

EPISODE 622

[INTRODUCTION]

[0:00:00.3] JM: Computer systems consume memory, CPU, battery, data and network bandwidth as inputs. These systems provide value for the end-user by delivering information, virtual objects and physical products as the outputs. Another fundamental resource that is becoming easier to consume as input is money. There are also new outputs; financial constructs that are made possible by cloud computing, machine learning and cryptocurrencies.

This is why there is so much opportunity in fintech. Money has always been a flexible tool for brokerage between humans, but as recently as the early 2000s, the interfaces between money and computers have been clunky and inflexible. Engineers that wanted to build financial systems around money had to work directly with banks and credit card processors. More recently, there has been an explosion in new APIs and completely new financial primitives like cryptocurrencies.

In the year 2000, a well-funded team would probably have to struggle to put together even a basic e-commerce company. Today, there's a blue ocean of opportunity that has opened up for entrepreneurs building businesses around lending, insurance, underwriting, banking and every other microcosm of the financial system.

Michael Walsh is a general partner and a co-founder of Green Visor Capital; a company that makes investments in fintech. In today's episode, he describes his perspective on the modern financial technology environment and some hints on what the future holds.

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[INTERVIEW]

[0:03:40.9] JM: Michael Walsh, welcome to Software Engineering Daily.

[0:03:42.9] MW: Thanks for having me on. I've enjoyed listening to your podcast for a while now.

[0:03:46.3] JM: Yes. We got acquainted, because you were listening to some of the episodes around cryptocurrencies. Most of the investments that you do at Green Visor, which is a fintech-based venture capital firm, I think most of your investments are in things that are perhaps more conventional than cryptocurrencies. What's the characteristic of a typical investment that you make as a fintech investor?

[0:04:15.6] MW: We focus on early-stage fintech, so we're typically entering at seed or series A. Then really, we're looking for companies that are solving substantive problems and financial

services and that are using technology to do that. Really, that could mean a bunch of different things. It could be an enterprise software company that's helping banks become data first and digitize their offerings, or it could be a direct-to-consumer company that's offering some innovative insurance or retirement savings product, it could be payments companies.

We have a lot of enterprise software companies where there's a significant application within financial services. For instance, we have a gov or legal tech company, fiscal note where compliance and regulation is critical within the financial services and they're helping them streamline their compliance processes. It's very broad approach to fintech and it's also a global approach to fintech.

[0:05:09.0] JM: What led to the huge growth in fintech companies, because there has been this spike as far as I can tell in fintech companies, maybe since – I mean, I feel like this was cabined at the same time as a lot of other companies. It happened just because of AWS perhaps, the growth and the decrease in cost of starting any technology company went down, because of AWS. What caused this huge growth in the number of fintech companies?

[0:05:37.0] MW: Yeah, we launched our fund in late 2013 and that was right at the cusp of fintech becoming a thing. I think before that, the term wasn't really even used. We always talked about in our marketing materials what we called the fintech equation. The AWS piece you mentioned was definitely a huge part of it, because building scalable, secure financial services applications historically was unbelievably expensive. The sales cycle within financial services, if you're on the enterprise side is longer than most industries and convincing consumers to use financial service applications, historically was also difficult.

It was just prohibitively expensive for a lot of startups to go after it when you also factored in regulatory factors. Within financial services regulation, the way I think about it it's like a pendulum that swings back and forth over long periods of time towards environments that are favorable towards being bigger. That was happening for a long period of time, where for the first time in the late 90s, early 2000s, investment banks could acquire a partner with commercial banks; historically that wasn't possible.

There's a period of deregulation in financial services that favored banks being much bigger and consolidation and acquisition and that made it very hard for startups when you factor in the technology issues as well to get to market. The pendulum started swinging in the other direction with the financial crisis, the term too big to fail became on the mind of every regulator, and they realized that having these massive, massive financial institutions and all these different products might not be as good as they had originally thought. It was actually creating systemic risk.

Now the pendulum since 2008 has been swinging in the favor of companies getting products to market more quickly and startup companies and more negatively for bigger banks where there's a lot of pressure on bigger banks to move out of certain types of lending, to take them on a lot more regulatory and compliance obligations. The tech and AWS is a big piece, regulation was a big piece, and then you have consumer behavior and sentiment. Post-financial crisis, consumers started to view banks as something very negative. Banks were getting all this bailout money, they had lost a lot of money, so I think historically you viewed banks as something you would trust, a trusted financial institution.

With the financial crisis, people tended to view banks as something negative. Then on top of that, other tech companies had elevated consumer expectations around user experience. People have gotten more comfortable transacting online, so all these factors the consumer side generated a lot more interest in new emerging fintech products. Then on the founder investor side, you're right, historically prior to 2013 financial services investing in VC was only like 2% of all dollars allocated, even though financials is 20% of the economy.

For all the reasons we just discussed, it was hard to start companies and financials. There were no big success cases founders or investors could point to, until Square, Lending Club, Stripe, so these were companies that are founded towards the end of the 2000s, 2007, 8, 9 and by 2013-14, they were getting close to the point where they were now billion dollar companies. Now that you had all these other factors plus some unicorns in the fintech space, both founders and investors started looking at this as a big opportunity.

[0:09:08.2] JM: I'm hearing a lot of different things there that lead to opportunities in fintech. One of them that comes to mind is you've got this new relationship between consumers and computing, which is through the smartphone or just through improved user interfaces, the

computers that we interact with now are so much more faster. We have such a richer interactions. The interactions are better designed and the same interactions propagate to the enterprise, so we have this rich divergent set of applications that we're interacting with.

We find that money is increasingly almost an API, or a resource that we can interface with like memory or CPU. Money becomes something that is fundamental to how we want to interact with our applications, or the opportunities that can be created within our application. You take any application that developed 2008 to 2015, like Facebook, or QuickBooks, or Google Docs, or Slack, in all of these things you can find a multitude of opportunities for money. Then beyond that, there's also the unbundling of the banks, because people don't really trust the banks and probably the banks are doing far more than they should be doing from the point of view of like, what can you specialize in, like just as a core competency point of view.

Then you've also got opportunities which you didn't discuss yet, but I know we're going to go into, but things like machine learning as applied to loans. That's simply a new greenfield opportunity, because the machine learning APIs have gotten a lot better and loan risk assessment is simply a matter of data and calculation. There's a ton of opportunities here, so from the point of view of companies that are getting started, these fintech companies, give me a few examples of types of moats that you see fintech companies establishing.

[0:11:15.4] MW: The two biggest ones that I've seen revolve around integrations and data capture. Financial services historically, they built their information infrastructure around walled gardens. They were trying to protect consumer data from being hacked, or if they're on the institutional side, information is a differentiator when it comes to investing and within investment banking, you have to have walled gardens of data, where investment banking information shouldn't be passing to the sales trading side, because then you have insider trading issues.

The entire banking ecosystem was built around walling off data and protecting data and keeping it separate from different parts of the organization and from separate from external parties. The the data infrastructure of banks just does not interact well with modern technology companies. We've seen that with a lot of our startup companies that are trying to sell in the banks, or trying to access bank customer data, interfacing with bank IT systems is unbelievably painful, or selling enterprise software to banks is unbelievably painful.

Companies that are able to seamlessly build these integrations and interact with these legacy, IT systems of banks and interact with their data can have a huge competitive vendor. It takes a long time to get integrated with some of these banks, but then once you do, you have an unbelievable ability to sell them more products, upsell services and get into other parts of the organization. We've seen this with companies like Plaid, which they built their entire business around integrating with bank data, making it easier for startups to get integrated in the captured bank data.

Then data is another significant differentiator. One of the companies we're most excited about is a payments and credit related company, and they've convinced merchants that this is a VIP checkout solution. For us to provide this to more of your customers, you need to give us more of your data. They've actually done a deep integration with the merchants website, or app and they actually see down to the SKU level everything that consumers are doing in that app or on the merchant's website, whether or not they're actually buying that product. That's proven to be a significant differentiator for them in terms of underwriting those customers, accessing those customers.

Then in addition, there's a lot of other monetization opportunities around that data, like becoming a loyal team rewards platform for merchants, becoming a customer acquisition channel for merchants, because they're seeing actual purchase intent down to the SKU level and they're able to capture information from their mobile device. When you have significant data capture advantage, and we're seeing this with companies like Square as well. They've gotten the integrations with all these small businesses, which historically had a hard time integrating with the traditional payments ecosystem.

The same thing with Stripe; what they've solved for is how do you integrate startup companies, or small businesses with traditional financial services offerings? In doing that, companies like Square now have a significant data advantage, where they can offer other products like lending and like square cash.

[0:14:35.1] JM: A company can use a baseline compelling product to bring in people in a variety of ways. A company like Stripe can just bring in developers, because they provide a developer-

friendly payments API. A company like QuickBooks can bring in any person who's running a business and then they have a data set on that person who is running a business. I guess, in both of these cases you have data sets of people running businesses. Then once you have that data set, you can lever that data set to deliver more value to the customer, and also to build further products on that data.

What are some examples of this idea of roping in, I don't want to say roping in, but bringing in a set of customers? The customer generates data sets on the platform and you're able to leverage those data sets to build further products and further opportunities. What examples of this have you seen in fintech?

[0:15:40.0] MW: I think one of the best ones is Credit Karma, because the compelling simple product they built was a big problem for people in the US is if they have a low credit score, they can't get access to credit at all, or credit is very expensive. They built this very simple way for people to figure out what their credit score was without negatively impacting their credit score, and then to understand what are the factors that are going to improve my credit score, what are the things I can be doing to improve my credit score?

Then they're capturing all this information with intent as well, so they understand that these people are obviously looking for a loan. They're focused on their credit score and they're trying to improve their credit score. They're capturing all this ongoing basis on millions of consumers. As lending exploded as a startup ecosystem, they're all trying to acquire customers. Credit Karma has probably captured more the value chain around the lending ecosystem than many of the lenders are hundreds of lenders in aggregate, because they've become this lead gen and data channel for many of the other lending platforms of it, but they did that with this incredibly compelling simple product, which is people have a big problem around knowing what their credit score is, figuring out how to improve their credit score.

We have another company in our portfolio that's much earlier on that's doing this on the B2B to seaside, where they've built a labor management software for companies with a lot of hourly workers. Think of restaurants, or catering companies or other hospitality industries where you have a lot of hourly employees working at multiple locations. Scheduling them can be challenging both in terms of what location, what person, what time. They've built a platform for

the employer to – a web-based platform for them to very easily schedule and manage employees, capture information on those employees.

Then the employee has a mobile app where they're interfacing with their work calendar. They know where to go, when to go. They do time and attendance through the app. It's leveraging geolocation, but then there's a really interesting financial services product that this company now is now rolling out adjacent to this, which they call [inaudible 0:17:50.5]. It's addressing the problem of payday lending in the US is massive, and it's predatory. A lot of people need access to short-term credit and their only option is payday loans, because they don't have good credit.

What [inaudible 0:18:04.5] is doing is they have all this information on the workforce, people are interacting with their app to manage their schedule and then they're integrated with payroll with the with the employers, so they can see what somebody's accrued in wages. Then the employees in the app have this feature called [inaudible 0:18:24.5] where they can say, "I want to get paid now. I don't get paid for 15 days, but I need this money now." They're effectively selling accrued wages. They're buying the employee's accrued wages from the company. They're not taking the employees credit risk, they're not taking consumer credit risk which could be very risky. They're taking the employer's credit risk, which is super senior in the capital structure, very low risk.

They're effectively arbitraging the credit risk of the consumer for the credit risk of the employer to the benefit of the consumer and in their company and they're doing it through data and integrations. That's within our portfolio that's an interesting example of what you just talked about.

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[INTERVIEW CONTINUED]

[0:20:56.7] JM: Lending is a huge opportunity, agnostic of if we're talking about the customer, or a business, or perhaps a state. Everybody needs to borrow money at some period of time, and there are opportunities for financial technologies to emerge around lending. As an investor, what are the opportunities in technology companies around lending that are exciting to you and which ones are perhaps less exciting?

[0:21:29.4] MW: I'd break lending down into a couple core functions; one is underwriting and we're seeing innovation there as you alluded to around things like machine learning, but also alternative datasets applied to underwriting, non-traditional data sets. Funding is a critical and often underestimated component of lending that many startup companies don't fully understand when they're getting into a lending business. Marketplace lending is an example of innovation around funding source. Many years ago, securitization was the innovation around funding now marketplace lending, P2P lending, so sourcing capital from the masses is an innovation within lending that Lending Club executed on.

Then there's process automation. Historically, lending was very paper-driven processes from the origination side to the collection side which was both paper and also phone calls. We have a company cloud lending solutions, which is a cloud-based loan automation platform where from

origination to underwriting to servicing to collections, it's a fully digitized process that has modern APIs that can pull information from different data sources and a purely digital onboarding process.

Initially they were targeting fintech lenders, but now banks are responding to what's happening in the fintech lending ecosystem, and they need modern technology stack and cloud-based lending solutions. Then one of the more interesting ones from my perspective is really acquisition channel, innovation around higher requiring borrowers. One of the dirty secrets of a lot of the early fintech lenders like Lending Club, and no-fault to them, but the reality was they were generally speaking acquiring most of their borrowers through snail mail, or through Facebook and Google Ads, which is unbelievably competitive and expensive or through Credit Karma, which is why Credit Karma is a multi-billion dollar company.

It's most interesting to me because fundamentally I believe underwriting, you can improve it with machine learning and alternative data sets, but it's not going to be a step function improvement. Banks are actually pretty good at underwriting. Funding, there's no step function improvement in funding sources. P2P was useful, but it's not going to transform your cost of borrowing. Process automation helps, but where you can really move the needle is around your acquisition channel. A firm is doing this point-of-sale, so I think point-of-sale and other innovative acquisition strategies, like what our company now is doing, they're technically not lending their factoring, but it is effectively a lending business and they have a really innovative acquisition channel where it's effectively negative customer acquisition cost. Where you can have low or negative customer acquisition cost through technology, that's what's the most interesting to me with regard to lending innovation.

[0:24:27.5] JM: Define the term underwriting. You mentioned the term underwriting. Can you define what underwriting is?

[0:24:33.2] MW: It's really credit risk assessment. Yeah, so it's assessing the likelihood of default of that borrower and then if they are likely to default, how much money you're going to lose?

[0:24:44.2] JM: Banks are pretty good at that, you said.

[0:24:46.5] MW: Absolutely. You have the benefit of FICO scores, which is actually relatively effective for many types of borrowers. Banks have been using large data sets for underwriting for many, many years. They haven't necessarily been using machine learning, but the US is a very robust, mature, large lending ecosystem with a lot of data. Banks have been – leveraging that data for a long period of time and they're pretty good at underwriting for the most part.

A lot of the opportunities around alternative lending aren't because banks are bad underwriters, it's because in response to the financial crisis regulators and investors have put a lot of pressure on banks to exit certain parts of the market. Then on top of that, because they haven't digitized their process, they're operating costs to acquire borrowers and to underwrite loans, like actually going through the data is expensive for these banks, because they haven't digitized. Banks are good at underwriting. They just are choosing not to target certain types of borrowers, because they're too small, which is why SMB lending platforms have been able to raise a lot of money, companies like Kabbage.

They've chosen not to target a lot of those SMB borrowers, because their infrastructure and cost of underwriting those customers is too high relative to the returns they're going to make. They just choose not to underwrite those customers. Then subprime became a dirty word post-financial crisis. Subprime being borrowers below a certain FICO score. For a period of time leading up to the financial crisis, banks were all in on acquiring some prime exposure, whether it be consumer credit, unsecured consumer credit, credit card, mortgage, they were all onboard with acquiring this type of risk, because then they could securitize it, offload it, sell it, but then this caused many of them huge problems, caused many of them to go out of business effectively and regulators and investors started to say how much subprime exposure do you have? What is your exposure to subprime consumer credit?

The bank's response was to sell or exit their subprime portfolios. All of a sudden, and leading up to the crisis, they had acquired many of the big lenders in subprime. All of a sudden, the biggest lenders to this part of the market have decided to exit that market. There was a necessity for alternative lenders and fintech lenders to fill the gap, and that's why there was such a big opportunity in lending in 2012-2013, post-financial crisis.

[0:27:31.6] JM: It wasn't about – I've heard of these novel companies where for example, you install a program on your phone and it monitors the applications that you use and how you use them, and are you saving contacts for example? If somebody calls you and you save and then after they call you, you save a contact with their first name and their last name, that is actually a usually high sign of creditworthiness, because it says the you're organized, you keep track of who's communicating with you.

In podcasts that I've heard about this user assessment based on unconventional data sets, I've heard that it's quite high signal, but what I'm also hearing from you is that the FICO scoring is quite high signal as well, and I think FICO is mostly based on how often are you asking for a loan of a certain type, or how often are you trying to get a car loan, how often are you trying to get a mortgage, how often are you late on your credit card payment? Perhaps those signals are just as good, or they do at the \$80 that matters of scoring somebody. How do those traditional data sets, like the FICO scoring compare to more novel things like monitoring all your smartphone data?

[0:28:47.8] MW: I mean, the most important factor in FICO score is your past payment experience. Have you paid back on time loans that you've taken out? That's really the most predictive thing with regard to your likelihood of paying loans back in the future and paying them back on time. If you have a history of paying late and not paying, then there's no reason to believe that's going to change because of some other alternative data that they've captured on your phone. The FICO score is actually very good. The challenge with FICO is that there are certain areas where it doesn't necessarily capture all the important information, and a lot of times this is borrowers who are new to the market.

SoFi has been one of the more successful fintech lenders. They have focused on alternative data sets that actually do add value, which is like where'd you go to school? How are your grades? Those types of things. Or if you hadn't had a credit card before, it's not because you're a bad credit, or bad borrowers because you were too young. If you're going to a good school, you have good grades, you're probably a relatively safe borrower. If you start to factor those types of things into the score, in addition to the FICO score as a supplement, then you can start to identify people where maybe the traditional lenders that are focusing only on FICO, or mispricing that risk.

I think a lot of this stuff is really on the margin. The reality is banks have a lower cost of capital. That on the margin doesn't do enough to help you, unless it's a segment that the banks really aren't competing on. A lot of the successful fintech lenders, again have been in areas where the banks just are not as active, because ultimately cost to capital is a big factor in lending, so if you can borrow cheaper, then you can lend cheaper, all else equal. Banks have deposit funding, which is a huge competitive advantage. You're putting your money in a bank and you're earning nothing, or almost nothing, and then they can lend that money out. That's part of their cost of funding in addition to other sources.

Whereas a fintech lender, they're raising startup equity, which is very expensive, they're raising debt from lenders that are willing to take risk of a startup company, which they're going to charge you a lot more than a bank might be able to borrow at, and then they don't have deposit funding and they can't always access the securitization market. Scale and lending is important, cost of funding and lending is important. A lot of the things you're talking about, many of them don't really have much impact on underwriting. Some of them definitely do and machine learning over time might have a meaningful impact, but a lot of times it's not enough to offset that cost of funding advantage that a bank would have. Ultimately, you got to you got to innovate in other areas or you need to go where the bank isn't.

[0:31:36.2] JM: Customer acquisition you said is something that is interesting to you, and with regards to lending. If I have a differentiated way of offering a customer alone, so for example, QuickBooks, whenever I log in tells me that I qualify for a loan and I'm assuming that that is an example of a differentiated customer acquisition channel, but it seems like if I actually wanted a loan, wouldn't I just search out that loan? Why does it matter – why do you care about the customer acquisition side of loans?

[0:32:14.5] MW: Say you're searching out a loan, there are different lenders that target different profiles of borrower, and that have different underwriting techniques. They might be leveraging different alternative datasets. Each one of those lenders is going to look at you differently. You don't know necessarily how to get connected to the lender that's going to understand your profile the best and that wants to lend to somebody with your profile. If you're new to the credit

market, maybe you have a low FICO score because of that, but you went to a good school, you don't necessarily know as a consumer who's the right lender for me.

I think that's why something like what QuickBooks is doing if done correctly is interesting. One of the most interesting applications of this is our company in India. India doesn't have FICO. Unless you're a bank and you have a lot of data on your existing customer, there's really no easy way to underwrite a customer, but what our company simple has done, in India there's a billion people, but there's only a few million people that have a credit card. Part of that is this FICO issue, a whole bunch of other reasons, but what our company has done and they've convinced merchants that this is a VIP check out solution for their best customers. They offer an Amazon one-click checkout, but this is only available to those that are not too risky from a credit perspective and they tell the merchant, "If you want this to be made available to more of your customers, we need to have more data on your customers. Send us your list of your best customers," every merchant classifies customers in terms of deciles, or quartiles. They try to focus more attention in those top customers, so they can drive more value through them.

They've convinced merchants to let them integrate their SDK into their app, so they can see everything that those consumers are doing. They've also give them historical data on their customers and told them how they classify customers. In absence of having a FICO score, one good indicator might be somebody who is a good recurring customer of this firm, of this merchant, they might be a good way to test out the credit risk. Because they're doing it through a mobile device, they don't really have any customer acquisition cost, because they're leveraging the merchants customer base. Because they're not leveraging assisting payments infrastructure where they need to split the fees with Visa and banks and others, they're leveraging India's modern banking infrastructure that's low cost.

They can start with a very, very, very small loan leveraging this entirely different data set that you would have in the US and start with a \$5 loan without any underwriting. They're effectively not really underwriting at the point of origination. They're not saying, "Hey, you should apply for a loan." They're saying you're pre-approved based on data we're getting from the merchant, even though you don't even know who we are. You can buy this \$5 item online with this loan. You got to pay back the full balance. That's to me a really innovative technology-driven acquisition strategy around credit and payments.

[0:35:18.0] JM: From the point of view of an investor, what else makes India unique?

[0:35:23.9] MW: With regard to payments, the transition from cash to electronic is a massive opportunity globally. If you look at the public payments companies, like Visa and MasterCard, that's one of the big reasons they've been a straight line up for the last 10, 15 years or since they went public, is that you have this underlying secular trend of payments rides the economy, and then it has leverage on that as payments move from cash to electronic.

In the US, much of payments is electronic and Square captured a lot of the residual cash payments by providing an on-ramp for smaller merchants. China has moved very quickly from cash to electronic and that's why companies like Alipay and Tencent's WeChat had become worth tens or hundreds of billions of dollars, just the financial services companies alone. In India, it's still 90% cash. Even in e-commerce, 70% cash. This will be a trillion dollar digital payments market in just a few years, and that opportunity is still up for grabs. That's why we've made this bet in India, in a few years we're hoping our company and there will be one or two companies like this that can become the equivalent of a Visa, or MasterCard, or Amex of India processing hundreds of billions of dollars of payments.

[0:36:51.1] JM: China has the most thorough use of electronic consumer payments of any developed country, as far as I know. You can correct me if I'm wrong, but describe the payment ecosystem in China as you understand it.

[0:37:06.0] MW: Yeah, so we did a trip to China last year; me and my partner. One of the things that first caught our attention is we wanted to set up meetings with some VCs, some fintech companies and other people in China and you didn't really do that through e-mail, or through the phone, you did it through WeChat. Every single interaction was through WeChat and even with institutional brokerage firms where they're not comfortable using chat for compliance reasons, in China you have no other option. You have to use that.

WeChat is so pervasive in China as a communication platform as something that just has been so broadly adopted, and they have such a dominant footprint across other industries that once they develop the solution for applying this to payments, it became pervasive almost at the point

where you can't pay without WeChat in a lot of locations. It's pretty remarkable how easy it was, how much the merchants pushed. WeChat is a payment solution and how quickly it was – that entire economy, especially in urban areas moved from cash to digital.

I think it has a lot to do with – I think China tends to pick winners and they also pick areas of the economy that they want to push on. It's clear that consumer lending was an area they wanted to push on and digital payments was an area they wanted to push on. It seems like Alibaba Tencent had been chosen as winners. For that reason, they had such a dominant footprint in communications and there was a regulatory tailwind for this to happen. I think that's a big part of the reason why it happened so quickly and it's so pervasive.

[0:38:52.1] JM: Let's take a hard turn. It's summer 2018, what is your current outlook on how cryptocurrencies will affect your investment strategy as a fintech venture capital firm?

[0:39:06.6] MW: I'm extremely excited about the developments in the ecosystem, although cautiously so. The reason I'm excited is back when we first launched the fund when it was really more about Bitcoin than crypto, Bitcoin was really about payments and we have a lot of payments expertise in our team. One of my partners is the former CEO of Visa. One of them was on the Square founding team, so we really understand payments.

When we looked at Bitcoin as applied to payments, it was clear that there was not a lot of legs there, at least in the shorter-medium term. There was just a whole bunch of reasons why it did not make sense as a payments platform. I think the early years of the fund, we weren't doing a lot in what's now crypto. Back then, it was just Bitcoin. Now it's become a lot more interesting to me because two things have happened; one, it's clear that crypto is now an asset class. It's not a payment solution. It's really an asset class, an alternative asset class. That's created tons of really interesting businesses and will continue to create interesting businesses whether it be wealth management, or trading, or just investment platform. That's become very, very interesting.

Then second is becoming really a new developer platform. You had web and mobile and now you have blockchain as a platform. The financial services ecosystem is only just starting to move to cloud. CRM and Salesforce deployed these cloud solution 10, 15, 20 years ago,

whatever it is now, but I talked about our company cloud lending solutions, which is built like a cloud-based lending platform. Banks are just finally starting to deploy things that other industries employed a long period – a long time ago.

When you think about this is a developer platform or a new operating platform, then it creates just a whole another channel of opportunities within the fintech ecosystem, plus the fact that it's an entirely new asset class. Now I'm extremely excited and fintech is interesting enough with all the other things that are happening around mobile payments and alternative lending and predictive applications and leveraging data within financial services. Now you layer on this new asset class and this new operating platform and it just creates a whole host of other opportunities that are going to extend this this fintech opportunity into the decades.

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[0:41:38.4] JM: Raygun provides full stack, error, crash and performance monitoring for tech teams. Whether you're a software engineer looking to diagnose and resolve issues with greater speed and accuracy, or you're a product manager drowning in bug reports, or you're just concerned you're losing customers to poor quality online experiences, Raygun can provide you with the answers.

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[INTERVIEW CONTINUED]

[0:42:42.5] JM: We connected first in in the midst of this ICO, or I guess it was in the fallout of the post ICO ICO-up insanity. What was your emotional and I guess, intellectual trajectory along

that crazy whatever, six to eight month period? I guess, it was maybe October of last year to what, March of this year, something along those timelines?

[0:43:17.6] MW: It's hard not to be pulled in by the FOMO and the hindsight and the enthusiasm, but you can't really do that as a venture investor. I try to just step back and say – clearly, there's something happening here that we need to be paying a lot of attention to. Really during that time, rather than worry about the FOMO, or all this other stuff and that's really when I started to just dig really deeply into the space and that's why I got introduced to your podcast and started listening a lot of the podcasts. We wrote a lot about this in our investor letter, and the way we positioned it is I come from a hedge fund background and I was a huge fan of Warren Buffett.

One of his quotes he uses all the time is price is what you pay, value is what you get. I've started a look at this ecosystem from that lens. The price piece basically went insane during that 12-month period, where all of a sudden it's worth – the whole ecosystem is worth almost a trillion dollars, one day it's worth ten billion, tens of billions another day and now it's back to a couple hundred billion.

You got to look through the price and focus on the value piece, value is what you get. There's both future value and current value. As you dig deeper, the current value is not very significant in terms of what blockchain and cryptocurrency is doing other than the asset, the new asset class piece, and things the cryptokitties. There's some real-life applications today. Companies like Coinbase capitalizing on the biggest one, but beyond that the whole decentralized applications and other financial services really than applications and payments, that's just not there.

I've become a bigger believer that some point in the future, that value is there. Today, the value is just not there. From an investment perspective, you're always trying to find these points where price and value are intersecting and this is substantially more upside in terms of price relative to where the value is today and in the future. That's what I've tried to focus on. What are the big opportunities that could be massive companies that we can get in at a price that it isn't absolutely insane, that isn't factoring everything in right?

Actually, the way I like to think about this and I think given that Bitcoin is viewed as digital gold, it's an interesting analogy. There's this thing in gold mining stock investment that they called the [inaudible 0:45:52.9] curve. It's the life cycle of the price of a gold exploration mining company, and you have the prospecting in exploration phase, you have the development phase and the production phase. I think the time we got connected was really the – akin to the development and exploration phase.

For these gold mining stocks, they're out there looking anywhere in the world to find gold thousands of feet under the ground. When they find something, the stock of these companies would go from \$1 to \$25 and multi-hundred million dollars. There would be all this enthusiasm about how big this discovery could be and how transformational it would be and how big a company this is going to be. Then you get into the development phase and investors realize, “Oh, man. We need to raise a ton of money to get this gold out of the ground. We need to build in all these infrastructure. We need to bring in mining equipment, we need to get regulatory approvals, licenses.” The stock rolls over and trades down 30%, 40%, 50%, 70%, 80%, 90% as reality sets in and you realize how much work needs to be done before you can actually get the gold out of the ground and then it plateaus for a while, until you get into the production phase when all the infrastructure is actually in place and the company can actually start getting value out of the ground and monetizing it.

I think Bitcoin's digital gold, but I think this in the life cycle, the [inaudible 0:47:21.8] curve, the life cycle, the junior mining stock actually applies very well to what's happening in crypto and that we've just gotten through the exploration phase, and we're now in the development phase. Reality has to set in. It doesn't mean some of these crypto assets won't be good investments from here long-term. It's hard to make any assessment on anyone in particular, but I think generally speaking some amount of reality has to set in. As you go through this development phase where a lot of infrastructure just isn't there for things like decentralized applications and robust financial services applications.

It probably eventually gets there, but reality has to set in and infrastructure has to get built and there's – that's a period where it's hard to continue to be irrationally exuberant around what these things are going to be worth. I think there should be some more skepticism and rationality

around valuations. Then eventually as you get in the development phase, you could surpass the price of where things were during that original excitement, but it can take a long period of time.

[0:48:25.4] JM: Even the framing of this is similar to the gold stock company exploration to mining, etc., framing of it, I think is very generous to these ICO companies. You heard some of these ones that I interviewed, because really what all they were selling was a story, and it was a story that was spun off of the realities that Bitcoin has promised, which is we're going to decentralize money. Then the Ethereum, the Ethereum continuation of that sort, we're going to decentralize AWS, we're going to decentralize Facebook. These ICO companies just took that story and ran with it to the greatest extrapolation that they possibly could, and they were able to sell that story, because it wasn't like – as far as I could tell, it was not easy to disprove that story.

I mean, I had to look at the space with a magnifying glass to actually understand how much truth is it to what they are saying, because if you look at what the Ethereum speck provides, it's not like there's anything that's like, "Well, this is not going to work." It's like you look at it and like, this is – this could work. I could see how this could work. Yeah, if you take this to its logical conclusions like, sure, you could decentralized AWS, you could decentralize Facebook. Why not? Yeah, if you squint, it makes sense that you should have an ICO right now. Yeah, why not?

As you scrutinize it further, it's actually this is pretty crazy. The infrastructure is not there. I didn't know anything about the internet in 1999, but as far as I understand it's very much like the web vans of the day where yes, you can build a grocery delivery service and yes, you can deliver a single banana to somebody's doorstep and give them a good deal on that single banana and take a massive loss and say, "Yeah, eventually we're going to get the unit economics worked out." Just as Webvan was so far from reality back in the day, these ICO companies were so far from reality five months ago.

[0:50:43.9] MW: Well, again I think the gold mining company analogy is still a good one here, because the way a lot of people define a gold explorer is a liar standing above a hole in the ground. I couldn't agree more. I mean, and if you look at the one pure-play blockchain related investment we've made, we have a couple other tangential ones where there's other parts to their business and a crypto-related play, but we backed this company because they weren't

doing an ICO, even though they easily could have raised tens or hundreds of millions of dollars and they weren't selling all the things that you could potentially do in the future.

I mean, they were talking about that, but they were really talking about applications that made sense today. It's a company called Dharma Labs that still, they acknowledge all the challenges with the ecosystem today. They're building the protocol layer for debt issuance on blockchain. The way they describe it is blockchain is eating one asset class at a time with equity being a first one. One of the most obvious applications of crypto that has proven to be market ready is equity fundraising, ICOs.

Whether or not these end up being good investments for a lot of people, it's proven to be a successful application of blockchain, and the same applies to debt. It makes even more sense for debt, because smart contracts within debt securities make a ton of sense, but they're not going out there saying we're going to be lending cash using the blockchain. They're targeting use cases that make sense today, where people might want to lend margin finance their crypto investments, or they might want to short sale some crypto asset, or they might want to do some type of peer to peer lending where they're lending actually crypto assets.

They're very rational about what can they do today with this technology with a view towards if a lot of this infrastructure is built in five or ten years, then we're going to be a major player in all debt issuance on blockchain. Today, we got to go after the use cases, it actually makes sense today.

[0:52:51.0] JM: All right. Now we're going to wrap-up. I wanted to ask you one more question. We have done all these shows on different fintech companies. You have a lot of experience in different areas of finance beyond just fintech. Can you tell me what's your personal investment thesis today? What is your personal portfolio balance? You don't have to get super detailed, but just tell me how you think about investing in today's markets personally, not from the point of the VC firm.

[0:53:22.5] MW: Of course. I used to be a partner at a hedge fund. I love digging into stocks. Unfortunately, I don't have a ton of time to do it. If you look at my public securities portfolio is ridiculously concentrated. I have three positions that make up more than 60% of my portfolio

and it's partly because I don't have the time to dig into companies, and it's probably because it's hard to find very high conviction investments. When I do, I'd rather just put most of my investments in that one company.

I think diversification makes sense for most people, but if you can really dig into stocks I think having a lot of your money into your most highest conviction bets makes a lot of sense. I have a decent amount of money in public securities, but incredibly concentrated in ideas that I think are incredibly compelling without even doing a lot of work on them. It just seems they're obvious investments that I can buy and hold for a long period of time and don't really need to think about it. That's my public securities portfolio.

I do own some amount of crypto, but it's a small percentage of my portfolio. I own a little bit of Ethereum and a little bit of Bitcoin. I think over time, given that I have a hedge fund background, one of the things that really intrigues me is what happens when there's a major, major sell-off? Some of these utility tokens and some of these companies that have ICOs, there is some value there. When they trade from 2 billion market cap, to 50 million market cap, or 10 million market cap, which is entirely possible given the illiquidity of some of these things that I think I eventually I'd love to do some of that personally. Then I have a lot of exposure to fintech through the fund. I've allocated to one of my friend's VC funds, because I have a lot of respect for him, but that's my portfolio broadly speaking.

[0:55:06.0] JM: Okay. Well Michael, it's been great talking to you, it's been great getting to know you, and I'm excited to talk to you in the future about how else things are changing in the world of fintech.

[0:55:15.6] MW: Thank you so much for having me in the program. I really enjoyed it.

[END OF INTERVIEW]

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