FRMO Corp.

August 29, 2017

Dear Fellow Shareholders,

The past several years, insofar as FRMO is concerned, have been devoted to the search for alternatives to the conventional asset classes. It might be recalled that the 2016 shareholder letter concluded on this note. Actually, the 2015 shareholder letter contained similar sentiments. At the end of fiscal 2015, we had about $44 million in cash and equivalents on our balance sheet. At the end of 2017, we had over $51 million in cash and equivalents on the balance sheet.

Nevertheless, we have been increasing our exposure to two areas. These are cryptocurrency and hard assets. We believe this logically follows from our view of the traditional investment landscape. Bonds of any type clearly offer negative real rates of return after taxes. Equity valuations are high as a consequence of low interest rates. Cryptocurrency is merely a reaction to global monetary policy. If this policy does not change, in our humble opinion, one should expect to see a vast increase in investor interest in this area.

Hard assets, which refers to commodities, is the great exception among the conventional assets. Gold actually traded at $1,719 per ounce in October of 2012. It has since lost about 26% of its value. West Texas Intermediate crude oil actually traded at $110 per barrel in September 2013. It has lost 56% of its value. Even the IDEX Diamond Index has declined by about 13% since July 2014.

Since these have been our areas of focus, we shall direct proportionately more of the commentary of this shareholder letter to those subjects. We require disproportionate space, since cryptocurrency is a subject with which few people are likely to be familiar and it needs to be explained. As a consequence, this letter will necessarily take a somewhat different form than prior letters. Nevertheless, as was the case with the 2016 letter, we commence with some strategic considerations.

A. Strategic Considerations

FRMO cash and marketable securities alone total about $70 million. The various partnerships in which FRMO is invested control at least another $225 million, inclusive of the FRMO investment in the funds. FRMO alone holds nearly $25 million of that sum, as one can readily see on the balance sheet. Horizon Kinetics LLC ("Horizon") has another $40 million in liquid assets, apart from investments in the same funds as FRMO. All of this is exclusive of any form of borrowing capacity.

We have the ability to act on a large scale if necessary; however, at least for the past several years, we have been reluctant to act. The reasons for the inaction are fairly straightforward. Fixed income assets, viewed after taxes and after any of the almost inevitable errors that we might make, clearly offers a negative real rate of return. Of course, a negative real return is true of cash as well. Nevertheless, at least the nominal value of cash is not in question.

Equities are more or less at the highest valuations in history. Ordinarily, such valuations provoke a negative reaction. In the current instance, the valuations and attendant negative real rates of return have provoked the birth of a new asset class: cryptocurrency. There is a reasonable chance of failure, as there is in any entirely new venture; nevertheless, in the past year, we have dramatically increased our exposure to this new asset class.

B. Cryptocurrency: What is it?

Cryptocurrency is a digital asset that uses cryptology to make transactions secure. It is decentralized insofar as the creation of new units of currency is fixed via an algorithm, and it is outside the control of central banks. The fact that the currency is digital is not an innovation. Most people already use digital assets. Apple Pay or Pay Pal are more sophisticated versions of digital assets. The technical innovation is that cryptocurrency uses a distributed ledger as opposed to a centralized ledger used by banks. Every node in the system of a distributed ledger has a copy of that ledger, so that corruption of the system would necessitate corruption of a vast number of ledgers simultaneously. The ledger cannot be corrupted without gaining access to encrypted private keys. Each participant or account in a distributed ledger has a different set of encrypted private keys. Of course, a private key can be stolen; however, that theft would be a localized event. Corruption of the system would require the theft of possibly millions of private keys all stored in different locations unknown to the potential thieves. Even then, the thief must act quickly and without the knowledge of the intended victim, since the victim could always transfer the digital asset to a newly created private key if actions is taken quickly. This system is entirely different from and inherently far more secure than the central databases currently used by banks.

Yet, from an investment perspective, this characteristic is not necessarily an interesting feature. All of the code is open source and imitation is invited. From an investment perspective, the innovation is that issuance, or supply, can be fixed. In the case of bitcoin, for example, there will not be more than 21 million units created, and this figure should be reached in the year 2140. As of this writing, there are in existence about 16,519,000 bitcoin.

A currency with fixed issuance cannot be debased by a central bank. The idea that private money could compete with fiat money is not new. In fact, it was proposed by Friedrich Hayek in a 1976 book entitled *The Denationalization of Money*. He suggested that the problem with private money as opposed to government issued fiat money is one of trust. The public must believe that the private issuers of money will not abuse the power of issuance, that there will be a fixed and verifiable sum of money and no more. Given the 1976 technology, this was not readily achievable. Given blockchain technology, it is easily achieved.

At the moment, most people do not accept the legitimacy of private non-fiat money; however, cryptocurrency was recently made legal tender in Japan. Thus, the possibility exists that a cryptocurrency like bitcoin could become a parallel currency to the fiat currency. Merely as an exercise, to understand the appreciation potential, let us assume that bitcoin becomes a parallel currency to the dollar in the U.S. The U.S. supply of money, known as M2, is currently about $13.17 trillion. The market capitalization of bitcoin is about $67.72 billion. Under the no arbitrage rule, if bitcoin were the functional equivalent of fiat money, one might be tempted to say that it should have the same value as fiat money. In this case, it implies appreciation of 194x, without any allowance for the fact that U.S. M2 is constantly increasing. Of course, bitcoin is a worldwide currency, so consideration would need to be given to the M2 of all the other nations of the world. For instance, Japanese M2 is about $9.2 trillion. The European Union, or Eurozone, M2 is about $10.84 trillion. Using Japan alone, the possible coefficient of expansion is 135.9x.

It must be noted that the entire cryptocurrency project might be a total failure; however, if it is not a failure, one can now see its return potential.

C. Types of Cryptocurrency Investing

It should be self-evident that one type of cryptocurrency investing is simply ownership of cryptocurrency. Horizon has a variety of funds for that purpose. This subject will be discussed further in the Horizon section of this letter.

Cryptocurrency is an unusual asset class inasmuch as it requires the assistance of the public in order to operate. In order to have a distributed ledger, there must be many nodes that validate transactions and disseminate those cumulative validations as blocks of data. There is a payment for this, which is known as a mining fee. This term refers to the controlled process by which new coins are created. The new coins are effectively payments to the collectivity of operators of the distributed ledger. These are really the nodes of the system but, in the popular vernacular, these nodes are called miners. Miners are generally rewarded very generously for this service, since the only way a cryptocurrency can be valuable is to increase the number of users. The miners make it possible to have a multiplicity of users.

It is the multiplicity of users that ultimately gives value to a cryptocurrency. This phenomenon is known as the Network Effect. This effect can be expressed mathematically by the formula $n(n-1)/2$, where n equals a member of the network. The classic example is the telephone. If only one person has a telephone, then the device is obviously quite useless. If two people have telephones, it is possible to make one connection between two people. As the number of people (n) rises in a linear fashion, the number of possible connections increases exponentially. Thus, if 5 people have telephones, letting n in the equation equal 5 will produce 10 possible connections. If n were equal to 10, there would be 45 possible connections. In other words, a doubling of n, or a doubling of the nodes so to speak, increases the number of possible connections by a factor of 4.5. If one then further increases the number n to 12, the number of possible connections increases to 66. Hence, a 20% increase in n produces a 46.67% increase in possible connections.

It should come as no surprise that one can be paid for being a node in a cryptocurrency system. Essentially, since one is paid by newly created cryptocurrency, it might be tempting to say that one is engaged in seigniorage. This term generally refers to the profit made by a government when currency is issued. This profit is given by the difference between the production costs and the face value of the money. For most of history, governments shared this profit with private businesses.

For example, although the Bank of England was founded in 1694, it was privately owned by stockholders until 1946. Some central banks, such as the Bank of Japan, the Swiss National Bank, and the Banque Nationale de Belgique are still partially owned by individuals and they actually trade on stock exchanges.

In the cryptocurrency case, this "seigniorage," so to speak, can be a profitable activity, and it is called mining. Horizon has actually been engaged in such mining. Recently, Horizon raised about $4.5 million of outside capital in an LLC to offer this activity to outside investors. This entity is known as HK Cryptocurrency Mining LLC. It was not designed as a fee paying vehicle, since we would like to establish to investors that this can be a rather lucrative exercise. One day we hope to have a number of fee paying vehicles of this variety. This entity is a completely different type of investment from holding cryptocurrency in a fund, since the cryptocurrency received is sold very shortly after receipt, and the proceeds, after allowance for the depreciation of equipment and related expenses, is simply distributed to shareholders in the form of a dividend.

Thus, there are two types of cryptocurrency investments. The first is simply the purchase of one or more cryptocurrencies and holding them for future appreciation potential. The second is to participate in the operation of one or more cryptocurrency systems as nodes, earn a profit, and pay dividends to investors. In one way or another, Horizon is active in both forms of investment. It might also interest shareholders to know that the direct and indirect FRMO holdings in cryptocurrency amount to roughly $3 million at the current market value, or approximately 3% of shareholders' equity.

D. Horizon Kinetics LLC and the Revenue Share

The basic problem in asset management is twofold. First, there has been a narrowing of the opportunity set in conventional securities simply due to valuation. Some of this opportunity set contraction is clearly due to low interest rates; however, we believe that conventional indexation, or the rise of the price-indifferent buyer, is a factor as well.

It is for this reason that we have focused our efforts on exploring new types of investment opportunities, rather than concentrate upon raising ever-increasing sums of money for conventional investments with an ever-narrowing opportunity set.

We created a number of standalone cryptocurrency funds solely for this purpose, and these now total about $40 million in assets under management. Of course, there is no guarantee that cryptocurrency will emerge as a recognized asset class, and this type of investment carries considerable risk. Thus, as noted in last year's shareholder letter, we have actually established client maximum investment levels. In other words, the emphasis has been upon creating lucrative investment opportunities for ourselves and our clients that do not involve raising vast sums of money for investment.

Given the appreciation potential, if successful (and there can be no assurance that these will be successful), it is no exaggeration to state that the input of $40 million of assets under management can be far greater than the impact of $4 billion of assets under management in conventional assets.

In order to understand this point, merely consider the appreciation potential of the investments outlined in the prior section of this letter.

Although, of course, we cannot stress too strongly the risk inherent in the cryptocurrency field as an unproven investment, one must be mindful that, given the valuation levels, there is risk in conventional assets as well. It is for this reason that Horizon client accounts hold an unprecedented amount of cash and equivalents. As one can readily see from the FRMO balance sheet, the corporation has adopted this precaution as well.

E. Investment Funds

As a generalization, our investment funds hold large cash balances and, to that extent, these funds have a similar posture to an individual client account. There are also few holdings in the various funds. This is no more than yet another reflection of the reduction in the size of the conventional security opportunity set.

However, simply because the opportunity set is smaller and the cash balance is larger does not necessarily entail a low investment return although, of course, this might indeed be the outcome. Happily, this has not been the outcome. In this respect, the reader is invited to consider the results of the Polestar Fund, which can be found in Note 4 of our year-end financial statements.

At fiscal year-end 2016, FRMO's investment in one of our private funds had a value of about $10.8 million. At fiscal year-end 2017, the value of this investment was $13.1 million. We neither added funds to this investment nor withdrew funds. The increase in value is 21.3%. One of the consequences of the formalization and quantification of modern investing, not only with regard to indexation, but with regard to asset allocation more generally, is the creation of ineligible conventional investments. These need not necessarily be illiquid, although that can be a reason for ineligibility.

Some potential investments become ineligible simply because they cannot be properly classified in the traditional system. Viewed from the perspective of a modern portfolio theorist, these difficult to classify securities simply introduce an element of idiosyncratic behavior into a portfolio. That is reason enough for exclusion. Sometimes, but most certainly not always, such securities can be undervalued, being difficult to value by the conventional metrics. These securities present opportunities; yet, there are not many of them.

As the conventional opportunity set shrinks in size, some of our portfolios have tended to become more concentrated. Thus far, the results of late have been favorable. This has been true not only for our private funds, but also for various of the Kinetics Mutual Funds. The downside of the increased concentration is, not infrequently, increased volatility. The modern emphasis on risk control is actually an emphasis on the minimization of volatility via extraordinary diversification.

Thus, for most investors, as the opportunity set has narrowed, the focus has been on the control of risk via extraordinary diversification, which is also greater exposure to systemic risk. In our case, we have chosen to control risk via focus upon a narrower opportunity set.

The funds are important not only because they form an important part of the FRMO capital base, but because they provide Horizon with meaningful incentive fees in success mode. This, in turn, positively impacts the Horizon revenue share and, therefore, FRMO revenue and profit. Incentive fees are generally paid annually at calendar year-end, so that investors should be mindful that one cannot properly evaluate the revenue share without awareness of the contribution of incentive fees on an episodic basis.

F. Exchanges

Our two primary exchange investments are the Minneapolis Grain Exchange ("MGEX") and the Bermuda Stock Exchange ("BSX"). As one can read in an MGEX press release dated August 1, 2017, the exchange has already recorded a volume record for the fiscal year, beating all other fiscal year totals. Open interest achieved new records, and the volume of options on wheat attained new records.

Bermuda continues to dominate the market for Insurance Linked Securities ("ILS"). This market continues to grow. According to Artemis, a leading firm providing data on ILS, the current size of the market is about $29.8 billion. The outstanding amount has grown by roughly 11.1% in the past year. The key to the growth of this market will be the inclusion of different types of risks in the outstanding ILS issuance. If there is not an expansion in the types of risks represented by ILS, it will be quite difficult to design diversified ILS portfolios.

Inclusion of different types of risks is beginning to happen. A small number of ILS based on Latin American property risk now exists in the market. There are also securities tied to various U.S. risks, such as storms, earthquakes, severe thunderstorms, volcanic eruption, and also meteorite risks. One day, this could be a much more substantial market.

G. Digital Currency Group

Digital Currency Group was our initial investment in the cryptocurrency realm. It includes various venture investments. It operates Genesis, a cryptocurrency trading firm, and CoinDesk, a cryptocurrency news and research firm. It also owns Grayscale, which operates the Bitcoin Investment Trust (GBTC). This investment has been an unqualified success in the past year, with about $475 million in assets under management.

Grayscale has also launched the Ethereum Classic Trust, which holds the ethereum classic cryptocurrency. It has about $46 million in assets under management.

The provision of vehicles allowing investors to own cryptocurrency is not a trivial matter. One can only assume that most investors will not wish to be responsible for the safekeeping of private keys, but the traditional security custody systems are not designed for this purpose. Traditional brokers do not have the ability to transact in cryptocurrency. The current total market value of all the cryptocurrencies in existence is about $143 billion. Let us assume that one day cryptocurrency becomes an accepted asset class, as well as an accepted means of payment worldwide. This scenario might not ever happen; nevertheless, as noted earlier in this letter, cryptocurrency is now legal tender in Japan. This is not a statement we could have made or even imagined in the 2016 shareholder letter.

H. Short Sale

Over the years, short sales have proven to be an important source of cash earnings, although it looks like a mere investment. As of fiscal year-end, the balance sheet mark-to-market profit is about $4.8 million. We have sold short exchange traded funds (ETFs) as well as options on ETFs. Thus far, the options have all expired worthless. The common feature of our short sale activity is that we focus upon path dependent ETFs. As the market values gradually decline, margin is released, which we have used over the years for investment purposes.

In some cases, we have made use of exchange traded notes (ETNs) as short sale vehicles, which has enable us to defer payment of taxes on those profits until the maturity of the notes. Although market conditions do not always permit a steady exposure to these instrumentalities, we now have a balance sheet that will permit us to use these on a much larger scale if circumstances warrant such activity. Moreover, we have made use of these in our partnership investments.

I. Horizon Kinetics Hard Assets LLC

As of May 31, 2107, the FRMO investment in Horizon Kinetics Hard Assets LLC ("HK Hard Assets") was 11.8%. This was done by the purchase of marketable securities that were then contributed by FRMO to the LLC. Recently, the market value of our investment exceeded $2.1 million. The value of the securities that we have thus far contributed is about $1.3 million

Essentially, hard assets are generally commodity-oriented companies. The entire commodities area has suffered from price deflation for many years and is an area that has performed poorly. The index and asset allocation classification mechanism merely denotes these securities as being correlated with commodity prices. Of course, this is correct.

Nevertheless, such correlation is not the only return vector. It need not even be the primary return vector, because the technology of resource extraction has progressed enormously in the past 5 years. This progress is continuing. Resources that were once considered to be uneconomic to produce at current prices are now very economic, and even lucrative. There exist debt-free firms with such soon-to-be-exploited resources that are simply classified as commodity correlated. The dormant asset component is not properly valued. Moreover, some of these firms exist in listed, but not corporate form, so that these are excluded from indexes. This is the only one of our partnerships to which we have increased exposure in the past 12 months.

J. Winland Electronics

Winland has been able to amass capital in excess of its operating requirements. As is the case with FRMO, Winland does not limit itself to solely the conventional asset classes. There do exist nontraditional investment opportunities that could, in success mode, provide very lucrative returns for Winland's excess capital. These generally do not overlap with the thrust of the FRMO investment program, so that from an FRMO standpoint, Winland is an example of bona fide asset diversification. Winland remains free of debt as of its last OTC disclosure form, and it held almost $1.5 million of cash and equivalents, in addition to some long-term investments.

K. Concluding Remarks

All of our businesses continue to gradually, but inexorably, move away from the practice of industrial scale investing. The lack of adequate return potential in the fixed income market is self-evident. Equities, and even whole companies, trade at valuations rarely seen in history. We certainly do not possess sufficient wisdom to forecast what might happen of a negative nature over the course of the next several years. We do know that competing with waves of money, measuring literally in the trillions of dollars, is not likely to be a remunerative activity.

We once again thank all of our shareholders for their support over the years, and we hope that you have found this shareholder letter informative as to the general direction that FRMO continues to pursue.

Murray Stahl
Chairman and CEO

Steven Bregman
President and CFO