HORIZON KINETICS

Under the Hood: What's in *Your* Index?
(An Ongoing Series – December 2016)

The Irony of Indexation and ETFs Disrupting the Market Efficiency and Pricing, Or If You're Buying a Gold Miner ETF as a Hedge, Do You Know What's Really Going On?

There are securities that actually are solid citizens of the indexation sphere of activity, and which might even be undervalued, yet which are subject to dramatic price volatility precisely because they are prime ETF constituents. Volatility in these cases is unrelated to the economics of the companies in question, and illustrates how market clearing prices have been distorted by the structure of many ETFs and the impact of investor fund flows into and out of them. One such security, also a holding in some of our strategies, is Silver Wheaton Corp. ("Silver Wheaton"), the silver and gold royalty company.

This Silver Wheaton business model has been reviewed before and won't be repeated here, save to recall that it is not a mining company, and does not, therefore, have any mining equipment or capital expenditure needs. It buys long-term future gold and silver production at deep discounts in exchange for assisting mining companies to fund new or existing mine development. The established royalty companies have extremely high free cash flow margins, generate high returns on equity and, because they actually have reinvestable free cash flow, very substantially outperform the commodities themselves and the mining companies over the long term. Their business, which can also be described as un- or underleveraged factoring, is not cyclical.

We bring up the precious metals companies because they have become a very popular area of investment interest, for obvious reasons. It's important to understand how the investment objectives or expectations behind those reasons are satisfied or, perhaps, obstructed by the indexation vortex.

Object Lesson I: The Large-Cap Gold Miners

Since the evolution of the ETF, gold has been able to play a role in portfolios as a hedge that was far more difficult in the pre-ETF days. It was cumbersome to hold gold in a portfolio because of the expense and difficulty of safe storage. It should be no surprise that the SPDR Gold Shares ETF ("GLD"), with $37 billion in AUM as of November 11, 2016[1], is the ninth-largest ETF.

Because gold is viewed as a hedge, it can attract cash flow even while bonds attract cash flow, although one might think that an investment in bonds reflects an opposing outlook to an investment in gold. For example, this year (through November 11th) GLD took in $11.6 billion of new funds, which is 31.2% of its current market value; the iShares Core U.S. Aggregate Bond ETF took in $10.9 billion of new flows.

[1] Source: http://www.spdrgoldshares.com/

Of course, if one really believes that gold will rise in value, in principle, a gold miner would be a better investment than gold itself since, at higher gold prices, more gold is extractable from a given mining asset. Thus, there is an operating leverage that exists in gold mining that could never exist in an investment in the commodity itself. Since there are not many large gold mining companies, there is a relatively small number of gold miner ETFs.

The accompanying table lists substantially all the gold miner ETFs; their combined AUM is $16.7 billion. Eight of the fourteen are leveraged. The Direxion Daily Gold Miners Bull 3x Shares ("NUGT") by itself is 7.2% of the AUM of the whole gold miners ETF market. There is no other segment of the ETF market in which one triple-leveraged 3x ETF equals that large a proportion of the group. Of course, since it is leveraged 3x, it controls gross assets equal to 3x its NAV – that is, for every $100 of client AUM that NUGT receives, it borrows $200 and then buys $300 worth of gold miner shares; so one could assert that, in total assets, it is 22% of the market. As will be seen shortly, this leverage, along with related factors, has a surprisingly dramatic impact upon the trading activity and pricing of the mining companies.

		AUM (*$ in bill.*)
GDX	VanEck Vectors Gold Miners ETF	$10.005
GDXJ	VanEck Vectors Junior Gold Miners ETF	3.947
NUGT	Direxion Daily Gold Miners Index Bull 3x ETF	1.209
JNUG	Direxion Daily Junior Gold Miners Index Bull 3x ETF	0.534
DUST	Direxion Daily Gold Miners Index Bear 3x Shares ETF	0.307
RING	iShares MSCI Global Gold Miners ETF	0.286
SGDM	Sprott Gold Miners Exchange Traded Fund	0.197
JDST	Direxion Daily Junior Gold Miners Index Bear 3x ETF	0.119
SGDJ	Sprott Junior Gold Miners Exchange Traded Fund	0.049
PSAU	PowerShares Global Gold and Precious Metals ETF	0.040
GDXX	ProShares Ultra Gold Miners ETF	0.014
GDJJ	ProShares Ultra Junior Miners ETF	0.007
GDXS	ProShares UltraShort Gold Miners ETF	0.003
	TOTAL	$16.720

Source: Bloomberg as of November 10, 2016

Between November 9, 2016, and November 11, 2016, this ETF, NUGT, which is the 3rd largest by AUM, declined by 41.07%, so that, ignoring investor cash flows into or out of the ETF, it lost $600 million in market value. However, when this happens, NUGT is a forced seller of twice this amount of assets, since it must adjust its 3x leverage ratio each day. In other words, the market value loss of $600 million necessitates the sale of $1.2 million of assets. This is 12% of the AUM of the VanEck Vectors Gold Miners ETF ("GDX"), which is the largest of these ETFs. Note that NUGT is based upon GDX. In actuality, between November 9, 2016, and November 11, 2016, NUGT had net inflows of $74.7 million.

How about the activity in gold itself, which presumably was at least one causal agent of the trading activity in NUGT? On November 8, 2016, gold closed at $1,282.35 an ounce. On November 11, 2016, it closed at $1,236.45. This is a three-day move of negative 3.59%, hardly unprecedented in the history of gold trading. It probably will not greatly change the economics of the typical gold mining company.

How about activity in the gold mining stocks themselves, during those three days? As seen in this table, gold shares fell sharply, generally on the order of 12% to 15%. Silver Wheaton itself, which as a business has nowhere near the operating leverage, cyclicality or balance sheet leverage of the miners – it's in an entirely separate class, as these issues go – was actually the negative outlier, being down almost 24%.

It should be self-evident that the high participation of leveraged ETFs in the gold miners' group is influencing prices.

This is not the action of an efficient market.

Gold Miners' Share Price Declines, 11/8/2016-11/11/2016

Newmont Mining Corporation	(12.40)%
Barrick Gold Corporation	(13.47)%
Gold Fields Ltd	(15.04)%
Goldcorp Inc.	(10.91)%
Kinross Gold Corporation	(16.88)%
Agnico Eagle Mines Ltd	(15.01)%
Yamana Gold Inc.	(14.73)%
Franco-Nevada Corporation	(12.23)%
Silver Wheaton Corporation	(23.94)%

Source: Bloomberg

Object Lesson II: The Junior Gold Miners ETFs

For an example that illustrates the premise that the efficient market is not at work, consider the case of the VanEck Vectors Junior Gold Miners ("GDXJ") vis-à-vis the Direxion Daily Junior Gold Miners Index Bull 3x Shares ("JNUG"), which is based on GDXJ and, so, holds the same companies.

On November 9, 2016, GDXJ had $4.25 billion in AUM, and JNUG had $675 million, or 15.9% of GDXJ. If we had, at the time, assumed that in the next several days after November 11th GDXJ would rise in value by 10%, that would be a mere 67% retracement of the three-day post-election decline. Obviously, JNUG being 3x leveraged, would rise by 30%, or another $202 million in AUM. It would need to purchase $404 million of GDXJ to remain 3x leveraged.

Year to date through November 11th, the VanEck ETF, GDXJ, took in new AUM of $1.683 billion. Depending on what day you look at, that is about half of the AUM. The Direxion ETF, JNUG, took in $482 million, which, of course, necessitates buying twice as much again of the securities in order to properly maintain its 3x leverage (or $482 million times 3), or $1.446 billion, which is nearly as much as the inflow into GDXJ.

The accompanying table shows the Top 10 holdings in GDXJ, which equal 40.4% of the ETF. Note also that the second holding listed is the VanEck Vectors Gold Miners ETF (GDX), which represents the large-capitalization gold company index. It is there for the simple reason that is there is an insufficient supply of junior gold companies with adequate liquidity to support the daily buying and selling of the junior gold leveraged index.

Top 10 GDXJ Holdings		Weight (%)
PVG	Pretium Resources Inc	5.0
GDX	*VanEck Vectors Gold Miners ETF*	*5.0*
IMG	Iamgold Corp	4.8
AGI	Alamos Gold Inc	4.7
SSO	Silver Standard Resources Inc	3.9
IGO	Independence Group NL	3.7
EDV	Endeavour Mining Corp	3.5
RRL	Regis Resources Ltd	3.5
OR	Osisko Gold Royalties Ltd	3.2
CG	Centerra Gold Inc	3.1
	Total	40.5

As of 11/11/2016
Source: VanEck, Morningstar

Now to the point. Let's look at Pretium Resources Inc. ("Pretium Resources"), the largest holding in GDXJ. It has average daily trading volume of 1.71 million shares, or $13.78 million worth.

Between November 9, 2016 and November 11, 2016, the Direxion Gold Miners Bull 3x ETF lost about $250 million in market value.

Ergo, it needed to sell $500 million in junior gold miners' stocks to comply with the daily reset requirement. About 5% of that total would have needed to be Pretium Resources.

Thus, JNUG needed to sell $25 million worth of Pretium Resources when the daily dollar trading volume was $13.78 million, or $41.34 million over three days. It needed to be $25 million ÷ $41 million, or 60.47% of the average trading volume over the course of 72 hours. In the case of the 10th largest JNUG holding, Centerra Gold Inc., which is a 3.09% position, the selling requirement would have needed to be about 100% of the average three-day trading volume.

In practice, this type of liquidity need is accommodated in the swap market, which is what the ETF organizers will say, and it's true. However, the dealers must hedge themselves in the cash market, which is to say by selling the same shares. In any case, the trading volume needs to be elevated.

Thus, JNUG, the Direxion junior gold ETF, exaggerates anything that might happen fundamentally in GDXJ, the VanEck junior gold ETF. In turn, since GDXJ has a nearly 5% position in the VanEck senior gold ETF, GDX, this in turn exaggerates, albeit, to a lesser extent, the movement in GDX.

To make matters worse, since there is a shortage of large capitalization gold companies, just as there is a shortage of junior gold companies, GDX owns various junior gold companies that are contained in JNUG. Those in the accompanying chart are among the Top 10 holdings of JNUG, and there are many others.

GDX and JNUG Holding Overlap

Top 10 GDXJ Holdings		Weight (%)
Iamgold Corp	IMG	1.05
Endeavour Mining Corp	EDV	0.92
Centerra Gold Inc	CG	0.80
Regis Resources Ltd	RRL	0.72
Osisko Gold Royalties Ltd	OR	0.64

As of 11/11/2016

Source: VanEck, Morningstar

Finally, One More, Lesson III

Consider this as well: just as JNUG, the leveraged version of the junior gold miners index, exaggerates the movements of GDXJ, the unleveraged version, the leveraged Direxion senior gold ETF, NUGT, exaggerates the movement of the VanEck senior gold, GDX, by the daily 3x leverage reset requirement. It is also exaggerating the price movements of GDXJ, ostensibly a different sector, since it holds some of the same positions, on a 3x leveraged basis, as JNUG.

Indeed, the situation is even worse since NUGT is a bigger fund than JNUG. NUGT has $1.209 billion of AUM. It holds an 81-basis point position in Centerra Gold (CN on the Toronto Stock Exchange). The market value of that position, in U.S. dollars, is 0.81 x $1.209 billion, multiplied (since it is 3x leveraged) by 3, which amounts to $29.38 million.

The AUM of JNUG is $365 million. Centerra Gold is a 3.09% position, which is $11.28 million. This should be multiplied by 3x, given the leverage, for a total position size of $33.83 million. Thus, the senior gold leveraged ETF, NUGT, owns $29.38 million worth of Centerra Gold, and the junior leveraged version, JNUG, owns $33.83 million. In other words, they own almost the same amount.

Of course, it does not stop here. GDX has $9.259 billion of AUM. It holds an 81-basis point position in Centerra Gold, which amounts to about $75 million. Thus, the senior gold mining ETF owns much more of this junior miner than does the junior gold mining ETF, even when viewed on a look-through basis.

Nevertheless, the belief persists that all of these bizarre stock price movements result from the action of the efficient market. Between the leveraged and the unleveraged index, the gold market has become a series of interlocking reflecting mirrors.