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Portfolio Strategy

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Market Vectors Rare Earths/Strategic Metals ETF (REMX)

Strategy: Neutral

REMX - Key Metrics	
Price (USD)	\$29.63
12-Month Target Price (USD)	N/A
Upside to Target	N/A
High-low (12 mth)	\$16.53-\$32.97
AUM (USD)	\$238mn
Units Outstanding (millions)	6.71

Vectors REE/Strategic Metals ETF

Bigger, but Not Smarter

- + There is a recovery of interest in mining markets and a niche to be filled by a Strategic Metals ETF... finding one is the problem
- + This renewed interest has enabled companies in the subspace to crawl out of the bunkers and start to raise money and dust off projects
- + Lithium is the obvious kicker to this ETF in recent times with the fund up substantially over the last 18 months
- + Rare Earths positions have started to build again but the fund has no exposure to the soon to be producing (Northern Minerals, Rainbow Rare Earths)
- ✗ Various Non-Strategic and Non-Critical Metals are strongly represented in the ETF
- ✗ Rare Earths remain only lightly represented with no developers (e.g. Mkango or Peak Resources) in the mix
- ✗ Many of the metals with the highest degree of China-dominance are not represented (in two metals they are represented by a Chinese company!)
- ✗ Chinese stocks dominate the portfolio
- ✗ There is a strong presence of industrial intermediaries rather than miners

New Names, Same Mistakes

Investors in ETFs tend to want a tracking device for a sector, metal or commodities or a group of stocks representative thereof. Secondly, they would hope for performance. Therein lies the rub. If the specific stocks tracked are mediocre, pedestrian, past their prime or already overvalued then one cannot hope for performance, let alone outperformance.

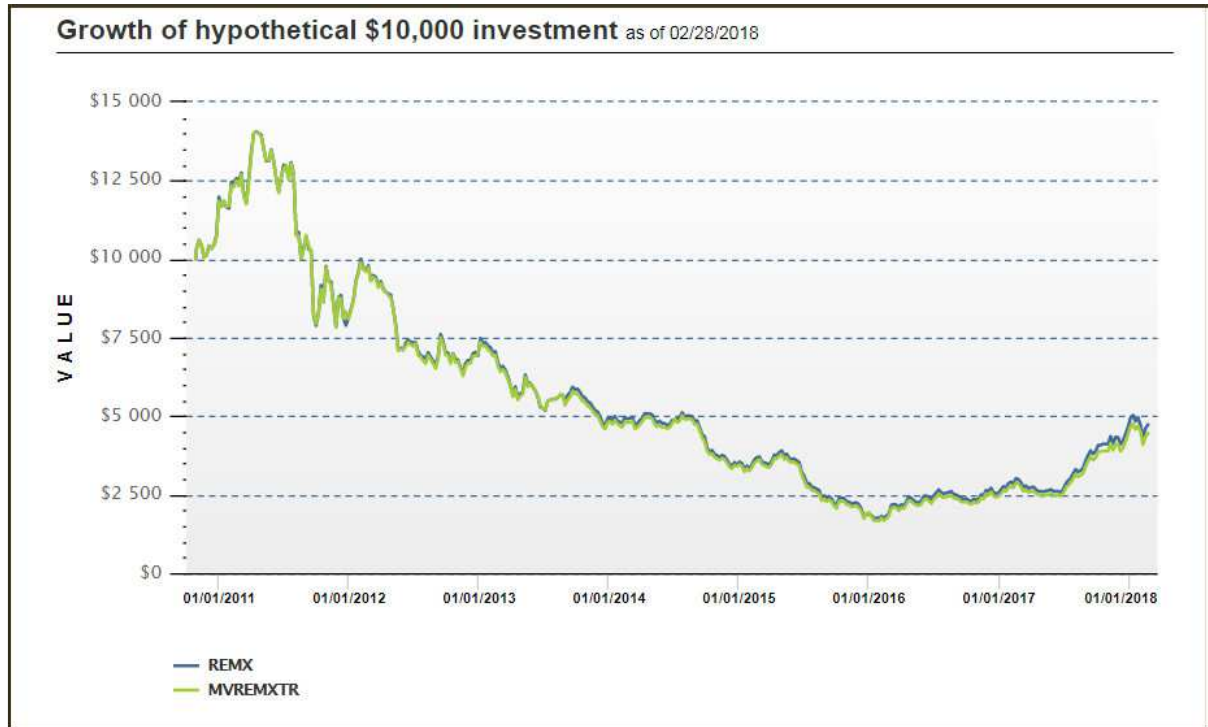
Having watched this ETF since its inception as a vehicle to catch the wave of the first Rare Earth Boom, it has consistently disappointed as being either representative or a stockpicker. So in both respects it fails to deliver what one might hope for from such a vehicle. It has been a somewhat fatal mixing of go-go stocks (e.g. Molycorp back in the day and Pilbara and Lithium Americas now) and an array of dullsville names in the Chinese and Japanese stock markets, which in the case of the former (e.g. China Moly) leave much to be desired on governance and clarity of strategy and intent.

The ETF has always been poignant for the names it leaves out rather than the names it includes. For example the major Western producer of Tungsten, Almonty Industries, has never been included.

Having said that, the ETF has done well over the last 18 months, largely on the back of the Lithium 2.0 phenomenon. The fellow traveler minerals in the Lithium Ion battery space (Fluorspar and Graphite) are not included, while Vanadium, the up-and-comer in mass storage devices does not feature. Beryllium and Scandium are not deemed meritorious of inclusion while Chromite and Manganese are. Very

curious.

The chart below gives a snapshot of how an investment would have fared in this fund since inception.



As it has been four years since we last picked the fleas off this dog, it seems an appropriate time to revisit the Fund and see what has improved, or not, in its outlook.

The Only Place Where Strategic Means Dull

The Market Vectors Rare Earths/Strategic Metals ETF (REMX) is a strange beast indeed and reminds us of the old adage of a “camel being a horse designed by a committee”. We can only wonder what the design process of REMX was. The ETF started out to harvest the enthusiasm for REE and then had Strategic Metals tossed into the mix to hedge the bets on the possibility that the superheated REE space might have a moment of pause (and pause it did).

Defining Strategic

It would be useful to define what we think is truly “strategic” these days rather than using old encyclopedia definitions of the metals that might fall into the group. Our definition could be summed up in two statements. Metals today are “strategic” if:

- China has a grip on the metal and might either withhold supply for industrial policy or macropolitical reasons

- The West, or a country friendly thereto, has a strong or dominant position in a metal that is in relative short supply

Thus Tungsten is relatively abundant but China still dominates the supply because the West has abdicated control to China. This is repeated in various other metals (e.g. Antimony, Galium and Germanium).

Cobalt on the other hand is a metal the Chinese desperately need but which is not easy to increase production overnight though deposits are known. It is a metal with a large market, but large may not be good enough if the demand is larger. Niobium is another metal the Chinese have virtually no indigenous sources of and so are as dependent upon Brazil as everyone else. The Chinese dependence on imported Lithium is also becoming apparent and prompting a Lithium-rush to secure assets and strategic stakes in current or potential producers.

The constituents of the REMX

Maybe we have unreal expectations that an ETF should be something more than just a pooled investment in a sector with a heavy human overlay. We would hope for science and instead get art.

On the following page can be seen the composition of the ETF when we last reviewed it in April of 2014. It is poignant to note the holding in Molycorp, which was already mortally wounded at that point and yet still had a value of around \$5 per share. This value would eventually be nil.

All Fund Holdings as of 04/02/2014							
	Holding	Ticker	Market	Metal Focus	Shares	Market Value	% of net assets
1	Iluka Resources	ILU	ASX	Ti	877,615	\$8,109,173.74	8.46%
2	Assore Ltd	ASR	JSE	Mn, Fe, Cr	195,964	\$7,516,459.34	7.84%
3	Eramet	ERA	Euronext	Mn, Ni	60,327	\$7,462,319.80	7.78%
4	Tronox Ltd-Cl A	TROX	NYSE	Ti, Zr	272,355	\$6,661,803.30	6.95%
5	Molibdenos Y Metales S.A.	MOLYMET	Chile	Mo	405,875	\$5,685,243.01	5.93%
6	Molycorp Inc	MCP	NYSE	REE	1,039,082	\$5,018,766.06	5.23%
7	North Mining Shares Co Ltd	433	HK	Mo	101,650,000	\$4,914,456.02	5.12%
8	Osaka Titanium Technologies	5726	TSE	Ti	279,500	\$4,909,443.92	5.12%
9	Rti International Metals Inc	RTI	NYSE	Ti	155,302	\$4,387,281.50	4.57%
10	Hunan Non-Ferrous Metals-H	2626	HK	Zn, W	15,336,000	\$4,353,397.90	4.54%
11	Kenmare Resources Plc	KMR	LSE	Ti	18,325,817	\$4,343,723.05	4.53%
12	China Molybdenum	3993	HK	Mo	10,638,000	\$4,200,455.84	4.38%
13	Toho Titanium Co Ltd	5727	TSE	Ti	689,900	\$4,171,594.79	4.35%
14	Thompson Creek Metals Co Inc	TC	NYSE	Mo	1,725,217	\$4,002,503.44	4.17%
15	China Rare Earth Hldgs Ltd	769	HK	REE	30,086,000	\$3,961,941.00	4.13%
16	Ferbasa-Pref	FESA4	BOVESPA	Cr	690,000	\$3,860,969.64	4.03%
17	5n Plus Inc	VNP	TSX	Various	1,006,199	\$3,582,660.99	3.74%
18	Lynas Corp Ltd	LYC	ASX	REE	18,759,029	\$3,556,576.81	3.71%
19	Alkane Resources Ltd	ALK	ASX	Zr, Ni, REE	7,109,093	\$2,071,530.31	2.16%
20	General Moly Inc	GMO	NYSE	Mo	1,722,646	\$1,705,247.28	1.78%
21	Autlan-B	AUTLANB	Mexico	Mn	1,750,823	\$1,422,911.45	1.48%
22	Other/Cash				0	\$4,927.68	0.01%
	Total					\$95,903,386.87	

The largest holding was the Titanium miner Iluka. This has now slipped down the rankings to third position even though the number of shares held has more than doubled.

Below can be seen the rankings as at mid-March 2018.

All Fund Holdings as of 03/16/2018							
Number	Holding	Ticker	Market	Metal Focus	Shares	Market Value	% of net assets
1	China Molybdenum Co Ltd	603993	Shanghai	Mo/Co	16,208,118	\$23,639,444.78	9.92%
2	China Northern Rare Earth Group High-Te	600111	Shanghai	REE	7,976,987	\$17,031,118.34	7.15%
3	Iluka Resources Ltd	ILU	ASX	Ti	1,904,531	\$16,209,612.34	6.80%
4	Xiamen Tungsten Co Ltd	600549	Shanghai	W	4,019,749	\$16,074,595.13	6.75%
5	Eramet	ERA	Paris	Ni	96,862	\$14,593,316.33	6.12%
6	Lynas Corp Ltd	LYC	ASX	REE	7,359,749	\$14,485,149.59	6.08%
7	Tronox Ltd	TROX	NYSE	Ti/Zr	658,304	\$12,790,846.72	5.37%
8	Orocobre Ltd	ORE	ASX	Li	2,596,536	\$12,155,791.13	5.10%
9	Assore Ltd	ASR	India	Mn/Fe/Cr	432,849	\$12,118,952.14	5.09%
10	Osaka Titanium Technologies Co Ltd	5726	Tokyo	Ti	526,092	\$11,535,401.94	4.84%
11	Pilbara Minerals Ltd	PLS	ASX	Li	16,045,578	\$11,529,180.79	4.84%
12	Toho Titanium Co Ltd	5727	Tokyo	Ti	979,947	\$11,514,407.12	4.83%
13	Cia Ferro Ligas Da Bahia - Ferbasa	FESA4	Bovespa	Cr	1,654,023	\$10,979,897.36	4.61%
14	Galaxy Resources Ltd	GXY	ASX	Li	3,922,347	\$10,829,718.86	4.55%
15	Daiichi Kigenso Kagaku-Kogyo Co Ltd	4082	Tokyo	Zr	719,800	\$9,015,500.08	3.78%
16	Lithium Americas Corp	LAC	TSX	Li	1,334,578	\$8,428,055.48	3.54%
17	Nemaska Lithium Inc	NMX	TSX	Li	7,869,846	\$8,353,316.74	3.51%
18	North Mining Shares Co Ltd	433	HK	Mo	468,192,964	\$8,244,739.74	3.46%
19	China Rare Earth Holdings Ltd	769	HK	REE	62,995,895	\$3,778,187.60	1.59%
20	Citic Dameng Holdings Ltd	1091	HK	Mn	30,408,000	\$1,688,842.29	0.71%
21	Avz Minerals Ltd	AVZ	ASX	Li/Cs/Ta	2,011,746	\$464,107.26	0.19%
22	Other/Cash				0	\$2,803,378.69	1.18%
	Total					\$238,263,560.45	

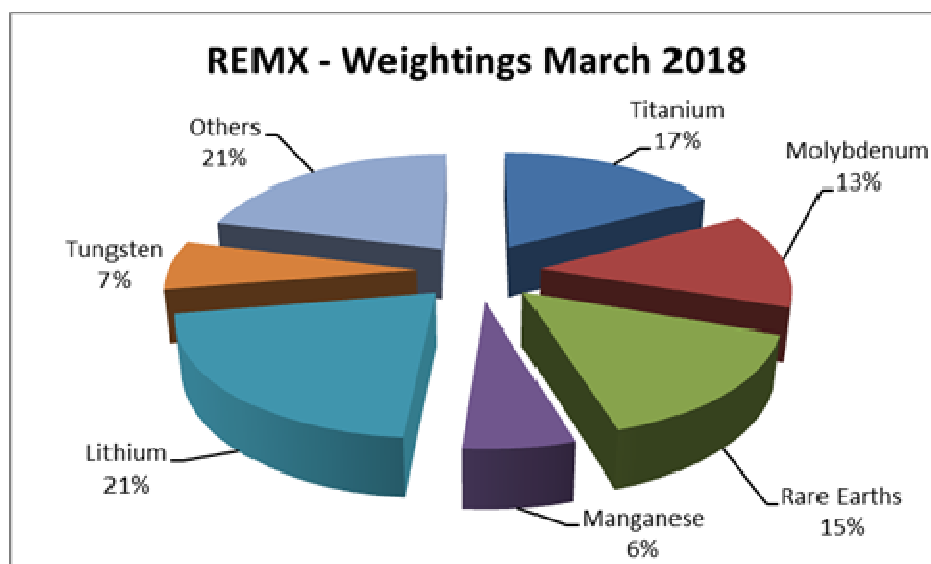
The companies expelled, since 2014, from the portfolio include (besides the demise of Molycorp) Alkane Resources, General Moly, Grupo Autlan, Thompson Creek (taken over by Centerra), Kenmare Resources, 5n Plus and the Chilean company, Molibdenos y Metales (which was at one point a major shareholder in Molycorp). Rti International Metals was acquired by Alcoa in 2015.

In the new scheme of things only the French company Eramet has been able to hold its ground with a number three ranking unchanged over the years. The holding though has increased 50% in shares held over the intervening years.

Not surprisingly, in light of its original name the ETF was heavy with Rare Earth names with, by our calculation the Rare Earth stocks making up slightly less than 40% of the total at the close of 2010. In the following few years the ETF was purged of REE names, with stocks such as Avalon, Rare Element Resources, Quest and Arafura being cast into the outer darkness. Molycorp and Neomaterials merged reducing the count yet further. REE names made up less than 9% in 2014, but are now back closer to 15% now.

In 2014 nothing at all remained of the Lithium component (which was Galaxy Resources) but virtually all the other (non-lithium or REE) constituents were still there four years later. Now four years after that

Lithium is back with a vengeance (at over 20%). This seems to fulfill our gripe that this is an investment vehicle that “arrives at the party just when the drinks are running out”.



Lithium (Li): Last time we visited the ETF the only representative of this metal was Galaxy which would imply that the ETF was light in exposure when the Lithium 2.0 boom swept in. Since then it has added a swathe of “new” names such as Nemaska and Orocobre, veterans of Lithium 1.0. It also added the go-go names of Pilbara and Lithium Americas (the latter we have as a Short in the Model Mining Portfolio). The absence of Neometals (NMT.ax) is telling of the low level of seriousness in portfolio construction. A number of other worthy rising stars have been passed over in favour of the distinctly unworthy Lithium Americas.

Molybdenum (Mo): Curiously, an ostensible Moly play gets top billing in this ETF and yet Moly is no-one’s idea of a Strategic Metal. It is so common that it would be better described as a Lesser Base Metal than a Strategic Metal. While it is used strongly in the building of petrochemical plants and oil pipelines because of its sulphur resistant qualities, it is not a Strategic Metal. The vast bulk of its application is in steel alloys, ranging from the mundane to the high-tech, with a bias towards the mundane. It is not in short supply, and it would be stretching it to claim that it is. This metal’s weighting has declined by a third since 2014.

We would note though that China Moly is a Cobalt producer, supposedly the second largest after Glencore due to its stake in Tenke Fungurume. Perspicacity by the ETF? Well maybe not, as the company had China Moly in the portfolio two years before it made its DRC purchase.

Titanium (Ti): The overweight in Titanium has now been almost halved from 34% in 2014 to just over 17% now. While most associate Ti with high-tech space applications and medical devices, a significant portion of Ti production goes into plain old paint. While this metal may be put to strategic uses we suspect that the reasons that investors may be jumping onto the Strategic Metals bandwagon

(perceptions of shortages, export boycotts, soaring high tech demand, China dominance) are far from the motors driving Titanium and its producers.

There is no shortage of Titanium and nor is there likely to be. Moreover, the Chinese have little relevance to the Ti story and the products that drive Ti demand. Ti demand took a dip with the housing market in 2007/8 due to subdued paint consumption that is not exactly the type of dynamic that those seeking “swinging metals” are looking for.



The chart above shows that the price has been going sideways for years. In short, Titanium is one of the least exciting Strategic Metals.

Chrome (Cr): Ferrochrome features in two of the stocks and safe to say Chrome is also more of a Lesser Base Metal than a Strategic Metal. It again does not suffer from any shortage, and supply is not dominated by China either.

Manganese (Mn): Manganese, currently speaking, is not a strategic metal. It is largely a bulk commodity that is the sixth largest traded metal by tonnage. It's not expensive and it's not scarce.

Having said that, the metal is creating some chatter as to its potential to displace Cobalt in Lithium-ion battery chemistry. This is showing considerable potential (even though Mn has long been in certain battery types anyway). There is so much Manganese potentially available that even in a Cobalt replacement scenario it is unlikely to be in any short supply.

Zirconium (Zr): Zirconium is represented by two names in the portfolio though the main potential new entrant to the space, Alkane, was dumped overboard in the intervening years. This mineral is found primarily in Australia, Brazil, India, Russia, South Africa, and the United States, as well as in smaller deposits around the world. Over 80% of zircon mining occurs in Australia and South Africa. With known Zircon resources exceeding 60 million metric tons worldwide and annual worldwide zirconium production is approximately 900,000 metric tons there is certainly no shortage looming. We would concede though that its applications are almost exclusively high-tech. It is used in alloys for high temperature situations (with the REE Yttrium). Zircon is joined at the hip (at the risk of using a bad pun) with Titanium as it is frequently a by-product of the mining and processing of the titanium minerals, ilmenite and rutile (as well as tin mining).

This leaves us with a dwindling pool to justify the word "strategic". Those who think this is a mining ETF may be disappointed to find that at least 20% of these companies have no mining or ever intend to.

The company with the best spread of strategic metals (Tellurium, Indium, Germanium, Bismuth, Antimony etc) was 5N Plus, a processor with no mining interests, and that was expelled from the portfolio at some time in the last four years.

So where is the **Tantalum** here? Where is the **Vanadium** (e.g. Largo Resources)? Where is the **Germanium** and **Gallium** exposure? Where is the **Antimony** producer (Mandalay or US Antimony)? Where are the non-Chinese **Tungsten** producers like Almonty or Wolf Minerals? Where is the Graphite (Emerys or Leading Edge)?

Risks

The main dangers with investing in a "strategic" metals ETF would be:

- That Rare Earth's don't return to their previous "hot" status
- Commodity prices – several of the heavyweight components like Molybdenum and Titanium are not movers, as yet.. with little representation from the sexier (read scarcer) Strategic Metals it is hard to see how the ETF can outperform physical Strategic Metal's prices
- Heavy industrial presence – in a strong market for raw material inputs it is quite frequently the middleman who gets squeezed. The presence of numerous converters/processors in this ETF leads us to think that there are potentially quite a few commodity inflation "losers" in this line up
- The bigger the ETF gets the more it is likely to drift away from investing in developers of real strategically important metals in short supply and have token representations (if any) of up-and-coming companies
- The biggest danger for such an ETF is if it only adopts a metals fad when the fad is almost over. Only then do the stocks get large enough for inclusion, just before they drive off a cliff

Conclusion

Evolution is not kind to a specialist ETF, but it is to its managers. As it gets larger the manager collects more fees on a larger AUM, but as the ETF grows it can also outgrow its more interesting constituents. Some would argue that the names that truly represent the Strategic Metals are too small to now find a place in this ETF. Shouldn't one have true Strategic Metals stocks in the ETF? In the interests of truth in advertising, it should be renamed the "Fad of the Moment, Titanium, Lesser Base Metals and a Smattering of Rare Earths ETF".

Originally we suspect investors were not buying this fund for its Strategic Metals at all but rather as a Rare Earth sector proxy. Now they are left with a preponderance of exposures to "majors", many of which may not be going anywhere because they have poor leverage to strategic metals despite their names including some reference to a flavour of the moment.. The result, though, of having all these non-REE stories in the mix (particularly the static – pricewise – Moly and Titanium) is that the REMX has massively underperformed just about any other measure until Lithium gave it a kicker. Just as with Rare Earths, the fund that lives by the fad, dies by the fad, also.

The REMX fills a gap but fills it poorly. The market remains wide open for a better constructed ETF in both the Strategic and the Rare Earths spaces. REMX, heal thyself!



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