FRMO Corp.
2021 Shareholder Letter

Dear Fellow Shareholders,

The 2020 shareholder letter opened with some statistics that are useful as points of reference. The U.S. M-2 money supply was $18.259 trillion. The national debt exceeded $26 trillion. The Grayscale Bitcoin Trust (GBTC) managed over $4.8 billion of bitcoin assets.

At the time of this writing, the U.S. money supply is no longer designated as M-2; it is now called M2SL and has a somewhat different basis of calculation. Calculated on the new basis, the money supply stands at $20.388 trillion, the national debt stands at $28.667 trillion, and GBTC now has $30.922 billion of assets under management.

The bitcoin movement is to a large extent the consequence of the inflationary pressures of money supply growth and debt creation. Serious inflation, at least historically, has not been a part of the American historical experience. Most of the inflationary periods in American history have been the consequence of wars. Inflation accompanied the Revolutionary War, the Civil War, World War I, and World War II. The inflationary experience of the late 1960s and early 1970s was arguably at least partially caused by Vietnam War spending, although scholars will point to other causes. However, the United States has been generally free of the structural inflation that has been part of the economy of many nations throughout history.

In the American context, there is no good guide to investing in an inflationary environment; therefore, FRMO has been building the structure of a series of businesses that are inflation beneficiaries. In the quarterly reviews, the largest positions are the primary discussion topics. Yet, there are smaller investments with much potential that shareholders might find interesting.

One such investment is our participation in the Horizon Kinetics Cryptocurrency Mining LLCs, known as HKCCM I and HKCCM II. On a cost basis, FRMO owns 1.43%, or $68,854 worth, of HKCCM I and 1.48%, $125,000 worth, of HKCCM II. The purpose of the LLCs is to mine cryptocurrency. HKCCM I pays a modest cash dividend. HKCCM II does not pay a dividend but accumulates mined cryptocurrency. These LLCs are separate and distinct from the FRMO mining operation. Given the cryptocurrency accumulation in HKCCM II, it is entirely likely that the market value is substantially greater than the cost basis. The current plan is to merge these two entities, raise further capital, and publicly list the shares as a cryptocurrency mining company. FRMO does not intend to dispose of its interests. In principle, it should now be possible to raise equity capital in the newly listed company in order to grow the mining business.

It might be recalled that this will be the second FRMO investment in the public arena. FRMO owns over 28.2% of Winland Holdings Corporation. At about the time of the 2020 shareholder letter, FRMO exchanged crypto mining equipment for Winland shares. On occasion during fiscal 2021, FRMO has added to its Winland position in the open market. The market value of this investment now exceeds $5 million. Winland itself now owns 27.7376 bitcoin, all of which has been mined in the past year.

Another participation worthy of mention is HM Tech LLC (f/k/a Hashmaster), of which FRMO owns 7.4%. Another 51% is owned by Horizon Kinetics. This company hosts cryptocurrency mining equipment, including equipment belonging to FRMO and Horizon Kinetics. More interestingly, the company repairs mining equipment. Recently, this business has been flourishing. This is not merely an investment; it has been an education in the technological issues involved in cryptocurrency mining that would have been impossible to obtain from any other modality. One day, there will be textbooks and college courses on cryptocurrency mining. At the present time, one can only learn by doing.

This is the reason why relatively small capital commitments have been made to various aspects of cryptocurrency. It is important to note that the cryptocurrency project could still fail. The industry itself is stronger than at any time in its history. Nevertheless, preparations need to be made for unfavorable developments.

A small capital commitment in cryptocurrency can produce quite extraordinary returns. Consider the inventory of mined coins to date from year end fiscal 2020 to year end fiscal 2021:

FRMO Mined Coins Held

	Number of Coins as of May 31, 2020	Number of Coins as of May 31, 2021
Bitcoin	62.84	98.3
Ethereum	34.98	35.0
Ethereum Classic	661.70	661.7
Zcash	2.00	57.1
Litecoin	494.00	898.0

The increased value of bitcoins (35.46 coins produced during the fiscal year) mined in fiscal 2021 is worth over $1.77 million at the time of this writing. Similarly, 404 Litecoin were mined in fiscal 2021. The mined Litecoin produced in fiscal 2021 is worth $88,920 at the time of this writing. This is a fairly high return on capital given the small investment in Litecoin mining equipment.

It might also be noted that FRMO owns 353 shares of Digital Currency Group (DCG). This represents only about 0.05% of the DCG shares outstanding. This might not seem impressive; however, the company's scope is. It owns Grayscale Investments, LLC, which is the largest cryptocurrency manager in the world. It owns Genesis Global Trading, Inc. It owns Foundry Digital, which is a significant factor in financing mining equipment. It owns a very extensive portfolio of digital asset venture investments.

The challenge for FRMO is to convert its disparate cryptocurrency exposures into an actual operating company that will be valued on its produced profits and not merely on the basis of the aggregate value of its individual parts. This would be a big change for FRMO, since it would itself become an operating company with actual employees and all of the complexities that actual operations entail. There are any variety of ways that such a business could be established. Hopefully, we shall report further developments along these lines in the not too distant future.

Although cryptocurrency does represent considerable optionality, there are the seedling investments that exhibit promise in other fields of inflation beneficiary assets. A most interesting example of such is the investment FRMO made in Diamond Standard. This occurred at the end of calendar 2020.

The name of the company actually describes the business plan. The objective is to create physical coins composed of samples of diamonds. In crystallography, each diamond, being individually distinct, is valued by weight size, luster, and clarity, among other characteristics. It is therefore possible to create packages of diamonds in which each package has statistically equal valuation characteristics. Therefore, each package should have equivalent value even though each diamond within its package has a different, unique market value.

Historically, there has been little or no institutional investment in the diamond class because of the uniqueness problem, which means they cannot be fungible in the way that other commodities like gold or silver can be. Not only can the diamonds now be assembled into identical diamond coins, it is also possible to have automated diamond trading based upon the same statistical principles. This creates transparent diamond prices and a diamond market with the characteristics of a securities market.

All of the Diamond Standard coin manufacturing, grading, and trading techniques are covered by patents. The first coin offering occurred in early 2021, and it was very successful. Importantly, and an essential element of the Diamond Standard system, each coin contains a wireless NFC chip, so that the coin can be tracked and catalogued on a blockchain.

The global market value of the diamond float is estimated to be as large as $1.2 trillion. In other words, this aspect of the diamond asset class is actually larger than the current market capitalization of bitcoin. Obviously, this measure does not account for all diamonds, since the most valuable stones and the unique stones, such as pink diamonds, are necessarily excluded from this calculation.

The potential of even a small investment in Diamond Standard should be self-evident. FRMO has a small investment, as does the Polestar Fund and the publicly traded RENN Fund. There are also small positions in CDK Partners, as well as Shepherd I, LP.

This also has very different return vectors than a classical inflation beneficiary investment. It is very possible that Diamond Standard could become a very successful investment even in the absence of inflation. This is because in success mode, Diamond Standard would be a leading world intermediary in diamond trading. Indeed, regulatory approval has been received for the creation of another $100 million worth of diamond coins.

In this sense, Diamond Standard shares an attribute with cryptocurrency mining. The name does not genuinely describe the activity, the term being naturally associated with the historically familiar physical extractive mining industries. Cryptocurrency mining is simply the compensation received for the validation of transactions and the maintenance of the blockchain. A cryptocurrency miner is merely a sort of financial intermediary not different conceptually from Visa or Mastercard.

As previously noted, in the past year, FRMO holdings of mined bitcoin increased by 56.43%, the holdings of mined Zcash increased by 2,855% and the holdings of mined Litecoin by 81.78%. The challenge in the maximization of return is the extension of the life of the cryptocurrency mining equipment for as long as possible. Viewed in this light, the investment in HM Tech, given its machine repair business, has a strategic as well as a financial return dimension.

Interestingly, although cryptocurrency may be placed in the inflation beneficiary category as an investment, cryptocurrency mining equipment is an inherently deflationary investment. This is an important point that does merit some commentary.

Many of the fixed-issuance monetary policy cryptocurrencies, such as bitcoin and Litecoin, orchestrate issuance—their monetary policy—around a concept known as halving. Simply expressed, the block reward is reduced every four years. In the case of bitcoin, the current block reward is 6.25 coins, and approximately 992 days from the time of this writing, the reward will become 3.125 coins.

Viewed from the perspective of the mining community, this means that, all other things equal, revenue will be reduced by 50% if the price of bitcoin remains unchanged. In principle, the mining costs remain the same. Therefore, in a halving universe, coin rewards are actually deflationary. None of this would be the case if bitcoin simply appreciated sufficiently to compensate for the reduction in block reward. However, no miner can rely upon this.

Therefore, continual pressure exists to reduce costs. One cost is that of equipment. Over the course of time, the cost of computational power has declined. For instance, several years ago, an S-9 Antminer sold for about $148 per 1 terahash of computational power. More recently, an S-19 Antminer sells for about $100 per 1 terahash of computational power.

The same is true for the cost of electric power, which is the primary operating expense. A 13.5 TH/s S-9 Antminer consumes 1,323 watts, which is 98 watts per terahash. A 110 TH/s S-19 Pro consumes 3,250 watts, which is 29.54 watts per terahash. This represents an increase in energy efficiency of 69.86%. In other words, the energy consumption of a terahash of computational power has declined by 69.86% in fewer than three years.

The extent of the unyielding pressure to reduce costs is even more astounding when one realizes that halving will continue every four years until 2140, when the last bitcoin will be issued. Thus, cryptocurrency is engineered to force energy efficiency. Also, viewed from the mining perspective, it is likely that any equipment used today will become obsolete in a rather brief, discrete span of time. Therefore, the trend has been that as one approaches a halving date, the price of mining equipment tends to decline.

This should explain the FRMO reluctance to make very large equipment orders at any given point in time. The benefit is that the company retains the financial flexibility to react to changes in equipment without the problem of a sunk-cost fixed asset base. Of course, this gradual approach has delayed the creation of a cryptocurrency integrated operating business within FRMO. It might also be observed that Horizon Kinetics, of which FRMO owns slightly less than 5%, has its own cryptocurrency business that is similar, in character and scope, to that of FRMO.

There are yet other inflation beneficiary vectors that FRMO has pursued. In January 2021, Horizon Kinetics launched the Horizon Kinetics Inflation Beneficiaries ETF (INFL). Since that date, the fund has attracted $633 million of AUM. Unlike most ETFs, this is an actively managed ETF that is designed to be a very low turnover fund.

The central conception of the fund is that companies with low operating expenses and low capital expenditure requirements can be said to be beneficiaries of inflation inasmuch as revenue increases do not necessarily require concomitant increases in employee compensation and capital investment. This is in contradistinction to the business model dynamics of the so-called classic inflation beneficiary firms engaged in natural resource extraction. Those firms must make substantial investments to replace exploited reserves, and such replacement becomes very expensive in an inflationary period.

Another essential strategy in an inflationary period is low portfolio turnover. Taxes are sufficiently high such that even in the case in which a fund returns more than the rate of inflation, the after-tax return will be below that of inflation, with a resultant outcome that, while positive, will still be a negative real rate of return.

As an inflation beneficiary ETF, INFL is unique inasmuch as it holds securities exchanges as investments. Theoretically, in an inflationary environment, the velocity of money rises and this generally increases the trading volume of securities as well as that of commodities. In an exchange, the existing technology infrastructure can usually process the increased volumes with minimal additional expenditure and, therefore, profits should rise during such periods by a magnitude well in advance of the rate of inflation.

Beyond these considerations, after almost four decades of disinflation, the capital markets lack any meaningful supply of inflation beneficiary securities. In fact, most national capital markets are dominated by bonds. In the U.S., bonds offer negligible coupons. Yet, the need for bond income still exists, but it simply cannot be achieved by the existing bond instrumentalities, given the existing central bank monetary policies. Therefore, the range and scope of securities being traded on exchanges seems always to be increasing. It is for this reason that FRMO has historically been an investor in exchanges for its own capital account.

The attractive scale benefits of the securities exchange business has resulted, over the years, in continual consolidation within that industry, and we have experienced that in our own portfolio. The Bermuda Stock Exchange merged with Miami International Holdings (MIH), giving FRMO a $4.322 million stake in MIH. Similarly, our investment in South LaSalle Partners, with its holding of the Minneapolis Grain Exchange (MGEX), became a holding in the MIAX Exchange Group (MIAX) when those two entities merged in late calendar 2020. MIH is the parent company of MIAX; therefore, our actual investment in MIH at fiscal yearend totals $10,424,000.

MIAX is growing rapidly. In our admittedly biased opinion, this exchange has the best technology in the industry. The recent mergers provide the typical exchange economies of scale. Yet, MIAX is not so large that it cannot continue its historical high rate of organic growth.

The securities exchanges are always innovating, and the low coupon and negative real interest rate problem in bonds represents a significant opportunity for the entire exchange industry. In fact, the evolution of cryptocurrency as an asset class is, in a manner, a response to ultra-low interest rates. For instance, viewed on a very small level, this is visualizable in FRMO. As noted earlier, FRMO has an investment in Digital Currency Group (DCG). That company now pays a dividend. FRMO takes that dividend in bitcoin. FRMO leaves that bitcoin in the custody of DCG and receives interest on the position. The interest rate is only 3%, and the dividend only commenced in April 2021. Another dividend was paid subsequent to fiscal year end, in July 2021, and it was not a large sum but, as of that date, FRMO already owns approximately 0.07 bitcoin in its DCG dividend reinvestment account.

This is a window into a lending market and banking system that is gradually developing in cryptocurrency. One might wonder why anyone would wish to borrow bitcoin. One reason is illustrated by cryptocurrency miners, some of whom actually borrow bitcoin so that they may sell it short as a hedge against the value of the cryptocurrency mining equipment. In principle, a decline in the volume of bitcoin reduces the value of the mining equipment. In any case, the lending market is still new and largely undeveloped. As the mining industry expands, this should advance the crypto lending and banking market.

Although the theme of this letter is slow, gradual investment activity within the context of possible increasing inflation, FRMO itself has achieved record shareholders' equity of $177.9 million attributable to the company. In addition, there is another $121 million of non-controlling interest available largely within the context of HK Hard Assets. The increase in equity has been largely accomplished in a tax-efficient manner, with only $20.77 million of deferred tax liability. Our largest capital commitments remain Texas Pacific Land Trust, via 56,839 shares held directly and indirectly, as well as GBTC, with 571,223 shares held mostly indirectly through FRMO's investments in a variety of funds.

These two large investments, at fiscal year-end, amounted to about $98 million of value pre-tax. Given almost $35 million in cash, there also exist well over $40 million of unrelated assets that represent other business initiatives. A not inconsiderable quantity is invested in Horizon Kinetics and the Horizon Kinetics revenue stream. Horizon Kinetics itself holds about $190 million of cash and securities. Viewed on a look-through basis, about 58% of the balance sheet carrying value of Horizon Kinetics represents cash and investment securities. It should therefore be obvious that the FRMO/Horizon Kinetics complex holds an enormous amount of financial assets. This makes possible activities that only five years ago would have been unachievable.

In summary, the world might be entering a very different and very unusual inflationary environment. The FRMO/Horizon Kinetics complex has the financial strength to pursue a wider range of projects. It also cannot have escaped the attention of shareholders that FRMO is generally taxed at a rather high rate. Long-term investment defers the ultimate liability but does not eliminate it. On the other hand, the RENN Fund, among its interesting attributes, has a tax loss carryforward. There are advantages to undertaking investments in the RENN Fund context. However, the tax loss carryforwards do eventually expire.

Moreover, excessive change in fund ownership can cause early tax loss carryforward expiration. Thus, there are practical limitations on the degree to which FRMO can increase its RENN Fund ownership. Nevertheless, ownership has been gradually increased. The RENN Fund is currently undertaking a $3 million rights offering that will be fully backstopped by Horizon Kinetics and its associates. This still will not solve the FRMO taxation problem, although it will provide some modest mitigation.

Thus, the challenge is not merely inflation, but the taxation effects that usually accompany inflation. In this letter we have highlighted topics that are generally not referenced in our quarterly reviews. We hope that readers have obtained a better understanding of the full range of FRMO activities. It remains only to thank our shareholders for their continued support, and we look forward to providing further information on the questions that might arise from this broad and general review.

Murray Stahl Chairman and CEO	Steven Bregman President and CFO