determined by OSFI for use by P&C insurers when risk-weighting their assets.[19] It may be seen that, relative to the factors used by OSFI, the factors used here are relatively more severe on lower rated credits.

Table A-8: Comparison of Credit Scoring Factors from Table A-7 and OSFI Capital Factors			
Rating	OSFI Factor	Scoring for Preferred Share Portfolios in this Analysis	Ratio (at midpoint)
AAA, AA+ to AA-, Pfd-1, P-1 or equivalent	3.0%	0.22% – 0.33%	10.9
A+ to A-, Pfd-2, P-2 or equivalent	5.0%	0.66% – 1.06%	5.8
BBB+ to BBB-, Pfd-3, P-3 or equivalent	10.0%	2.12% – 3.12%	3.8
BB+ to BB-, Pfd-4, P-4 or equivalent	20.0%	4.24% – 6.24%	3.8
B+ or lower, Pfd-5, P-5 or equivalent or unrated	30.0%	8.48% – 12.48%	2.9

[18] Scoring factors are loosely based on the "Global Corporate Cumulative Default Rates (1976-2011) by Notched Rating Categories (Yearly)" table on page 43 of the DBRS publication *2011 DBRS Corporate Rating Transition and Default Study*, available on-line at http://www.dbrs.com/research/246789/2011-dbrs-corporate-rating-transition-and-default-study.pdf

[19] Office of the Superintendent of Financial Institutions, *Minimum Capital Test for Federally Regulated Property and Casualty Insurance Companies, Effective Date January 1, 2013*, available on-line at http://www.osfi-bsif.gc.ca/app/DocRepository/1/eng/guidelines/capital/guidelines/mct2013_e.pdf (accessed 2012-11-10)

Table A-9: Liquidity of Several Funds' Holdings and Index								
Average Daily Trading Value	CPD	BMO-CM "50"	DPS.UN	HPR	JLF	Omega	Manulife	MAPF
< 50,000	1.2%	4.7%	19.5%	4.7%	24.6%	15.5%	17.8%	5.3%
50,000 – 100,000	13.1%	10.5%	20.7%	25.5%	16.9%	27.1%	22.0%	9.5%
100,000 – 200,000	49.0%	32.2%	36.0%	41.2%	33.0%	33.6%	31.6%	52.2%
200,000 – 300,000	21.5%	34.1%	15.0%	18.5%	16.9%	11.8%	16.4%	23.2%
> 300,000	15.1%	18.5%	8.7%	10.1%	8.5%	11.9%	12.3%	9.0%

Table A-10 requires requires some explanation. Given the huge importance that many investors (and their agents!) pay to Current Yield and the very high probability that many issues with high coupons will be redeemed in the next few years, I thought it would be valuable to come up with an estimate of dividend sustainability for each of the funds.

For every issue in each portfolio, I calculated the year in which the YTW scenario comes to pass; e.g., at its current price of 26.72, HSB.PR.E has a yield-to-worst of 2.77% based on a call 2014-6-30 at 25.00. I then estimated the dividends that would be received on a new issue purchased at that time with the redemption proceeds using a very simple (too simple?) algorithm:

- 4.0% for issues rated Pfd-1(low)
- 4.5% for issues rated from Pfd-2(low) to Pfd-2(high)
- 5.0% for issues rated Pfd-3(high) and lower

I assume that dividends received in the year of redemption are a 50/50 mix of the current dividend and the future dividend calculated in accordance with this algorithm; after that date, dividends are received at the new rate.

So, for example 4,000 shares of HSB.PR.E currently receive an annual dividend of 1.65 each. When it is (presumably) called in 2014, the proceeds will be reinvested in the same number of shares of a new issue paying 4.5%, or 1.125 per share. Therefore, the value invested in HSB.PR.E is presumed to collect dividends as follows:

- Current: 4,000 * 1.65 = $6,600
- 2012: 4,000 * 1.65 = $6,600
- 2013: 4,000 * 1.65 = $6,600
- 2014: 4,000 * (1.65 + 1.125)/ 2 = $5,550 (redeemed at $25.00. Proceeds reinvested in $25 new issue paying 1.125)
- 2015: 4,000 * 1.125 = $4,500
- 2016: 4,000 * 1.125 = $4,500
- 2017: 4,000 * 1.125 = $4,500

Similar computations were performed for all issues and the totals summed and normalized so that the current dividend rate is defined as 100. Note that many issues have a YTW scenario involving their immediate call, so it was considered logical (or at least consistent) to treat the year 2012 as being distinct from "Current". Results are shown in Table A-10.

Some readers may remember that I have performed a similar exercise previously,[20] in the fall of 2006 when I projected a 10% decline in gross dividends for several funds over the next four years. Naturally, it wasn't too long after publication that the market dropped dramatically, it was no longer advantageous for the issuers to call the issues on the originally projected date, and gross dividends were relatively unaffected. Asset prices, of course, were another matter entirely.

Table A-10: Dividend Sustainability of Several Funds and Index							
Fund	Current Dividend	2012	2013	2014	2015	2016	2017
CPD	100.00	98.71	95.87	89.85	84.55	82.24	80.50
BMO-CM "50"	100.00	98.31	94.95	88.57	83.14	81.14	79.89
DPS.UN	100.00	97.68	93.77	88.84	84.62	83.25	82.72
HPR	100.00	98.46	95.30	88.43	82.58	81.09	80.18
JLF	100.00	97.60	93.69	86.72	79.69	78.00	77.83
Omega	100.00	98.26	94.30	85.83	79.05	78.35	78.21
Manulife	100.00	99.20	95.78	90.78	86.56	82.27	79.86
MAPF	100.00	100.00	100.00	96.04	92.01	91.61	91.27

[20] See http://www.himivest.com/media/advisor_0610.pdf

Investment Conclusions

There can be no universal "best" fund for all investors, any more than there can be a "best" stock or "best" portfolio. Portfolio selection is a multi stage process, in which investors first determine what it is they want to do, then determine how they want to do it.

While I cannot advise every reader of this newsletter regarding the most suitable preferred share fund for his portfolio, I hope that the fund characteristics presented here will assist investors making choices for the future.

The information presented here is by no means complete: investors will want to determine the Management Expense Ratio that will be applicable to them (many of the funds have many different classes); performance, turnover, and the rationale for that turnover will also be important. This essay is based on a single snapshot of the portfolio holdings and does not purport to be a rigourous investment report. However, it does present information regarding these funds in a consistent manner and I trust that readers have found it valuable, or at least interesting!