

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

The opinions contained in this transcript are not intended to be a forecast of future events, a guarantee of future results, or investment advice. The statements made in this transcript are based on information available to the public at the time of the shareholder meeting, and no representation is made with regard to their accuracy or completeness. The views expressed herein may change at any time. This transcript is neither an offer nor a solicitation to buy or sell securities.

---

**Thérèse Byars** – Corporate Secretary

Welcome to the 2017 FRMO Annual Meeting of Shareholders. My name is Thérèse Byars, and I'm the corporate secretary of the company. Joining me are Murray Stahl, Chairman and Chief Executive Officer, and Steven Bregman, President and Chief Financial Officer.

The FRMO annual and quarterly reports can be found on our website at [www.frmocorp.com](http://www.frmocorp.com). If you would like a copy of the 2017 annual report or proxy statement, I have a few copies here, and you may request one at the end of the meeting. A summary transcript of today's meeting will be posted on our website in the coming weeks.

Now I would like to present the seven directors, all of whom are candidates for reelection. They are Murray Stahl, Steven Bregman, Peter Doyle, Lawrence J. Goldstein, Lester J. Tanner, Allan Kornfeld, and Jay Hirschson. Also present today is FRMO's general counsel, Jay Kessler, and, from our auditors, Baker Tilly Virchow Krause, FRMO's engagement partner, John Basile.

We now proceed to the report on the tabulation of the proxies for the two proposals. The Proxy Committee, appointed by the FRMO Board of Directors, is here this afternoon to represent those shareholders who gave their proxies to the committee. Notice of this meeting and proxy voting materials were sent to shareholders of record as of July 26, 2017. The inspectors of election report that proxies were received from FRMO shareholders holding approximately 42.2 million shares of common stock, or 96% of the total common stock entitled to vote. Therefore, this meeting is properly organized, with a quorum present, and we can proceed.

There are two items of business for this meeting. The first is the election of the seven directors, who were nominated in accordance with the company's governing documents. The second is the proposal to ratify the appointment of Baker Tilly Virchow Krause, LLP as the Independent Registered Public Accounting Firm of the Company for the fiscal year ending May 31, 2018.

The Board recommends a vote "FOR" on both items.

Before I report the preliminary vote counts for the two proposals, I would like to offer a ballot to any shareholder present who wishes to vote in person at this meeting. If you have already submitted your proxy, you do not need to submit a paper ballot, unless you wish to change your vote. Does anyone need a ballot who hasn't already voted? I see no hands, so the voting polls are now closed.

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

Based on the preliminary report of the inspectors of election, all seven director nominees have been elected to the board, with all nominees receiving at least 99.9% of the votes cast and 84% of the shares outstanding.

The proposal to ratify the appointment of Baker Tilly Virchow Krause LLP as the independent registered public accounting firm of the company for the fiscal year ending May 31, 2018, has been approved, with approximately 99.9% of the votes cast and 96% of the shares outstanding.

This completes our formal business. The next item on the agenda is the Chairman's Report to the Shareholders. Mr. Stahl will review key points related to the 2017 financial results. When he has finished his remarks, he and Mr. Bregman will answer questions. We can continue for a brief time after this meeting is adjourned and before the board meets in executive session.

And now I'll turn the meeting over to the Chairman of the Board, Mr. Murray Stahl.

**Murray Stahl** – Chairman & Chief Executive Officer

Thank you, Thérèse, and thanks all for coming. By the way, when we meet in executive session that really means that, after a certain elapsed time, they throw us out of here, because we only have the room for so long. You can always say something much more elegantly when you use this sort of language; “executive session” sounds a lot better than being thrown out.

And that's probably the best introduction to the last couple of years, because I really want to review not just this year but the last several years. If you go back three years, and if you recall the annual report of that time period, that was when we began raising cash, and now about 50% of our assets are in cash. It took a while to get there. The reason for that decision is that the opportunity set in conventional investments gradually began to shrink.

I don't think that's a very profound or controversial statement because, if you think about it, when markets in general, including equities and bonds, reach all-time highs—when they reach valuations that are more or less without precedent—the opportunity set should shrink. Said alternatively, if I came to you and said, “Even though the bond market is at record low interest rates, and the stock market is close to the highest valuations in recorded history, if not the highest, I still see plenty of opportunities,” I think you should question my judgment. However, ironically, when I make the statement that I think is entirely reasonable and logical, which is that I see a gradual ever-shrinking opportunity set, somehow certain people find that remark controversial. I don't think it's controversial; I think it's self-evident.

If you want to be in the business of investing money and of general commerce, you have to do something different. It was not entirely obvious 36 months ago what to do in face of a shrinking opportunity set. All that was obvious was that it was shrinking. This was partly attributable to the indexation bubble, which we've written about at length. That's a serious problem in and of itself. The low interest rates are also a problem in and of themselves, because there are people who need

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

income, and they can't get it. Irrespective of whether the bond market declines in value or not, the absence of yield is an issue.

It's also an issue for us as a business because, if we're going to compete with indexation, there's an ever-narrowing fee that for which everyone is competing. After all, we're in business to make money, so we have our selfish aspect as well as our noble aspect. Our noble aspect is that we'd like everybody who invests with us to make a lot of money. Our selfish aspect is we'd like to make a little money, too. It's exceedingly difficult to do that if we're competing with an index that charges fees of a handful of basis points, something like 3-4 basis points. It's an ever-shrinking margin, so you have to do something different.

Over the years, we've made some investments in exchanges and searched for other asset classes, and I think those will be good investments, but they're not a huge part of our balance sheet. They're not going to be the focus of the entire firm because of the limited size of that opportunity set, however robust it might be in the future. There has to be something else.

We made an investment some time ago in a company called Digital Currency Group, which you can see on the balance sheet is about \$76,000. It was our first step into the field of cryptocurrency, which we saw as a very small part of the financial markets, even if you're willing to call it a part of the financial markets, but I'll make some remarks about it so you can understand where our focus is, what we're doing, what our strategic direction is.

Two years ago, I knew very little about cryptocurrency. I was interested in the field, not because I thought it was another asset class, but just because I am interested in the field of cryptology in general. It's a branch of mathematics that I find fascinating. Had my career taken another direction, I might actually have been a cryptologist.

I collected some material to read, and it sat on my desk for two or three months until I had time to read it. When I finally made the time, I first read an article on something called the Byzantine General's Problem. You might ask what that has to do with cryptocurrency. First, I'll give a short explanation of the Byzantine General's Problem. It is basically a problem encountered in combined military operations. It's a branch of operations research.

Let's say you have five generals, and they are preparing to attack a fortress. They have to collaborate in order to attack at the same time. They know one of them is a traitor, but they don't know which. If the traitor sends bad information to some of your generals, only part of the forces will attack, and you'll lose the battle. How do you ensure that everybody collaborates when you know there's one person you can't trust? So, they call that condition, in that branch of this business, a trustless trust, or a trustless proof.

It was believed by all the people who know about that problem that it has no solution. My first introduction to cryptocurrency was when I read a paper that offered a solution to that problem. I was intrigued. The second paper I read was about an application of trustless proof or trustless trust

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

to a very minor aspect of the business, and that was actually the beginning of the blockchain. But it was a minor aspect of the business, and I just didn't get it at first.

The third paper I read had to do with cryptocurrency as a device to foil the central banks, and that I immediately understood, because it made reference to a book called *The Denationalization of Money* by the economist Friedrich Hayek. The idea was that money should be privatized and taken out of government hands, because the governments abuse their privilege of creating money, meaning they debase the currency. And everybody knows they are doing it.

When Hayek wrote that book in 1976, the computer equipment available didn't have the capability to handle something like cryptocurrency. It was a great idea, but completely impractical from a technical standpoint. The papers I read a couple years ago on cryptocurrency and trustless proof were written in 2008 and 2009. That's when Hayek's idea became practical. I was immediately drawn to that field.

This is not the first time I've spoken with this audience about cryptocurrency. This time, instead of describing it, as I did in the Letter to Shareholders—because I'd have to get very technical.—I'll ask why a person even needs cryptocurrency. Why would we need anything other than the good, old-fashioned dollar? What's wrong with that? And, if you don't like the dollar, use the euro. If you don't like the euro, use a yen, and so on and so forth.

To answer that question, let's start with the basics and an application that everybody can relate to. Then I'll explain how it relates to the S&P 500 and indexation in anticipation of someone asking what possible relationship it could have to indexation. I'll explain how revolutionary it is for society, then you'll see where we're going.

Let's say you have \$100 in a bank, or \$1,000, or \$100,000. Everybody in the room knows that if you leave that money in the bank for a long enough period of time, it won't have \$100, \$1,000, or \$100,000 of purchasing power; it will have less. How much less depends on the inflation rate, which is ever-present. You can debate what that rate is, but it's ever-present. The central banks openly say they want a certain rate of inflation. The only debate is what magnitude should be. It's also a question of how long you leave your money in the bank. If you leave it there long enough, it's not going to have a lot of value.

If you could buy a cryptocurrency with a fixed number of units that doesn't debase itself—some cryptocurrencies actually do debase themselves—but, if you chose one with a fixed number of units, or one that has a shrinking number of units, you could actually maintain your purchasing power, certainly against a currency that is debasing itself.

Now you can see the advantage. Let's take the example of a person who earns minimum wage, or a little above minimum wage, who opens an account at JPMorgan Chase, as an example—I only mention that one because a certain chief executive officer recently made a remark about cryptocurrency. Let's say that person manages to save \$1,000—which is a lot of money, for someone in that state—and deposits it at JPMorgan Chase. Since this person has less than a \$1,500

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

balance, it costs \$12 a month to maintain the account, or \$144 dollars a year. So it costs 14.4% to leave the money there.

Perhaps he or she would like to take \$500 of this \$1,000 account to wire to relatives in another country. Well, there's an international wire fee of \$50, or it's called a courtesy conversion spread, or some other appellation. The receiving bank might charge a fee as well. The same is true for obtaining a money order, or sending a domestic wire. You can go through each and every item, on the website of that august and noble corporation and you can see that, if you were a person in this circumstance, the friction on your savings, or even on your daily cash flow, would be enormous. It's a problem.

Cryptocurrency doesn't have that faculty, at least for that genre of savers, and that's a revolution; it's a major savings, so you can't just dismiss it.

Then, of course, we ignore the other problem for this person who has only \$1,000, which is that this money is being debased. This person doesn't have a lot of money so, you wonder what difference it makes. But that person's savings are being debased just as surely as a \$100,000 deposit is being debased. It's losing purchasing power. How can we expect people in this situation to rise out of poverty when their money is constantly being debased, and everywhere they turn there's enormous transactional friction? If there were nothing other than the debasement problem and the transactional friction problem for that poorer element of society, I—or someone else—might argue that it's not a bad thing. But it's not the only problem.

Let's imagine you're a merchant. Your business has a 30% profit margin. (What merchant really has a 30% profit margin? But let's be generous.) And say you have \$1,000 in revenue, and make \$300 in profit, and that the revenue comes entirely via Visa cards. Visa charges a 2.91% fee, and there are other associated fees for ancillary services, if you require them. You have to pay something to what's called the merchant processors, which is different and distinct from Visa. But they batch your charges at the end of the day and send it to the bank. There are various and sundry bank fees. If you're one of those people—I don't have this kind of card but, if you're one of those people who have cards where you have to enter a PIN number, there's a PIN activation fee for the merchant, and so on and so forth.

Round that fee up to 3% of revenue, and you have \$30 of credit card fees. Since a 30% profit margin on \$1,000 is \$300, that \$30 is 10% of your profits. Think of how many merchants in this country, or around the world for that matter, have that level of transactional friction. Wouldn't it be great to eliminate or at least lessen that? So, that's another dimension to the type and scale of intermediary costs that cryptocurrency could alleviate.

Last but certainly not least, there's the issue of security. Before the advent of fractional reserve banking, the origin of a bank was when money was more or less gold or precious stones that you deposited in the vault of a bank. In 14<sup>th</sup>-century Venice, they might charge you something for storage and security, because you didn't have the means to keep your money safe, and they did.

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

At least then you could rely on the bank to keep your money safe in most circumstances. Now, if your account is hacked, that's a problem. The bank has collected data that you didn't authorize—not just your credit card number, but your driver's license number, your passport number, your Social Security Number, date of birth, or other information—that's a real problem. It's a problem because the modern financial services firm stores this information in just one central database and, therefore, there's one point of failure.

A cryptocurrency is based on something called a blockchain, which has tens of thousands of points of failure. In order to penetrate it, all the nodes—the computers that run the blockchain—which are where all the copies of this ledger are distributed to or held, would have to be hacked simultaneously, and the hacker has a window of not even 10 minutes to do it. And there are other measures you can take to protect your assets. You can put your cryptocurrency in cold storage; there are other codes that you can input so they can't get at your money. "Cold storage" means a server that's not connected to the internet.

From an FRMO standpoint, via the various funds that hold it, we've allocated, about 30 basis points of our assets, at cost, to this new asset class. Based on the day I wrote the shareholder letter, it's now about 3% of the assets, since they've appreciated mightily.

I didn't know if cryptocurrency would be a reasonable asset class or not, and there's a fair chance of failure—we still don't know. I have a little bit more confidence today than I had when we began to invest in it, because it's grown so much. The idea was to invest a small enough amount of money so that if the whole sum were lost, we could go on to fight another day. Reasonable minds may differ about what that sum should be. Even in failure mode, maybe—probably not—but maybe I would have enough insight and foresight to sell it before it would reach zero, so maybe I wouldn't lose the whole sum, as modest as that might have been. I'd just lose a goodly piece of the whole sum. That's possible.

So that hints at all these noble things we're doing for society; that's our noble persona. But we also have a selfish persona; we'd like to make some money, too. Since it's not so easy to invest in cryptocurrencies—you have to engage in extensive original research, which is not the case for indexation. Given that, you can see how it's possible to charge what we think is a reasonable fee, and how our profits could actually rise. That's the objective. In a way, we're helping society; we're solving some of society's problems, and being noble, in one sense, and we're also being selfish, since we want to make money too. We're all shareholders, and you want to make money. That, that's basically the idea.

Anybody can simply invest in a cryptocurrency like bitcoin once they learn the technology, so we branched into another activity that I'll have to explain, and I hope I don't lose everybody. We're involved in cryptocurrency mining. It's a very unfortunate term. The reason they use that term is they want to compare cryptocurrency to gold. They want to say it is digital gold. There are some who say that one day our children, and our grandchildren will laugh at the concept of walking around with gold coins in one's pocket. They think that's ridiculous. They grew up in a digital

world, and they want things to be digital. Somebody wrote a book called *Digital Gold*, and I think that's where the idea of "mining" comes from.

A blockchain is a distributed ledger. At the moment, if we use bitcoin as an example, there are 55,507 nodes on the blockchain ledger. You may wonder how I even know that. It's because all of this information is either on the blockchain or on what they call blockchain explorers. That in itself is a point worth dwelling on for a minute or two.

If you're talking about the stock market, or the money supply, there are many definitions of the money supply. You don't really have access to information regarding the people who are trading stocks, who's trading them, what segment of the market is being traded. You might have access to some of that information if you're in the exchange, but they charge you a lot for the data, and some of it they don't even sell.

With a blockchain, everybody can see everything, except for the name on the account. That you can't know. But you can see that on the bitcoin blockchain there's one person who has roughly 127,000 bitcoin. You can see that in the last 48 hours that person bought roughly 7,000 bitcoin. If I wanted to, I could take my phone out and show it to you. Within at most a minute—probably 20 seconds—I can find this information. Everything is transparent. And once I finish this cryptocurrency discussion, you'll see how it all relates to the S&P 500.

All of the 55,507 nodes that support the system by validating new transactions before they are added to the ledger need to get paid. They are paid via something called mining. They're all trying to validate the system, which means they're trying to solve a mathematical problem known as an elliptical function—you don't have to know what that is. The one who solves it before anyone else has the right to validate the new block of recent transactions that occurred on the blockchain. If you earn the privilege of validating the block, you receive 12.5 bitcoins.

To be a miner, you pool your servers—by the way, they are not called servers; they're called workers. Those are your workers, and you share the rewards according to your processing power, which they refer to as "hashing power." (Those are just words you might be interested in adding to your lexicon of cryptocurrency.) If you were 10% of the hashing power, and the pool received a 12.5 bitcoin award, you would get 10% of that award. A bitcoin is divisible into 100 million units, each one called a satoshi, so it's easy to divide, just as gold is almost infinitely divisible. You can have ounces of gold; you can have grains of gold. That's why gold became a currency. Likewise, bitcoin was designed to be almost infinitely divisible.

You can earn a return by mining cryptocurrency. Yesterday, when I gave a lecture, I didn't explain this point, so I'm going to dwell on it a bit today. To mine cryptocurrencies, you can buy servers and depreciate them on some sort of reasonable schedule, based on their estimated useful life. If we hold back enough cash to the equal or compensate for the depreciation rate, then the unit value will remain constant. As an example, if you depreciate \$100 worth of equipment, and hold back \$100 of cash from the mining profits, you have \$100 less net equipment, and you have \$100 more

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

cash. The book value will remain the same, and you basically pay out the balance of the profits to the shareholders.

In that way, you could have a business in which you've created a new security that doesn't fluctuate in price; it's just the dividend payout that fluctuates. Sometimes the dividend is higher and sometimes it's lower; people can live with that. But the accounting value will always be the same. That's a complicated concept to absorb; sometimes I need to explain it five times for people understand, but that's the way it works. Income is very important in modern-day asset allocation.

As I wrote in the annual report, we raised \$5 million for this mining business, with no fees. I just wanted to show people we could pay a robust dividend and keep the unit value constant, or as constant as one has a reasonable right to expect. In the next iteration, there will be fees. So, it's like we gave a free sample, to show that our merchandise is really good.

Why is all this important? Because I could have ignored bitcoin and cryptocurrency in general, but would have done so at my peril. I don't have to invest in it, and you don't have to invest in it, but, if you're investing in equities, it's critical to understand how the rise of bitcoin and other cryptocurrencies can affect equities. Getting back to the original example, if somebody accepted the premise that what I'm saying is valid, then why are you putting your money in the bank and paying the fees? Why aren't you paying your bills with a cryptocurrency? Why are you leaving your money in a bank to earn virtually no interest and be debased? Why don't you put your money in the appropriate cryptocurrency?

If that premise becomes more widely accepted, it's pretty easy to see that it would create a big problem for the 14.3% of the S&P 500 that is in the financial sector—largely banks. It's not just a problem for banks, because currency trading, which is another big profit maker, could be eliminated. You could eliminate trading in general, because those who want to buy and sell securities could be matched up on the blockchain. It could eliminate the middleman. There's tremendous potential for disintermediation within that 14.3% of the S&P 500. Even if I had no interest in ever buying bitcoin or other cryptocurrencies, I ignore them at my peril.

If I'm going to be in the index business, and 14.3% of the index has this existential challenge, I already have a problem. I can't ignore it, because there's no escaping it. It's a small world, and I have to live on the planet. There's no getting around it. And it's worse than that, because the financial companies are the largest customers of electronic equipment. From the 23.3% of the S&P 500 that produces what they call capital goods—largely computer and telecommunications equipment—financial companies are, by far, the largest customers. If there's a disruption in one, there's a disruption in another.

I'm talking about clearly over 37% of the S&P 500. If I really wanted to, I could go through other sectors. I can see that you get the point already, but I'll just give you another example. If I took out my iPhone and showed you the glass, somebody has to make the glass for the iPhone. It's not in the capital goods group. There's somebody in the chemical group, several companies in the chemical group that manufacture this. That's how these economic effects are transmitted. If it's



FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

one or two companies, I could add that to the equation. Assuming that blockchains and cryptocurrencies are successful, major portions of the index are about to be disrupted.

Ordinarily in indexation, disruption is not a problem. Why is it not a problem? Well, Amazon disrupted Macy's. Okay, Macy's is suffering because of Amazon, but Amazon is prospering so, we have one security going down in value and another security going up in value. From an indexation point of view, it's not a problem, because the whole idea of the index is that you capture the economy. Presumably, more value is created than is destroyed, so the economy is expanding, and indexation works.

But what if the disruptor is not in the index? Now you have a real problem. You also have a problem if you're an active manager, because you're compared to the benchmark of the index and, presumably, you can't look very different from the index. Of course, if you look at our portfolio, we're *very* different from the index. But, that's generally not the case for active managers. You can see how profound this problem is. I would daresay it's a problem you can't ignore in your portfolio construction.

In an even larger sense, entrepreneurs are raising money via crowdfunding for initial coin offerings, and other less controversial activities. This funding doesn't go through the normal investment banking channel. It doesn't go through the normal regulatory channel. Depending on your point of view, that may or may not be a problem. The legal abstraction of the joint stock corporation has existed for 300 years for the purposes of raising capital, but now there's a way to organize people who are raising capital for a combined, collective undertaking that's not even a joint stock corporation.

The problem is that society has been hierarchical, since the beginning of agriculture. You live in a hierarchy with regulations. The corporation itself is a hierarchy with a chain of command. By the way, we don't have that problem at FRMO, because it's just me and Steve. We're the only employees, and we don't even collect our paychecks. So, you're getting a great value just from that standpoint.

Ordinarily, if a whole series of very intelligent people want to do something, how will a hierarchy govern their actions when each one is a specialist, each one knows something about cryptography or other areas of computer science? We now live in a world in which an astounding number of patents are issued each year, and an astounding number of people have PhDs and Master's degrees. The knowledge base is growing tremendously. And it may well be that a hierarchical structure can't even deal with that.

If a hierarchical structure like a joint stock corporation can't deal with this development, then the index can't capture the totality of the economy. A stock index means you're just buying stocks. But what if there is major economic activity happening but it's not happening in a stock? How will you maintain proper diversification, especially if that segment of the economy that's growing presents an existential challenge to a part that's being displaced?

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

It's almost the reverse of the situation at the end of the 20<sup>th</sup> century when so many companies came public, including Westinghouse, American Tobacco, General Electric, General Motors, Standard Oil, and others. They displaced other companies. General Motors clearly displaced the horse-and-buggy industry, except the horse-and-buggy industry wasn't publicly traded. If you look at the history of stock market returns, there were listed companies that displaced what came before. But what came before wasn't in the index. All you can see is that the Dow Jones Industrial Average went up, but you're not measuring the displacement that happened in the economy, which was quite painful for those that were displaced.

Now it's the reverse. There are developments in the economy that threaten many of the listed companies. But how do you access the entities that threaten them? If you really want to have a balanced portfolio that is properly diversified, I would submit to you that you need access to that part of the economy that poses the threat, even if the threat doesn't materialize, if for no other reason than as a hedge. This approach is like buying 500 stocks in the S&P 500 index. No one asserts that all of them will be successful. You don't know which one will be successful. That's the whole idea of not doing the research, because you've covered all your bases. You're present in every significant sector of commerce.

But now you might not be present in every significant sector of commerce. You might not even be present in the sector of commerce that could be the winner. It's contingent. It might not be the winner, but what if it is and you're only holding the part of the economy that will be damaged by it. You see what the problem is?

Therefore, as we discussed this situation among ourselves, we realized that we must have an exposure to cryptocurrency. We must begin orienting our business to participate in it because, if we don't, we won't be properly diversified. It takes a lot of effort to gain expertise in this area. Just so you know, we have servers mining right this second in Graham, North Carolina. We have servers in Oregon. In the not-too-distant future, we hope to have servers in Montreal, Canada. It's a lot of work, and most firms aren't set up to do it, because most firms are hierarchical.

Let's just dwell on the sociology, which I'll sum up, and then you can ask me questions if you'd like. In most firms, would someone in my position spend time reading papers on the Byzantine General's Problem? In most cases, you would delegate that task. But in this instance you can't do that, because you must make the decisions about the direction of the corporation. You have to decide the future direction of the firm. If you don't do the homework, you won't know which direction to choose and, by the time you find out, it will be too late.

I think that today we're in the process of moving one server from mining bitcoin to mining a new currency called Bitcoin Cash, which is a fork, or a "save as" of bitcoin. I won't go into it, because I'll lose everyone. Let's just call it a fork; you can remember that. It's a different kind of bitcoin. Not everyone who owned bitcoin at the time of the fork has the private keys to access their Bitcoin Cash. With the Chinese government closing bitcoin exchanges, people must get out of their bitcoin holdings by September 30<sup>th</sup>, and they might have to abandon their Bitcoin Cash.

Having a cryptocurrency wallet is not like Gmail or a bank account, where if you lose your password they send you another one. If you lose your private keys, you're done; that's it. The currency still exists on the blockchain, but it won't be in circulation. There would be fewer in circulation and, as a practical matter, that decline in effective supply might affect the valuation.

My point is not to dwell on a technical matter like that, but rather that sociologically most firms are set up as a hierarchy. They spend a lot of money on technology, with the workaday issues of applying the technology to their business as it then exists. Very few businesses will reinvent themselves as we have done. We're moving away from what at one time was a very profitable business. And we're still going to invest in stocks and bonds—we're not getting away from it—but we're cognizant of the threat to that business. We can't operate as we did in the past. We will always be in stocks and bonds, but we have to operate differently.

I think society itself will operate differently, because it will have a less hierarchical structure. As more members of society become part of the big knowledge base, somehow the new ideas have to filter up. You can't have a very narrow, hierarchical order through which all the ideas must filter and expect society to progress. This represents a major change for people. I think it is one of the most profound transformations to emerge in maybe several hundred years of society. We're part of it, and I think we're early, and I think it's going to be very lucrative.

We only started off investing about 30 basis points of our book value, and now it has grown to about 3%. If worse comes to worst and everything I tell you is completely wrong, I think we've sized our participation in such a way that the effort, should it fail—and it might fail—will not be life-threatening or challenging in any way. We'll go on to fight another day, and we'll do something else.

That's the direction we're going. You understand the interplay now between the economy, the indexes, the currencies and what we're thinking. We're not getting out of our businesses, we're trying to make our businesses flourish and prosper. I think you will see that they are doing that.

And now we'll open the meeting to questions from the floor.

### **Questioner 1**

If you put 30 basis points in, it indicates that you don't have tremendous confidence in the bet, right? Why would you expect people to put their \$1,000 of savings in bitcoin?

**Murray Stahl** – Chairman & Chief Executive Officer

Okay, that's an excellent question. In fact, I'm glad you asked that question. The short answer is that I don't expect them to put their \$1,000 in bitcoin. I'll give you a real-world example, and I'll make reference to Bitcoin Cash, so you can see how it works.

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

Since there is a not inconsiderable possibility that the whole thing fails, I would never tell a person to put a considerable amount of their wealth into any undertaking like this. Let's take the example of Bitcoin Cash. At the end of this month, we'll have a private fund for investing in Bitcoin Cash. Let's go through the circumstances, and I'll tell you how much money people should put into it, in my humble opinion.

By the way, like all our cryptocurrency funds, this fund will not have a minimum, but it will have a maximum. You can invest as little money as you want, but you can't put in more than \$50,000. If, despite our best efforts, you want to invest more than \$50,000, you can, but we won't charge you a fee on the additional investment above \$50,000. That part is free. If an investor decides to put in \$1 million, we'll charge a fee on \$50,000 and no fee on the additional \$950,000. We don't need to. You might ask why we would be so generous. The answer is that we don't need to be generous because, if it works, the return will be enormous.

If it works, cryptocurrency would now be the money of society. By the law of no arbitrage, any of these currencies could have the value of a fiat currency, like the value of the Swiss franc or the Japanese yen, expressed in dollars. What is the value of Japanese M2 or M3? It's in the trillions of dollars. Let's say you start with a cryptocurrency worth, for the sake of the exercise, \$5 billion, and set it against the value of the Japanese M2 or M3, whether it's \$2 trillion or \$3 trillion expressed in U.S. dollars—I'm using these numbers just for illustrative purposes. Whatever the precise value of the Japanese money supply is today, they keep increasing it. Next year, it will be a higher number.

So let's just presume that a cryptocurrency with a market value today of \$5 billion becomes \$3 trillion. What's the coefficient of expansion? It's huge, right? You would have to multiply \$5 billion by 600 to get to \$3 trillion. So, you'd make 600 times your money. If you had a 30 basis point position in something that goes up 600 times, that would be, in dollar terms, a 30¢ position in a \$100 portfolio that rises 600 times to become \$180. You'd make 180% on your entire portfolio, and that's assuming that nothing else in your portfolio makes any money. If you're wrong and that cryptocurrency goes to zero, maybe you're fortunate enough to get out early enough to save 10¢ of the 30¢, or 15¢ of the 30¢ before it gets to zero. That's the idea.

What about this Bitcoin Cash? Let's call it a fork of bitcoin.<sup>1</sup> There are now forced sellers because of the actions of the Chinese government, having to do with the Chinese exchange rate relative to the dollar, which I won't go into unless somebody wants to talk about that. Believe it or not, bitcoin has an effect on the exchange rate. I know you might not believe it, but it really does. Many of the holders will have to give up their private keys for their Bitcoin Cash, because they're in a rush to sell. Therefore, the Bitcoin Cash owned by those who had to give up their private keys will be out of the money supply of that currency. Bitcoin Cash it has all the store of value attributes of bitcoin; therefore, it will have value. How much value, you can debate, but it's going to have some value.

---

<sup>1</sup> Technically it is a "save as," because the blockchains of bitcoin and of Bitcoin Cash are identical up to the date of the "fork." Then the Bitcoin Cash blockchain changes according to its protocol and the legacy bitcoin blockchain continues uninterrupted. From that point forward they are two different currencies.

In any event, I wouldn't tell you to risk a lot of money. Let's say I turn out to be right and somebody put \$5,000 in. If they're a wealthy person, it's irrelevant to their net worth. By the way, if I'm wrong, I still might not let it go to zero. In other words, in failure mode, I might finally sell it and save the last \$1,000. But, even if I didn't, it's a tax loss, so you don't even lose \$5,000. You would deduct the loss against some other profits. So, the potential loss is minimal and, in success mode, what's 600 times \$5,000? \$3 million. So, unless you're a really wealthy person, it would make a meaningful difference in your life.

I believe those types of investments should be sized that way. The strategic problem in a typical money management firm, is that everybody thinks the primary business objective is to raise a lot of money. But that's completely wrong. The problem is to *make* money, make a return. If you make money, you'll attract other clients, and you'll charge a fee on their assets and you'll have plenty of assets, because you would have gotten them the old-fashioned way: you would have *made* them. Did I make myself clear why?

#### **Questioner 1**

Sort of. But I guess the question is the adoption of bitcoin. You basically need widespread adoption of bitcoin to make it an attractive currency.

#### **Steven Bregman** – President & Chief Financial Officer

By the way, there is widespread adoption, just not here yet. So, for instance, several months ago, the central bank of the Philippines issued a regulatory framework around cryptocurrencies, with a focus on bitcoin, but from a different perspective from that of Japan. In April 2017, Japan's central bank changed its banking laws to recognize bitcoin as legal tender. That decision came from the top down. The Philippine government responded to demand from the ground up.

As I understand it, there are two sources of demand for bitcoin in the Philippines. One comes from expatriates who work elsewhere, like South Africa and South Korea and the Arabian Gulf countries, and they send money home. And when they send money home, they're charged confiscatory fees by Western Union and the banks and so forth. So, they've been using bitcoin. Apparently, a very large portion now, something like 20% of the remittances, are in bitcoin. I believe the Philippines are the third-largest expat remittance community in the world, after China and India.

Secondly, the banking system there apparently is so dysfunctional that people can spend hours waiting in line at the bank to engage in simple transactions. So, a large portion of Filipinos now use bitcoin to pay their utility bills. They're using it purely in its transactional function, avoiding all the friction and costs. That's fairly widespread acceptance, but we don't know about it here.

#### **Murray Stahl** – Chairman & Chief Executive Officer

Right. I think the question is an excellent one. If I may, let me dwell on the premise for a moment, which is that widespread acceptance is the prerequisite for the success of bitcoin. Let me say this: there are 7.5 billion people in the world; 7.5 billion. I read recently—I don't know if this is accurate, but I assume it is—that 28 million people in the world are worth over \$1 million, or have \$1 million or more in liquid assets. Let's say that each one of these 28 million people wanted one bitcoin. At the moment, there are 16,560,000-odd bitcoin. If every one of the estimated 28 million millionaires bought one bitcoin, think of what would happen. Do we actually need widespread acceptance?

In other words, exclusively within the community of millionaires, would that be a sufficient degree of acceptance? Aside from the community of 28 millionaires out of a global population of 7.5 billion, there are approximately 120 million people in Japan, where bitcoin is now legal tender. As we speak, the Japanese banking system is moving the entire domestic money transfer system, known in Japanese as Zengin, to a blockchain. It's not the bitcoin blockchain; it's another blockchain called Ripple. I've already confused you enough, so I'll wait for a question on the Ripple blockchain before delving into it.

That transition of the Japanese banking system might not be successful; they might decide to use a different blockchain, but I don't think you need worldwide acceptance; you need sufficient acceptance. To give you a better example, have you ever heard of a currency called the Swiss franc? Well, there are only 7 million people in Switzerland, and they use the Swiss franc. Until very recently, the Swiss government had a policy of not debasing that currency as much as other countries. Therefore, the Swiss franc was considered a standard of value around the world. That currency was accepted by people who had never been to Switzerland.

The U.S. dollar became the reserve currency after the First World War, during which European governments inflated their currency. I don't know what the population of the globe was in 1920, but it had to be at least a couple of billion. The U.S. population couldn't have been more than 5% or so of the world population, yet the U.S. dollar became the de facto world currency,—the dollar was circulating globally—and at first it was just in the U.S.

The point is, I don't think bitcoin needs widespread adoption to be successful. It'd be nice to get it, but I don't think it's necessary.

## **Questioner 2**

I understand that a big premise for bitcoin adoption is the lack of debasement, because bitcoin is supposed to be limited to 21 million. But how do we know that the issuance won't be increased? Aren't the additional tokens similar to options, which are a form of debasement?

**Murray Stahl** – Chairman & Chief Executive Officer

Well, in the case of bitcoin, the 21 million cap is hardwired in the code. But you don't really need it hardwired in the code or anything else, because currencies themselves trade on their prospective debasement. If somebody begins debasing a currency it would be obvious to the other participants. We know what should be happening every 10 minutes: 12.5 bitcoin should be created. If they decide to make that 25 bitcoin, we're going to know it within 10 minutes. If we know it within 10 minutes, people are not going to buy it.

Irving Fisher wrote a book called *Money Illusion*. Many learned economists will state that the public doesn't really have a sense of purchasing power. They generally think in nominal dollars, not real dollars, which means governments can get away with printing up a certain amount of money and debasing their currencies. That's why people ask why bitcoin won't be deflated. The reason is that on the blockchain everything is instantaneously visible. If you try to debase it, you'll defeat the whole possibility.

By the way, there's also no incentive to do it. This gets back to my point about the hierarchy. A government has a real incentive to debase its currency. They want to pay for things. They might want to build up their armed forces or engage in a war. They might want to redistribute wealth, like they did in Argentina in the Peron era. But who would benefit from debasing bitcoin? What motivation is there to say create 25 bitcoin every 10 minutes instead of 12.5 bitcoin? I don't see it.

If I did see it, I would be out, and so would everyone else. The premise would be undone within minutes. Therefore, it relies on trust, like every currency ultimately does.

**Questioner 3**

I wanted to build on the last question, which I thought I heard slightly differently. Part of the appeal is the scarcity value, whether it's embedded in the code or in the way bitcoins are mined. But, right now, there's an explosion of cryptocurrencies. There are over 1,000 of them if you count the tokens. How do you get comfortable that bitcoin is the right investment, not any other cryptocurrency that could displace it at any point in time?

**Murray Stahl** – Chairman & Chief Executive Officer

The truthful answer is that you can't know; you can only make a supposition. I have no way of knowing that bitcoin will be the ultimate winner. I can just tell you two things. In the universe of cryptocurrencies, most are inflationary, so they won't displace bitcoin. For example, ethereum has an 18% inflation rate. Those that have a chance of displacing bitcoin either have a similar monetary policy or a better monetary policy—at least as far as debasement goes—and that's a very small number. Given bitcoin is only eight years away from a virtual zero inflation rate, I think it's too late in the game for someone to create that kind of currency. Then there's the first-mover advantage. How much you want to rely on that, I don't know. I wouldn't put a lot of faith in it, but there's some value to that.

I think there's a reasonable prospect that bitcoin has the potential to ultimately be the dominant currency. That doesn't mean you're not going to have other successful currencies around the world. When a country like the Ukraine became independent with its own currency, we don't say that the U.S. dollar is debased in any way. It has no effect on the U.S. dollar. If the Ukrainian government had a reasonable monetary policy, maybe one day the Ukrainian currency could be equal to the Swiss franc.

There was a period of time, let's say 100 years ago, when there were only a handful of currencies in the world. Very few nations were independent; most of them were colonies. Slovenia is now a country—I guess they use the euro. Kazakhstan is a country. Tajikistan is a country. Armenia is a country. Georgia is a country, and so on and so forth. Who thought they would ever become independent countries having an own currency? But I wouldn't argue that their independence and independent currencies have any effect on the Japanese yen, unless one of those countries adopts a much more severe monetary policy than Japan's. But if one did so, then it might rival the Japanese yen.

Most cryptocurrencies don't have that luxury, because it's not a choice. Bitcoin was a labor of love by the programmers who collaborated in its creation. If you want to emulate that now, you have to hire people who have to be paid. The inflation rate is a way of them paying them. So, that's the best answer I can give you.

#### **Questioner 4**

I think it's a very worthwhile investment, but I'm going to play devil's advocate. In a debt-laden world, governments should not be interested in giving up the power of inflation. They need it. Historically, the U.S. banned the buying of gold by individuals during the Great Depression. So, the more cryptocurrency becomes adopted, the more the government has an incentive to stop it. I think that only affects the big upside of your thesis, but how do you see a currency move beyond that problem?

#### **Murray Stahl – Chairman & Chief Executive Officer**

That was also my point of view until about a year ago. I figured that sooner or later—and probably sooner—governments would see the threat of a noninflationary currency, and they would stop it at some point. But I completely changed my mind when I started reading the debate in Japan. Japan did the opposite, and that government inflates more than the U.S., and they have more debt, a lot more. If anything, the Japanese government would have incentive to stop it sooner, but they didn't; they did the opposite. They embraced it and made it legal. Their reasoning completely changed my point of view.

They came to the conclusion that the idea of inflating your currency and debasing it rests on a false premise. You have all this debt; no one can deny it; it's a fact. Why do you want to debase? Because if you don't debase, sooner or later not just the government but all of the enterprises and individuals



that are so heavily indebted won't be able to repay that debt, which could lead to a banking crisis, and that's bad for the economy. You'll have a big recession or even a depression. You know the story.

The problem with debasing is that you're subsidizing the profligate members of society who misallocated capital, and they did it on leverage. Not everybody in society is leveraged, however. There are people who were responsible, and who saved money. Their money was in the bank—someone has to have money in the bank. When governments debase their currency, it causes a transference of wealth from the industrious members of society to the profligate. Japan has had this problem for three decades now. They wanted to reflate their economy, and every economist says, "Debase, and you'll reflate."

They began to observe that it wasn't working. Empirically, you have to question it. Why was it not working? The leveraged people can't increase their purchasing, because they're already too leveraged. They might just be able to be rescued from calamity. That's the best you can say. The industrious people could spend more money, but you're destroying their purchasing power, so they don't. Therefore, if you allow them to put some of their money in cryptocurrency, and you continue debasement, the fiat currency will continue to decline relative to cryptocurrency.

Therefore, some segment of society—presumably the industrious part—will have some of their money in the cryptocurrency, and it will rise in value relative to the official currency. Maybe even some of the indebted people will buy some cryptocurrency. As it rises in value relative to the fiat currency, perhaps the latter group will be able to pay off their debts by selling their cryptocurrency in exchange for fiat. Or for those who never had the debt in the first place, or who had a reasonable amount of debt, they now they have a lot of purchasing power and will be willing to spend more. You could reflate the economy that way.

In Japan, they came to the conclusion that debase-to-reflate is a false argument; it doesn't work. There are many historical examples, largely from Latin American countries—if anybody tried it, they certainly did. They've been trying it since the days of Simón Bolívar. And, as far as anybody can tell, it hasn't worked very well. At the turn of the century, meaning 1900, Argentina was considered to have a higher standard of living than the United States, and look at it now.

You can read about the result of this monetary policy in Uruguay, Venezuela, Chile, Peru, and Brazil, which is the country in Latin America I personally know the best. In Brazil, think about it, they've had the real, the cruzado, the cruzero, the new cruzado, the new cruzero—I could keep going. They tried it many times. They'd finally inflate to excess, and they'd need a whole new currency.

The empirical evidence shows that it just doesn't work. You can find plenty of European examples: Austria at the end of the First World War, Germany is the classic example, Hungary after the First World War—a lesser example, but still very prominent—and so on.

Maybe this is too much of an answer for you, but in modern economics, in a university setting, you're taught two schools. On one hand you have the monetarist school, which basically says you should debase at a controlled rate using a central bank as the instrumentality. On the other, you have the Keynesian school, which says you should debase using fiscal policy, which means to keep borrowing money. Either way, the result is the same, so it resolves into a debate about which debasement tactics to use.

I believe that if you look at the website of a typical university economics program, the Austrian school, including Friedrich Hayek, Ludwig von Mises, and Hans Sennholz and others are barely mentioned. And no one has ever tried to put those ideas into operation and take that power away from the central bank.

So, the Japanese came to a completely different conclusion, and I was convinced.

#### **Questioner 5**

Since confidentiality of the transaction prohibits governments from knowing what's going on, how do the governments collect the taxes that they might otherwise be able to collect?

**Murray Stahl** – Chairman & Chief Executive Officer

First of all, it's not confidential. If a government wants to find out how much bitcoin you have, they can do it. It's a little bit of work, but they can do it. It's all traceable. If you want to hide from the government, bitcoin is not the currency to use. If the government or law enforcement suspect you of doing something wrong, there are many ways they can find out if you've purchased bitcoin. Ultimately, in a world in which cryptocurrency becomes dominant, fiat currency would still exist. It would be a parallel currency. There will still be U.S. dollars. There will still be a government currency.

If you're interested in just transacting, you might sell a bitcoin, get a few dollars to do your transaction, and keep the rest of your bitcoin somewhere else. You might keep a little bit of fiat currency around just for transactional purposes. The fiat currency will still exist.

#### **Questioner 6**

It appears that everything in the cryptocurrency world is transacted at spot. Would you expect a yield curve and an associated rate of interest to emerge with time?

**Murray Stahl** – Chairman & Chief Executive Officer

The Chicago Mercantile Exchange, the CME, has patented a physical delivery of bitcoin. At some point in the future—hopefully in the not-too-distant future—there will be a bitcoin futures curve, because there will be bitcoin futures, which will have an implied interest rate. In principle, people would be able to borrow bitcoin. But I wouldn't recommend borrowing bitcoin because, if you do,

it's actually a hard asset and, because you're still transacting in fiat dollars, when the bill comes due, it might be unusually high. Still, I believe it's coming, in the not-too-distant future.

**Questioner 7**

First of all, Murray, I want to thank you and Steve for all the hard work you're doing, and your team, as well as your board. There's a lot of wisdom in this company. And we're benefiting from it. And I appreciate it.

**Murray Stahl** – Chairman & Chief Executive Officer

Thank you very much.

**Questioner 7**

Also, I want to congratulate you on bitcoin, especially last year. I took your advice and invested one vacation's worth in bitcoin, and now I can take six vacations. So, thank you very much. This is a fascinating discussion, and is one example of the asymmetries you've described. Another potential hedge in the potentially inflationary world you've described is equity in a business. To the extent that the value of individual stock selection is still one that will be a benefit, I was wondering if you and Steve could give us one or two equity ideas that we can take home. Thank you.

**Murray Stahl** – Chairman & Chief Executive Officer

Okay. We now own a very large position—about 20% of a company call Civeo (CVEO). It's not a big position—only about a 3% position for a portfolio. The stock was trading at a ridiculously low price, a dollar or two. We had to buy a lot of shares to get to 3%, and it actually appreciated.

The best way to describe Civeo is that it's like a hotel or motel for people who work in the oil services and mining industries. You go out into the wilderness, and there's a gold mine, a coalmine, or oil drilling site, and it's in the middle of the wilderness. There is no place to live, so this company builds temporary lodgings. The problem was, with the collapse of oil prices, the sites that are in the most extreme and remote locations are the ones that get canceled first, because they're the hardest ones to operate in. There's no infrastructure or anything, so they're the most expensive.

As a result, the company lost a large amount of its revenue, and it's not even profitable on a stated earnings basis. They still have the properties, and since they probably paid more than the current market value of their properties, they have a lot of depreciation expense. But they're not putting anything like the stated depreciation back into the property, because it's not being used. On a free cash flow basis, the stock is ridiculously cheap. The market capitalization is sufficiently low that it won't be in any index. We just kept acquiring shares, and now we own about 20% of it.

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

If one day the oil, coal, gold or other mining commodity prices are restored to a level at which projects of this type are profitable to undertake, their earnings should return to the old levels, and you might make 10x, 12x, 15x your money, depending on what multiple you could possibly put on the company. We're assuming a 12x to 12.5x valuation multiple—something reasonable. Maybe we get lucky and it'll be higher.

**Steven Bregman** – President & Chief Financial Officer

In accounts, I've come to favor some segment of the account to hold some income-generating securities that also have additional optionality. Historically, let's say before several years ago, you expected a 10% annualized return from stocks, which was presumed to be some law of nature. Well, 4% to 5% of it came from dividends. That was for this past century. For the prior century, if you got any return from stocks, 6% to 7% of it came from dividends. We're now in an era in which, basically, it's a yield crisis and you're not getting much more than 2% from stocks or bonds.

Rather than the conventional common stock, which doesn't have much of a dividend yield—or, if it does, and if it's a conventional index-centric stock, like a dividend aristocrat like Procter & Gamble, it trades at an exorbitant multiple despite its absence of growth, and is damaging its balance sheet in order to provide that dividend—I like a non-index-centric security. And there are all sorts.

I like the idea of being able to accumulate, income-producing securities little by little, as one identifies them. Your starting yield is generous enough—5%, 6% or even 10%—and there's also some additional optionality. At least you start off on the positive side of your return expectation.

One example happens to be a convertible bond. Convertibles, by the way, are not index-centric securities nowadays, because they don't fit into the standard bond indexes. How do I know? Because there are only three convertible ETFs that I know of so, almost by definition, they're not index-centric.

The example I'll use is the Cheniere Energy convertible, which has a 4.25% coupon and is due in 2045. We bought this about a year ago, when it was priced at around the mid or low 50s. It had been issued about two years ago at an initial discount price of 80. Today, it's about 68 or 69.

Your starting yield is about 6.1%. The yield-to-maturity is probably about 7.5% or so. Those are your base return expectations. Then there are a few other sources of return. One would be, in a year and a half, in mid-2019, that it's callable at what will be the then-accreted value of 83. I don't think it's likely they would call it, since it's a low coupon item but, if they were to, I think your yield to call is something like—I don't remember exactly—it could be 12%, or 13%, or thereabouts.

But there are a couple of other possibilities. In February of 2016, the federal government awarded Cheniere the first license to export liquid natural gas that was granted in over 50 years. Having built all this plant, they have first-mover advantage. Therefore, by May, they were on the verge of,

but were not quite yet an operating company. They had something like \$16 billion of property, plant, and equipment, of which almost 90% was construction in progress. They had \$15-odd billion of debt and \$1.5 billion of shareholders' equity, after having lost \$1 billion in 2015.

That's what the company looked like at that time; it looked quite risky. Yet, by May, they had their first shipment. Now they're an operating company. By the end of the year, I think they'd shipped something like 50 tankers' worth of LNG to 17 different countries.

Cheniere has a very unusual business attribute—it's very rare. In early 2016, the company had presold, for 20 years, 87% of its future capacity—not all its future capacity—just the initial phase of its planned plant capacity. Revenue-wise, I think that's worth about \$4.5 billion a year. The customers are basically global investment-grade companies, or they could be arms of governments.

Now they're on their way; they're operating. The company presentations now make reference to the end of 2019 or 2020, when they expect to have so much excess free cash flow, they're talking about paying dividends already.

Another way to earn a return from the Cheniere convert is that, let's say, by the end of 2019—2 or 2.5 years from now—the company is no longer perceived to be a credit risk. In this yield-starved environment, the bonds might trade to par, just on a pure yield basis, in which case you might get a 20% annualized return.

Finally, there is the possibility that, if the company's equity is perceived to be a robust source of future earnings growth, if the stock appreciates enough, the bond could be worth more than 100. It would have to appreciate by multiples, some 3.5x-plus. But, because it's due in 2045, in essence you would have a 28-year call option on the LNG market. That's a really interesting characteristic.

The question is: how likely is that possibility to manifest itself? Well, if it takes 10 years for the stock to appreciate sufficiently so that the equity conversion value is above 100, maybe you need 11% annualized appreciation from this stock. That's a lot. If you take 15 years, maybe you only need 7%.

That's an example in which you start off with a bond return, a bond yield, a distribution yield, way above the high yield bond market. You have several ways to win and many fewer ways—or at least different ways—to be disappointed than with a conventional instrument.

## **Questioner 8**

You started out by saying that the market is at an all-time high, with almost unprecedented valuations, and the bond market is also very expensive. Therefore, there are not a lot of investment opportunities. Theoretically, there should be a lot of opportunities on the short side. Would you share your philosophy on shorting and if you have any stock-specific ideas on that front?

**Murray Stahl** – Chairman & Chief Executive Officer

I don't engage in very many short sales, though occasionally I do, and here's the reason. To start with, let me tell you why short selling was a robust asset class. It was a robust asset class because of lower valuations than we have right now. I'll explain why.

Let's say it's 20 years ago, when rates were 10%. I have a \$1 million fund. I have longs and I short \$1 million of stocks against it. In theory, I'm market-neutral. Now let's say I'm not so great at short selling, so my longs go down 10% and my shorts go down 10%, which is actually a 10% profit, so I'm just neutral. Nothing great. But I received what's called a short seller's rebate on the \$1 million short book. In other words, I got 75% of the 10% interest on the cash proceeds of the \$1 million short position, so that's 7.5% on a million dollars. So, if we have such a fund, and you come to a meeting with me, and the consultants ask, "Well, the market was down 10%; how did you do?" And I say, "I was up 7.5%, all in a day's work." That makes me look really great."

Today, however, not only do you not get the short seller's rebate, you pay for every short. There might be one or two exceptions but, as a rule, you pay a borrow fee, because the securities lender has to make money. In the old days, they made money because they got a piece of your float. If you were earning 10% on \$1 million, they got to share 25% of it. There's no interest rate anymore or, if there is, it doesn't make up for the securities lending operational expenses. So, you have to pay. Let's say I was paying for a short that's even mediocre, at 3%. Now, instead of making 7.5% on a \$1 million short, I'm already at negative 3%. The economics are completely different.

However, it's much worse than that, because of stocks that people think are outrageously overvalued, whether they are or not, like Tesla, for example. I don't want to short this stock, so I'm not saying it is or it isn't overvalued. But there are some who believe that Tesla's plans are not going to work. I don't know if they're right or wrong. They believe it's egregiously overvalued, and their basis for that opinion is that its market capitalization is so much higher than Honda's, despite a production level that, without exaggeration, is not much more than a rounding error compared with Honda. It's a reasonable argument. You could debate its merits but, prima facie, it's a reasonable argument.

To short Tesla, you'll be charged 22% to borrow the stock. Therefore, you have to pay a lot of money for the good shorts—any that are obvious shorts, like a company that is deficient. That's what's happening now. There are so many people in the investment business, and all the obvious avenues have been explored. That's the problem. The problem isn't necessarily that the market is at some preposterous valuation and one day it's going to collapse. That may or may not be true, but I don't know what day it will be. It might be next week; it might be in 20 years. I have no way of knowing.

By the way, you can only make 100% on a short, apart from the securities lending fee. If I short the security and it happens in a year, it's a fabulous deal. But what if it happens in five years? Let's say the return is that the stock loses 50% in value and it takes five years to happen. If I pay a

security lending fee, which will be anywhere from 3% to 22%, I can be right on the stock price and be wrong anyway, arithmetically. So, I don't do it a lot.

However, all that said, I am short something called the Direxion 3x Gold Miners Bear ETF (DUST). I short it because it's an ETF that is actually shorting gold stocks. If you short DUST, you're really long gold stocks, the obvious ones. It's an index that includes Newmont, Barrick, and similar companies. Are they going up or down? I'm really short but I'm betting on them going up. But, I don't care if they go up or not. It has to do with the path-dependent nature of the security. It will depreciate no matter what happens to gold stocks. It will depreciate faster if gold stocks go up, but I don't need appreciation in gold to get depreciation in the security. I hope I made that clear.

Anyway, in the last five years, the gold stock index is down probably nearly 70%. This ETF is shorting gold stocks. So, if I shorted this, I should have lost a tremendous amount of money.

I can't resist saying this. There are ETF dinners, exchange-traded fund dinners. I know you're not going to believe this, but they give awards for the best funds. It's like the Academy Awards. At the ETF dinner one of the rewards is for best ticker symbol. I know you think I made it up, but they really do.

Anyway, back to the reality of the topic at hand. This ETF, DUST, is down approximately 90%. That was the result when gold went against me. Can you imagine if gold stocks ever went up what return it would be? So, I'm willing to sell that short. Even so, I pay 6% to borrow it. But it's worth it because the NAV decays at a much more rapid rate. I can't gamble on a short, because I'm paying. It's like borrowing money; you're paying interest, so I have to be right. I have to know that I'll have a path-dependent security. Most of my shorting has to do with ETFs like that.

### **Questioner 9**

Can you speak to how you envision the business models of Visa, MasterCard, and some of the other payment networks changing or evolving with the presence of bitcoin and cryptocurrencies?

**Murray Stahl** – Chairman & Chief Executive Officer

With regard to Visa and MasterCard, we still own those shares in various accounts. At the moment, those franchises have yet to be threatened, except theoretically, because cryptocurrencies have made only limited progress so far. If you were to carry out some exercise to make the calculations to enough decimal places, you might discover some marginal impact, but it would be marginal.

Ultimately, though, it's a serious problem for them, so we have to monitor them. As an example, one of many plausible disruptive technologies is CoinPay. With that service, you would use a cryptocurrency coin the way you use your debit card, and the payment would be essentially instantaneous. The service CoinPay will offer is to solve the cryptocurrency challenge for merchants who don't want to own bitcoin or another cryptocurrency, because they're too volatile.

FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

What CoinPay aims for is to instantaneously convert the coin into whatever currency you want, the euro, dollar, whatever. That way the merchant doesn't have to take on any cryptocurrency risk. CoinPay will charge a 1% fee instead of the 3% charged by MasterCard and Visa.

If CoinPay is successful, even if the credit card companies are able to maintain their dominant oligarchic position, that would be a big loss in profitability, even if they keep every customer. And who's to say they'll keep every customer? And CoinPay is not the only technology being developed.

The challenge faced by the big credit card companies is that each has its own R&D department, but it's necessarily a small number of people. We can debate how many there are—I could look it up, but it's not thousands. At most, it's hundreds. Of the hundreds in the technical department, some are working on the day-to-day operational problems; they're not dreaming up new technologies.

Then you have tens of millions of people in the world who are seriously computer literate, and they're dreaming up all sorts of ways to disintermediate the giant companies. How can a number of technically proficient employees of a given enterprise out think tens of millions of proficient people around the world who are properly incentivized to take a piece of this incredibly profitable business? That's the problem. I think we'll have to contend with that in the not-too-distant future. We're not there just yet.

#### **Questioner 10**

Would you give us an update on the exchange holdings, like Bermuda, Minneapolis Grain Exchange, Canadian Securities Exchange and OneChicago, and all the different intangibles?

**Murray Stahl** – Chairman & Chief Executive Officer

The Bermuda Stock Exchange (BSX) is the dominant player in what's called insurance-linked securities or ILS. An insurance-linked security is a bond that offers a very robust yield, usually about 8%. But it comes with a very small risk, because the bonds are tied to an insurance risk pool. There's a 3% chance that something happens, like Hurricane Harvey. In that case, they can seize the principal value of your bond to pay the insurance claims linked to it.

It's a growing asset class and the BSX is dominant. If this asset class continues to expand, the BSX stake could be a very robust investment. Right now, the ILS asset class is approaching \$25 billion of issuance, so it's not there yet.

The Minneapolis Grain Exchange (MGEX) volume this year has already exceeded the previous annual record volume in its history and there are still nearly three months left in the year. The open interest can be seasonal, because it's wheat, but it is close to as high as it has ever been.



FRMO Corporation Annual Meeting of Shareholders  
Friday, September 15, 2017

I had a theory about its volume, and we'll find out if it was correct or incorrect. My theory was that as central banks around the world continue trying to reduce the volatility of securities by being transparent about interest rate changes, and they continue to keep interest rates low, it would have an impact on volatility. And it has; volatility has remained low.

Traders can't make significant money without a lot of volatility. Sooner or later, they'll look for volatility and they'll find it. At least one place to find it is wheat. Sometimes it rains too much or too little, or there's a hurricane or other storms, or there's pestilence. All these things happen, so they either have too much wheat or too little wheat. The wheat market has intrinsic volatility.

I always believed that a lot of volume would come from people who had never traded wheat before. They didn't trade on the MGEX because, historically, it was the last of the exchanges to go electronic. I believe that many traders didn't even know that MGEX became electronic. It trades on the CME Globex, the same system used for trading any future on the Chicago Mercantile Exchange. There's no reason not to use it. I think traders needed to learn that MGEX was on that system and also that the wheat market has volatility.

The other exchanges are very small investments, and it's going to take some time for those to work out.

The Canadian Securities Exchange focuses on small-cap stocks. It's growing its volume, but it's a slow process because they have the same problem as we have in America, of offering securities that nobody wants to buy. Despite that the volume is growing.

OneChicago features single-stock futures, which is a good idea, and it's growing. But it takes time to get traction.

All these smaller investment were slices of an existing asset class, like small-cap stocks in Canada, but they weren't genuinely different asset classes, with the exception of the BSX and MGEX. Now you can understand the weightings of the two. They are the two primary positions. I hope that answers your question.

I'm getting the signal that we are out of time, so it remains for me to say thank you for your questions and for being shareholders. We look forward to doing this again. Thank you very much.

---

**DISCLAIMERS:**

**THE INFORMATION CONTAINED HERE IS A SUMMARY REPRESENTATION OF THE COMPANY'S 2017 ANNUAL MEETING OF SHAREHOLDERS, AND WHILE EFFORTS ARE MADE TO PROVIDE AN ACCURATE TRANSCRIPTION, THERE MAY BE MATERIAL ERRORS, OMISSIONS, OR INACCURACIES IN THE REPORTING OF THE SUBSTANCE OF THE PRESENTATIONS. AS SUCH, THE COMPANY DOES NOT ASSUME RESPONSIBILITY FOR ANY INVESTMENT DECISIONS OR ACTIONS MADE (OR REFRAINED FROM BEING MADE) BASED UPON THE INFORMATION CONTAINED WITHIN. READERS ARE ENCOURAGED TO READ THE COMPANY'S FILINGS BEFORE MAKING INVESTMENTS OR OTHER DECISIONS.**

Past performance is not a guarantee of future results. The information contained herein should not be construed to be a recommendation to purchase or sell any particular security or investment fund. Furthermore, the views expressed herein may change at any time subsequent to the date of issue. It should not be assumed that any of the security transactions referenced herein have been or will prove to be profitable or that future investment decisions will be profitable or will equal or exceed the past performance of the investments referenced.

Certain investment products mentioned herein are managed by subsidiaries of Horizon Kinetics LLC. Horizon Kinetics LLC is the parent holding company to certain SEC-registered investment advisers, including Horizon Asset Management LLC and Kinetics Asset Management LLC. For additional information on these entities, you may refer to the website of the Securities and Exchange Commission, which contains Parts 1A and 2A of Forms ADV, located here: [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov). Horizon Kinetics, on behalf of its registered subsidiaries, may collect management fees for certain of the investment products referenced herein. Additionally, Horizon Kinetics, through its subsidiaries, may hold positions in certain of the securities referenced herein.

No part of this material may be copied, photocopied, or duplicated in any form, by any means, or redistributed without prior written consent of FRMO Corp. ©2017. All rights reserved.