HORIZON KINETICS

4Q2017 PORTFOLIO UPDATE

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January 17, 2018

An Overview

Part 1: The CalPERS Return Problem and its Contribution to the Bubble.

Part 2: Our Allocation to Inflation Beneficiaries and Other Diversifiers

Part 3: Marine Drilling & Shipping Holdings

Part 4: Our Precious Metals Exposure

Part 5: Revisiting Consensus Money and Blockchain Discussions

The CalPERS Conundrum

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Some Background Facts

A few notable facts:

- **AUM: $356B*** (2nd largest in the US, 7th worldwide)
- 194 managers in private equity alone; paid $234M in management fees and $455 in incentive fees
- Paid $33.6B of stock trading commission on ~18B shares, translating to ~0.2¢ per share.
- CalPERS serves almost 2 million public employee members, over one-third of whom are already retirees and beneficiaries. It paid out an average of about $33,000 each last year. And the number of members increased by 3% during the year.**
- In 2016, The Fund lowered its expected rate of return from 7.5% to 7.0%.
- Expected 2017 funded ratio: 68% (it was 86% funded in 2006).

Positions (as of 12/31/2016), to name a few:

- ~2000 separate corporate bonds (aside from MBS, Treasuries, ABS)
- 4000 domestic publicly traded stocks

They seem exposed to the very same securities at the center of the indexation fund flows as a retail investor directed by an online robo-advisor.

Largest Stock Holdings at Fair Value – PERF (Dollars in Thousands)

Rank	Security Name	Shares	Fair Value
1	Apple	13,877,319	$1,998,611
2	Microsoft Corporation	19,948,037	1,375,018
3	Amazon	1,009,281	976,984
4	Johnson & Johnson	7,212,824	954,184
5	JP Morgan Chase & Company	10,241,228	936,048
6	Exxon Mobil Corporation	11,503,974	928,716
7	Facebook	5,908,622	892,084
8	SamSung Electronics Company	371,217	771,212
9	Wells Fargo & Company	13,500,962	748,088
10	Alphabet	811,314	737,265

https://www.calpers.ca.gov/docs/forms-publications/cafr-2017.pdf

** As of January 11, 2018. https://www.calpers.ca.gov/page/investments/asset-classes/asset-allocation-performance/investment-fund-values*

*** This is a rough estimation derived by dividing total distributions by total retirees and beneficiaries.*

The CalPERS Conundrum

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And Its Contribution to the Bubble

In December 2016, the Board voted for a change in its allocation to support the existing plan to reach a seven percent discount rate.

Asset Class	New Target Allocation	10/31/2016 Allocation
Global Equity	50%	48.3%
Fixed Income	28%	19.4%
Real Assets	13%	19.0%*
Private Equity	8%	8.0%
Liquidity	1%	4.8%

In a low-growth, record-high-valuation environment, a major risk to bond prices in particular is an increase in inflation or interest rates. Yet, not only did CalPERS increase its weighting to below-required-return bonds as well as stocks, but in order to increase those weightings, it reduced its allocation to Inflation Assets and Real Assets by 6% points; the Fund also reduced cash, which provides flexibility in the event of sudden, large price changes, to almost zero.

And this is only one of the innumerable vectors of buying demand that help perpetuate bubbles.

Comprised of 11.2% Real Assets, 7.8% Inflation Assets

THE SACRAMENTO BEE

(Dec 20, 2016) **CalPERS moves to slash investment forecast. That means higher pension contributions are coming.**

- CalPERS has spoken. Its ominous message is reverberating through government buildings and employee cubicles all over California.
- The move, closely watched in the pension industry, reflects an acknowledgment that investment returns are softening. “This is very monumental for the organization,” said board member Richard Costigan moments before the vote.
- The state says its CalPERS bill will increase by $2 billion a year, including a $1 billion-a-year hit to the general fund [almost a 20% increase]. Representatives of California’s school districts said they’ll have to shell out another $500 million a year.
- “It is possible that we could see some bankruptcies,” said Dane Hutchings of the League of California Cities in an interview Wednesday.

http://www.sacbee.com/news/business/article122088759.html

https://www.calpers.ca.gov/page/newsroom/calpers-news/2017/asset-allocation-selected-for-investment-portfolio

Practical Questions about Real Risks

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Inflation Beneficiaries and other Diversifying or Counter-Cyclical Holdings

The businesses identified on the right are not only markedly different than the broad stock market –information technology and finance being the two largest sectors – they differ markedly from each other: in their business models, the way they derive their revenues and customers, and the factors that may cause them to do well or to recover if they happen to be depressed. They comprise between about 35% and 55% of each strategy.

And if we include the 15% to 25% cash balance – a value-elastic asset – in each strategy, the differentiable character of these portfolios is even more substantial.

√ Specialized Hard Assets
√ Inflation Hedge
√ Functional Diversifier
√ Non-Systemic Risk

Weightings as early January 2018 [1]				
	Core Value	**%**	**Small Cap**	**%**
Marine drilling & shipping	Subsea 7		Subsea 7	
	Navigator Holdings	11.9	Stolt-Nielsen	5.9
	AP Moller Maersk		Clarkson plc	
	--		Braemar Shipping Services	
Precious metals	Wheaton Precious	7.8	--	-
	Royal Gold		--	
Real Estate, infrastructure[2]	Howard Hughes		Howard Hughes	
	Texas Pacific Land Trust		Texas Pacific Land Trust	
	Brookfield Asset Mgmt	14.9	Dream Unlimited	23.0
	--		Equity LifeStyle Pptys	
	--		TRI Pointe Group	
Oil & gas, mining[2]	Continental Resources		Texas Pacific Land Trust	
	Texas Pacific Land Trust	10.4	Civeo Corp	16.1
	Cheniere Convert Note		--	
	Civeo Corp		--	
Consensus (crypto) money	GMO Internet		Bitcoin Investment Trust	
	CME Group	6.0	--	1.5
	CBOE Global Mkts		--	
	Hive Blockchain Tech		--	
Other counter-cyclical	--	-	--	-
	--		--	
Sub-total: Securities (%)		50.9		46.6
Cash and short-term funds		20.2		16.2
Total: Securities, cash (%)		71.1		62.7

[1] See Appendix A for allocations for Strategic Value and Research select

[2] TPL given one-half weight in each of Real Estate/Infrastructure and Oil & Gas/mining

Source: Fiserv APL, Based on the Strategy's current values in the accounts, not model weights (as of 1/4/2018)

Practical Questions about Real Risks

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The first questions were: do the portfolios have any inflation-beneficiaries?

Having shown you, the next question might be: why do you have so much? And what about timing?

We've been preparing our portfolios for preservation of purchasing power:

- Bond yields are so low, even junk bonds, that they just about guarantee a negative after-tax, after-inflation return. That's losing money, not making money, not so different than CalPERS.
- And the S&P 500 is at an all-time high P/E. Recall from prior reviews that whatever figure you see when you look at that S&P 500 number, it doesn't include the companies with very high P/E's – like Amazon, with its year-forward P/E of 155x.

Timing? The only time to get a good price in a tourist shop is when the season is over, the tourists have left, and the shopkeeper has a long winter ahead.

One reason for so many counter-cyclicals is pure investing opportunism: the best time to buy, say, an inflation-beneficiary security is precisely when no one is concerned about inflation. That's when they sell at deep discounts, and you don't pay a premium for the characteristic you want. The prices tell you all on their own. That's usually when no one wants them or expects a recovery or is willing to wait for a recovery, i.e. pre-position yourself in securities that already provide alluring safety and return characteristics

Some Diversifying Industries and Companies

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Marine Drilling and Shipping

These are among the most depressed industries in the world. A couple of examples will illustrate:

- The lease rates for transporting various raw materials – the Baltic Dry Index – is down 41% from its high at year-end 2013; it declined 87% to its low in 2016.
- The number of offshore drilling rigs has declined by 82% since 2004.

DIAMOND OFFSHORE

This off-shore drilling rig operator had 56% lower revenue in 2016 than in 2009. But it still generates substantial free cash flow, and has no debt maturing until November 2023. Controlled by the Tisch family, it has a certain staying power and therefore represents a long-term call option on higher oil prices. How much optionality? The company trades at only 3.4x its average earnings since 2004. If a recovery P/E ratio is only 12x, the shares would appreciate by 3.5x. Even if that were to take 5 years to accomplish, it would be 28% per year.

MAERSK

This largest container shipping company in the world does not depend on a recovery in oil prices. It is a family-controlled business, is also profitable, has repurchased substantial quantities of shares, has recently acquired a significant failed competitor, and simply requires a normalized rebalancing of the excess supply of ships with demand from the persistent rise in from global trade, in order to provide a very robust rate of return. It trades at about 1.1x book value.

CLARKSONS

BRAEMAR

Clarkson and Braemar fall into the croupier category of business model -- intermediaries who don't risk any serious amount of capital, but take their fair share of the activity of other participants. These are shipping brokers which are asset-light businesses. They don't own ships; they provide information about ships. Moreover, they are diversified across the spectrum of shipping sectors, so their exposure is to tankers, container ships, bulk carriers, and so forth. They are profitable, despite the market depression.

And they also have an additional form of earnings leverage in that a portion of their fees are a function of the vessel lease rates. Ergo, if container shipping rates rise sharply, that will be reflected to a degree in revenues, separate from increased transaction activity. The investment return will be lower than in a recovering direct and asset-intensive operator, but it should be high nevertheless.

Some Diversifying Industries and Companies

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Precious Metals Royalty Companies

- **Why not the miners?**

  Many people presume that gold mining companies are good hedges against inflation. It's not actually true. The major problem is that when the gold price is higher, miners all increase production. Therefore, they also need to acquire new properties to replace depleting reserves, but at a cost that is rising with both inflation and competition for resources. The same applies to their need for increasingly scarce mining equipment and labor. Rising costs limited the potential for margin expansion.

- A more elegant alternative: **Royalty Companies**.
  - Royalty companies provide a solution to a problem that miners run into. When gold prices are low, the debt approach to funding doesn't work, because interest payments begin accruing on day one, but the project might take years to develop and produce cash flow. And at such times, the equity valuations are low, so that raising money by selling shares would be too dilutive.
  - A royalty company simply purchases a proportion of the future gold production, after the mine becomes operational, but at a discounted price. Say the current price of gold is $1,200 an ounce. A royalty buyer makes an upfront cash payment to a miner to develop a particular resource. That entitles the royalty company to buy a certain proportion of future production at today's price but discounted for the time value of money. It might be surprising, but the effective price at which a royalty buys the future production could be as low as 20% of the future market price. The royalty company doesn't even need gold to go up to make a profit. In fact, it can even go down.

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Margin of Safety and Additional Optionality

Royalty Contract Calculation Example

Current Gold Price	$ 1,200
Discount Rate	15%

	Period	Present Value	% of Curr. Price	Current Mkt. Val.
	1	$ 1,043	87%	$ 1,200
	2	907	76%	1,200
	3	789	66%	1,200
	4	686	57%	1,200
	5	597	50%	1,200
	6	519	43%	1,200
	7	451	38%	1,200
	8	392	33%	1,200
	9	341	28%	1,200
	10	297	25%	1,200
	11	258	21%	1,200
	12	224	19%	1,200
	13	195	16%	1,200
	14	170	14%	1,200
	15	147	12%	1,200
	16	128	11%	1,200
	17	112	9%	1,200
	18	97	8%	1,200
	19	84	7%	1,200
	20	73	6%	1,200
Total		$ 7,511		$ 24,000

Cumulative present value, as % of cumul. mkt. value ($7,511 ÷ $24,000)	31%
Cumul. PV discount, %, applied to curr gold price (31% x $1,200)	$ 375

- **Margin of Safety:** In this 20-yr contract, the royalty company would end up paying—on average—only $375 an ounce, which is almost a 70% discount. The discount provides an enormous margin of safety in a scenario of declining gold prices. Sticking with the same example, if the price of gold were to decline by 15% every year for 20 years, down to a price of $73 per ounce—which is nearly impossible to imagine under plausible circumstances—this contract would be breakeven.
- **Additional Optionality:** The royalty company earns even more profit if the price of gold rises, since its margin increases relative to the established cost; there is no countervailing competitive or expense burden, as would impact the miner.

Precious Metals Royalty Companies

An Opportune Time

Gold is $1,300/oz, but it was over $1,800 in 2011. The miners have curtailed exploration and development of new resources. As a consequence, production volumes will eventually decline and reserves will plummet.

It is precisely a time like this, when the price of gold is low, and public market investors are unenthused about gold investing, that is opportune for royalty companies to make those investments, because the miners lack for funding. This current circumstance is not a stable one. The laws of supply and demand do not expire, and scarcity makes itself felt in price changes. However long it takes, the royalty company continues to earn money, through the discount, even if the gold price never rises and the miners fail to prosper.

SANDSTORM GOLD

Market Cap:$925M
P/B: 1.4x

It is down about 60% from January 2013. It owns 171 royalty streams, of which only 20% of the underlying mines are operating. The latter can be considered dormant assets, because as the miners develop them in the coming years, they will start producing. Based entirely on purchases that have already been made, Sandstorm anticipates that its pro-rata royalty production should increase by 100% in the next 36 months. According to the company, this should result in USD 100 million of after-tax cash flow in 36 months. The average cost of an ounce of gold via the royalty interest optionality is USD 246. Substantially all of its properties are in geopolitically stable areas, with 68% in North America and 24% in South America. The balance sheet has only $18 million of cash, no debt, and $658 million of equity.

Consensus Money and Blockchain

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First, Two Really Common Questions

Bubble, or No Bubble?

The global consulting firm Capgemini produced a study late last year that said that there were 16.5 million millionaires in the world at year-end 2016. There were barely more than 16 million bitcoin then; there are 16.8 million today, just as there are probably more millionaires.

What if the full extent of bitcoin's eventual success is that the only people in the entire world who wish to own it are the millionaires? Almost none of the other 99.9% of the planet want it, and each of the millionaires only wish to own one single coin and no more. That would be demand for 16.5 million coins, which would be a 100% excess relative to the supply. In order for each millionaire to buy their one coin, every single one of the non-millionaire owners of bitcoin would have to be willing to sell their entire holdings. A lot can go wrong. But it's not a bubble.

But to be clear, YES, there is a cryptocurrency bubble – just not in bitcoin. There are over 1,300 cryptocurrencies or coins, many of which are poorly conceived, poorly designed, or have no proprietary value. Most importantly, almost none have a non-inflationary monetary policy. The latter, by our lights, are the only ones that can have long-term worth as a store of value.

How Can Bitcoin Really Still Go Up 1,000x?

The IBM PC was rolled out in August 1981. Microsoft, which provided the operating system, came public in 1986. How many times your money would you have made if you bought Microsoft that year, and held to year-end 1999? The answer is 646x. In a $100,000 account, if you risked $1,000, and every other holding went to zero, you finished with $646,000. You didn't have to understand technology or software to make that decision, just have the notion that *IF* this PC business ever takes off and every household owns one... It was just a study in going from near 0% market penetration to saturation.

The same for consensus money, if it comes to be accepted, it will no longer be volatile because it will have reached some mature market value in the scores of trillions of dollars. There is about $90 trillion of M2 money supply in the world[1]. There is $85 trillion of assets on the balance sheets of the world's largest 100 banks[2]. There is $38 trillion developed market sovereign debt and it pretty much all earns a negative real rate of return[3]. There is $0.235 trillion of bitcoin as of January 14, 2018[4].

[1] Source: CIA World Factbook; [2] Source: Bloomberg. Most recent balance sheet as of December 21, 2017; [3] Source: Bloomberg World Countries Debt Monitor, Developed Markets, as of December 21, 2017; [4] Source: www.coinmarketcap.com

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A Form of Insurance

The stated policy of the Federal Reserve is to inflate the currency at a 2% rate. Not that they can't miss their target, everyone does now and then; it could be higher. So one needs protection.

If the number of U.S. dollars increases by 2.6% more in a given year than GDP, as happened last year, while the number of bitcoins do not increase, then it would take 2.6% more dollars to purchase a given amount of bitcoin.

A tale of two savers: What if the world became divided between those who own bitcoin and those who don't, a world in which bitcoin assumes the reference currency status that the U.S. dollar did in the generations after World War II? It could become the *greatest wealth transference experience in history*.

This is the reason to buy some insurance – appropriately sized – through a stable-monetary-policy consensus money. No one seems to mind – or, at least, to question – paying for homeowner's insurance, and not just once, but year after year, decade after decade. This just needs to be the once.

As a ***form of insurance*** for their own protection, everyone should own some consensus money – appropriately sized to account for the risk – as the ***ultimate conservative investment***.

Classified Ads from January 1971

UNFURNISHED APARTMENTS (3)

21 STREET 329 W., New renovated bldg., brick walls, fireplace. 2½ rooms. No fee. $295 929-2951

Betw. 34 & 35th Sts (10th Ave) 3½ rooms. Walk-up. Clean, lite & airy $189 monthly. Quiet building. TW 6-0515

BOERUM HILL/BKLYN HTS. floor thr apartment $175/mo. electricity included. Quiet people desired. 852-8431

80 St. W. Fabulous 2 & 3 B.R. apts In newly renovated Town house A/C, fplce, brick walls, Hi clgs, dishwasher sunny South Terr. from $425. No fee. 874-1659 Owner occupied.

https://ny.curbed.com/2013/11/21/10172014/what-would-50-in-1940-rent-a-new-yorker-today

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Indirect Ways to participate in the expansion of consensus money and blockchain technology

GMO INTERNET GROUP

GMOインターネットグループ

Founded over 25 years ago by Masatoshi Kumagai, who both owns over 40% of the shares and is Chairman and President. GMO has acquired a variety of internet service companies over the years and now has the largest market share in a variety of online sectors. Among these is internet domain registry for companies with internet addresses (e.g., .com, .net, .co.jp, etc.), server/cloud based services, and online payment processing services for retailers. It is growing; revenues in the third quarter of last year were 12.5% higher than the prior-year period.

GMO Internet's majority-owned subsidiaries trade publicly. GMO's own stock market value is actually considerably lower than the market value that it owns of those subsidiaries. Why so cheap? Maybe because it's in Japan and not in a major index. The market cap is $2 billion, but with the owner-operator stake, the tradeable market cap is only $1.2 billion. Plus, it's already got "Internet" in the name, which isn't news, and it hasn't adopted "Crypto".

As to "crypto", GMO has two new businesses pending: it is one of over a dozen Japanese companies that have recently been licensed to operate cryptocurrency exchanges; it is also partnering with a major semi-conductor chip manufacturer to deploy a next-generation chip for a currency mining operation, which will be located in Sweden (home of low cost hydro-electric power and low-temperature environs).

The company appears to be staying within its historical circle of competence in that both of these will be service businesses, including the mining operation, which will be a cloud-based mining-as-a-service, not for the company's own account. If these new ventures will be successful, their future potential does not appear to be reflected in an egregious valuation, which is to say that the optionality – which could be substantial – comes gratis with the rest of the business. All in all, an old-school way of participating in new-school experiments.

Consensus Money and Blockchain

Indirect ways to participate in the expansion of consensus money and blockchain technology

CME Group Cboe

Last month, following CFTC approval, both the CBOE and the CME began offering bitcoin futures contracts. A sufficiently liquid futures market would permit bitcoin investing and trading to transition from a retail to a true institutional clientele.

A bulge-bracket brokerage firm/investment bank could, in principle, hedge the volatility and thereby offer itself as an intermediary for quasi-proprietary products. A mass market retailer, which could not otherwise take the price risk of accepting bitcoin as payment, would in principle be able to hedge the downside risk.

What would be the motivation? If the typical retailer net profit margin is 3% or so, that is net of about 3% paid to the credit card intermediaries like Visa. A retailer could double its profit margin if it could bypass the transaction processors. Just two companies, Wal-Mart and Amazon, have generated over $600 billion of annual sales, which pretty much are paid via credit cards. A robust bitcoin futures market could be enormously profitable for CBOE and/or CME.

Of course, developing a sufficiently liquid futures market, even if ultimately successful, can take time. The CBOE first offered its VIX volatility futures contracts in 2004. In the past five years through October, VIX futures volumes have increased by an annualized rate of 30%, and in 2016, VIX futures and options activity accounted for over 60% of CBOE's revenues.

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