

## Consumer Finance Monitor (Season 4, Episode 28): Part II of Our Discussion with Special Guest Thomas Vartanian, Author of the Recently-Published Book, “200 Years of American Financial Panics: Crashes, Recessions, Depressions, And the Technology That Will Change It All”

Speakers: Alan Kaplinsky, and Tom Vartanian

Alan Kaplinsky:

Welcome to the Consumer Finance Monitor Podcast, where we explore important new developments in the world of consumer finance and explain to you what the implications are for consumers, and the industry, and policy makers. Last week, we began or I began an interview with my special guest, Thomas Vartanian, or I will call him throughout the interview Tom, who has just authored a... just a very thought-provoking book about where he thinks things are headed in the future for this country.

Alan Kaplinsky:

The title of the book is 200 Years of American Financial Panics: Crashes, Recessions, Depressions, and the Technology that Will Change it All. Well, among other things, I will ask Tom when he thinks the next downturn is going to happen and what he thinks the cause of it will be. If you haven't already ordered the book, I would urge you to do so. It's available on Amazon, and it's really a page-turner. If you have an interest in how economics, and how technology, and how the law interacts with one another, and the impact that all of that has on the health, financial health of our country and of the banking system. So today, we're really going to focus on technology largely.

Alan Kaplinsky:

Let's turn to another major theme of your book, Tom, and that is technology and the impact that it's had on the banking system already, where you think things are headed. You talk about, in particular, that technology is a double-edged sword. There are tremendous benefits that result from technology, but yet, there are a lot of hazards created by technology. I'd like to find out where you stand on that.

Thomas Vartanian:

Yeah. So the last third of my book is devoted to technology because I've always been involved in financial technology. When I was at the OCC in 1977, we issued what I thought at that point was the seminal decision and opinion on financial technology for financial institutions, and it was the opinion that authorized national banks to deploy ATMs nationwide, Automated Teller Machines. We thought that was the height of technological advancement in that point. In the 1990s, as you indicated in my introduction, I worked as the cyberspace committee chairman. I traveled around the world. I saw the Mondex experiment in Swindon. I went down to Orlando to see Northrop Grumman work on its digital signature technology and its FBI fingerprinting technologies, and I got a really good dose of technology over my career.

Thomas Vartanian:

Then, in the 1990s, 2000s, worked on putting a lot of financial institutions online with some of the first online banking facilities, some of the first joint ventures with technology companies, and what I realized through that process is everybody, and you can see it today, everybody runs to innovation, right, because the reward, the market rewards innovation. So everybody runs towards technological innovation, and what we're leaving behind is security, right, because security is not getting the punishment in the same return ratio that innovation is getting in terms of reward. I saw this with financial institutions in the 30 years I was doing a lot of technology work. It was a real learning curve for them because when they first started going on the internet and creating sites and online banking, I think that they were extraordinarily naive about what the internet and cyberspace looked like. They were extraordinarily reliant on third-party vendors and supply chains that they knew very little about, and it's taken a long time for them to figure out where we are in cyberspace and what that means for financial technology.

Thomas Vartanian:

Where the book has driven me, frankly, is to write a second book, which the working title of which is *Cyber Panic*. What I envisioned here starts with the phenomena I think that the internet is broken. Right? Think about it. What we have built since 1994, 1995 is a system that is pretty insecure, right? Pretty susceptible to being taken down by any nation, state any day and anything they want, the power grid, water, financial services. What we do is instead of fixing it, we're creating vulnerabilities faster than we're creating solutions. So at the end of the day, you ask yourself, "Wait a minute. Why are we continuing to pile every ounce of financial data and every piece of financial value onto a network that we cannot guarantee the security of?"

Thomas Vartanian:

So I think there's two problems here. Number one, I think the regulators are backing off when they should be stepping out. There's a report that came out today by the European Banking Authority, which I thought was interesting, where there's a one sentence in it. It's interesting because they talk about how financial institutions and tech providers approach technology, and they don't talk about how financial regulators should approach technology, number one. Number two, I think there's continuing to be this sense of, "Innovation is great. Technology is inevitable. We should all be running towards it," because there's a sentence in the report by the European Banking Authority that says that the European regulators are technology-neutral.

Thomas Vartanian:

Well, they shouldn't be technology-neutral. This is an environment. This is a cyberspace that can be cataclysmically dangerous to everybody unless we get it right. So far, I think we're not getting it right, and that's what scares me because the Clinton administration identified all of the problems in cyberspace, all of the insecurities, and they began to identify the critical infrastructures that had to be protected. Very little has happened since 1996 when the Clinton administration got it all down on paper in a few executive orders.

Thomas Vartanian:

So there's an interesting book I would recommend to all your listeners, and it's by Shoshana Zuboff. It's *The Age of Surveillance Capitalism*. Shoshana is a former Harvard professor and does a terrific job at describing the threats of the major technology companies. In particular, she goes after Google and Facebook, and also the networks that we're establishing. What she says there is very true. She says the markets reward innovation. They don't punish insecurity, which I think is absolutely true. Number two, there's a sense of inevitability about technology that no one really questions the way they should. When Google comes out, Alan, and takes a picture of your house, and post this on Google Earth, did they ask you if you could do that? Do they have the right to take that picture of your house and put it up? It's like everything else in technology, it just happens, and then we think about the legal issues and the ramifications later.

Thomas Vartanian:

The fact of the matter is, is that technology is a two-edged sword. I go back to Madame Curie, right? She created radiation, which ended up creating one of the most important machines to help human human civilization since, and that is the x-ray

machine, right? But she was also the beginning of the atom bomb, right? So technology can be used in one of two ways, and we're seeing that every day in terms of solar winds, in terms of colonial pipeline, in terms of JBS meat packers. We have to understand that the benefits are offset often by the extraordinarily damaging things that can be done. Unless we start dealing with that and from the financial point of view, unless the regulators start incorporating technology and artificial intelligence into what they're doing so that they can be at the top of the market, not on the bottom of the market looking back, I think we're heading to a place that is very dangerous only because we don't know the rules, we're not in control, and frankly, we're walking into a world where we may not be the leaders.

Alan Kaplinsky:

Yeah. So you say the internet is broken, and I completely agree with you and understand your point of view. If you had the ability to start a new internet that would be safe and secure, and wouldn't have all these vulnerabilities that keep us up at night, how would you do it?

Thomas Vartanian:

Yeah. It's a question I've asked myself, and that's the focus of my next book because I asked myself the following question. If we knew in 1994 what we know today, would we have built out the internet in the way we have and built out cyberspace the way we have, loading every piece of data in the universe on it and every ounce of financial value into it? I don't think we would have. I don't think we would have done that because I think if the financial institutions of the world knew we were going, they would have said, "Well, wait a minute. Up until 1994, when Stanford Federal Credit Union in California put up the first online banking website in this country, 1994, everything a financial institution did up until that point was on a proprietary network." Right? Everything was all closed proprietary networks, and so the question becomes, "If we wouldn't have done what we've done, what should have we done?"

Thomas Vartanian:

I think what we should do today and what we should have done back in 1995, in 1994 is we should have established the goals and looked at the future and said, "Where are we going?" because what happened is an internet... and put aside DARPA and all of the military uses of the internet where it started. The internet, once it became a common commodity for the retail universe, right, it was not considered a secure, functioning way of transmitting value of information. It was used for games. It was web cams. It was games. It was all kinds of stuff. All of a sudden, it morphed into the repository of all the financial value on the planet without really thinking through the rules of engagement and the security of the process.

Thomas Vartanian:

So what I would do today... In fact, not tomorrow. I'd do it today, and as I've been saying to anybody who will listen to me is I would start rethinking cyberspace. I'd rethink the internet, and maybe it's time to set up another internet. It should be a permissioned internet where have to get a license to travel on that highway. If you violate the rules of that license, the only part of the license that you have to give the government is a kill switch that kills your ability to be on that network. I'm sure that all of the people who would say there's nothing we can't do with technology couldn't approach a new internet, a new cyberspace from this point of view.

Alan Kaplinsky:

But it requires, doesn't it, an international solution? In other words, this isn't something that the United States can deal with alone, and so you've got a deal with Russia, and China, and all these countries that are using the internet to harm us. How are you going to get them all on board?

Thomas Vartanian:

Russia and China are never going to go along, and they're never going to go along because if you get deeply enough into cybersecurity and what's going on, you realize they're winning the game, right, because they cannot beat us economically and

they can't at least for a moment. They can't beat us economically. They can't beat us militarily. But in the world of cyberspace, everybody starts anew with new pieces on the game board, right? Russia, China, Iran, North Korea, they have disproportional power in cyberspace they don't have in the real world. So they're never going to give up that power, and they're always going to use it to our detriment in the future.

Thomas Vartanian:

That's what's so really dangerous about this because when China says, "By 2030, we're going to have the largest economy in the world, and by 2030, we are going to be dominant in artificial intelligence and quantum computing," those three things right there are so dangerous, and they're only what? Nine years away in terms of what China is predicting. So dangerous to us in the future of democracy, in the future of the geopolitical balance. It's hard to even evaluate it, and so I don't think those countries are ever going come along.

Thomas Vartanian:

What I would say is while the United States is the lead military and economic power in the world, which it is today, and I'm not sure how much longer it will be. Right? But while it is, it needs to take the lead among civilized countries or in the world, industrialized countries and say, "We are going to do this." Whether it's 10 countries or 20 countries that come along, that's what... the United States has got to take the lead to do that and create this new infrastructure and this new cyberspace because if we don't do that and we lose our place in the world in terms of the leading economic power, or the dollar no longer is the global reserve currency around the world, or we lose our edge in artificial intelligence or quantum computing, we're not going to have the platform to be able to do it.

Thomas Vartanian:

So now is the time to be able to forge that group of countries towards that effort and get it done. I'm absolutely sure that if that happened, the rest of the countries in the world, they have to play our game or invent a different one. But the fact of the matter is if we have a highway that we can get on that we know is safe, right, that's the place where you want to be putting data and value, not a cyberspace that is insecure and frankly, getting insecure by the day.

Alan Kaplinsky:

Yeah, yeah. So the next question I'm about to ask you, I think we may have anticipated your answer. What's going to be the next financial depression, recession, panic, and when is it going to happen?

Thomas Vartanian:

Yeah. So Nomura Bank put out an analysis. I think it was last week. Sometime in June 21st. Something around there. Nomura put out an analysis that said that in the next 12 quarters, there are five or six countries most likely to have a financial crisis. At the top of the list was United States and United Kingdom. I agree with that. I don't know if it's the next 12 quarters or the next 120 quarters, but I can see it coming from looking at everything I've looked at over the last 200 years. Why is that?

Thomas Vartanian:

Well, so guys, we've got a few things going on. Number one, because of the amount of dollars that have been thrown into the economy over the last several years, particularly for COVID, we are building an enormous bubble in a lot of different places from real estate to corporate debt leverage. There's an enormous bubble brewing, and you can see it. It's the same sort of bubble that's grown in each of the other 10 financial crisis that have occurred. So that's number one. When I come back, I want to go through a few factors making up this bubble because I think you'll be shocked by some of these things.

Thomas Vartanian:

Number two, I think we've got as much political and congressional intervention in the economy coming in today as we've ever had, and that's likely going to distort markets even more. So number three, we are underestimating the pernicious side of

technology, and I think it's going to bite us at some point because I can see a 50% chance of the next financial crisis being caused by technology either malicious or something else. But unless we take control of that, I think we're going to have a big problem.

Thomas Vartanian:

So let me come back and just briefly talk about these financial events that are concerning me. So we've got what? \$6, \$8 trillion of COVID aid that we've put out there. The Fed's balance sheet is now at \$8 trillion. In 2007, before the 2008 crisis, the Fed's balance sheet had assets of \$800 billion. So it's at \$8 trillion now, right? 25% of all the dollars that we have in the economy today were created in the last year, 25%. We've got corporate debt now at 50% of the US economy and household debt at \$14.6 trillion, which is the highest in the last 15 years. Inflation is now going up. We've got a 5% CPI factor. Inflation year to date up 4.3%. The federal deficit now more than 100% of GDP. Those are enormously, enormously troubling numbers in terms of the creation of a financial bubble, and lay on top of that two factors that have a qualitative impact on all of that.

Thomas Vartanian:

Number one is technology and China. Number two is the fact that markets have become used to and conditioned to the reality of the government bailing out the markets in a financial crisis. So in the last three financial crises, the government has bailed out the markets, and there's an interesting book called *The Rise of Carry* by three economists that is basically arguing that now financial markets expect to bailout, which is causing them to even take more risks because there's no downside to taking that risk.

Thomas Vartanian:

So those are the kinds of things I think are building. I see them very clearly through the prism that I've gained through doing all this research, but the one thing I say in the book, which I think I would say here is no one ever sees the crisis on the way up. It's that rollercoaster heading up that hill, right? No one ever sees it. All they see is the money they're making, and the opportunities that are being created, and the more homes that are being built, and the more businesses that are being started.

Thomas Vartanian:

They never see the bubble for what it is because a bubble to one person is a financial gain to another, and there always is some anticipated event that causes that bubble to stop and explode. That then ignites all of the other financial IEDs in the marketplace, and they link together and explode. So you never know when you're going to have that triggering effect. In 2008, it was subprime mortgages that triggered the effect, but we're getting there, and I agree with Nomura that we're building a bubble that is going to bust at some point in the future. It's going to be the detriment mostly of consumers.

Alan Kaplinsky:

Yeah. What about the one thing we haven't mentioned in our discussion of these various issues, Tom, is what do you think the future of cryptocurrency is, and how does that fit in to this mosaic?

Thomas Vartanian:

Yeah. So when I was starting my research on a financial crisis, I actually went back to the 17th century and read about the tulip bulb scandal. Right? The tulip bulb scandal is a wonderful story. I guess a pretty sad story of somehow some sort of value is attributed to tulip bulbs in Holland, and tulip bulbs were selling upwards of what people were making for their annual salaries. It was a remarkable, remarkable run towards something that had relatively little intrinsic value. In 1973, the dollar was the link from gold, right? So the dollar is not linked to anything, and you often hear people say, "Well, what's the difference between Bitcoin and the dollar because the dollar is not linked to anything of any value?" Well, the dollar has one thing going for it that Bitcoin and cryptos don't have, and that is it's got the full faith and credit of the United States standing behind it. As long as that's the strongest economy in the world, I'm going to go with the dollar.

Thomas Vartanian:

So the question then becomes, what is cryptocurrency? It's something that has no intuitive value, except with people hope it will be. Right? Whether that has value and whether it has staying power, you can debate. I think that history is replete with the failure of mechanisms that transmit value, but at the end of the day, don't have a third party in the transaction, and that is government backing. Right? So I think that it's got its challenges, but at the other end of the spectrum, it's the rollercoaster going up. People are making money, and they say, "How could this be bad?"

Thomas Vartanian:

I think the value of crypto is not in cryptocurrency. I'm not sure cryptocurrency will be here forever. I mean, I was involved with Mondex and DigiCash back in the 1990s, and they're nowhere to be found. Right? I think what the value of crypto is, frankly, the value of crypto is in effect the reliance on blockchain, which is the creation of new networks. Right? So if you're a financial institution's executive or you're a consumer, right, when I look at crypto, I don't see whatever it is in terms of value because I can't use it to go to the store and buy groceries. Right? Nobody is going to take a Bitcoin that's going to be worth X dollars in the morning and Y dollars in the afternoon for groceries.

Thomas Vartanian:

What I do see both as a consumer and as an a financial expert is I see the building of brand new networks that have the ability to transform the way financial services is created and delivered. Just as one example, in a blockchain-based cryptocurrency, how do you transfer? How do you create? It's all peer-validated. Right? It's peer-to-peer validation system. Everybody on the system validates what's going on at any particular step through the algorithms that they're running. There is no trusted financial intermediary in the middle, and that is diametrically different and opposed to the system we have today in financial services where we have a hub and spoke system. In the hub are financial services companies who are the trusted intermediaries that are moving data and moving money for a fee and have a role to play both in terms of the trust in the system and the financial gain that they get out of being in that system.

Thomas Vartanian:

A blockchain-enabled system doesn't have those trusted intermediaries in the middle. That means you're taking financial institutions out of the movement of money. You're telling them they can't make money from moving money, and that's an incredibly new system and an incredible change in the way that we've done business for the last 200 years. I think that is going to have an impact on the way that we move data, the way that we transact deals, and the way that we move money, and I'm not sure... So I think that's the important focus. I don't focus on crypto as much as I focus on the networks that are being created on their impact on the consumer and financial services industry.

Alan Kaplinsky:

I guess more difficult to hack. Would you agree? I'm not aware of any major event that's occurred involving blockchain.

Thomas Vartanian:

Yeah. They're more difficult to hack, but I guess on the other end of the spectrum, probably more susceptible towards the kinds of things that can undercut credibility because there's no trust by a government and there's no backing by a central government. But let me talk about the hacking feature since you bring it up because I think that's an important factor in terms of determining where we're going in the future. So let's say that as the people who are the sponsors of blockchain say that this is a system that is more secure and this is a system we can run on an insecure network like the internet to make our transactions more secure.

Thomas Vartanian:

Well, the problem with that is when you're dealing with zeros and ones, insecurity is just a matter of mathematics. Right? If I have enough computing power and I have enough algorithms, I'm going to break everything because it's just zeros and ones,

and arithmetic. That dynamic is going to be changed dramatically by, let's just say, quantum computing. Let's talk about that for a second. Quantum computing will change all the dynamics that we are now dealing with, and what I mean by that is everything we do online in cyberspace is protected essentially by digital signatures and encryption. Right?

Thomas Vartanian:

Let's just take the standard encryption that's used today, which is RSA-2048 bit encryption. Just to give you an example, I think when I started doing this in the 1990s, it was 56 bit. So we're up to 2048 bit encryption, which is a really long hash feature to encrypt material. The standard supercomputer today trying to do a brute force attack to break RSA-2048 bit encryption could take upwards of 300 trillion years to break it. So that's pretty good security. Right?

Alan Kaplinsky:

Yes.

Thomas Vartanian:

Pretty reliable security. A quantum computer of the future, and is the future the next 10 years, the next 30? There's debates about that, but a quantum computer of the future using a generous amount of qubits, which is the standard way that they operate, could break that same 2048 RSA bit encryption in 30 seconds. So what does that say about all the security we're using today? Right? What tells me is two things. Number one, we better be thinking about a quantum-proof set of security features today. Number two, and this is probably more important, the good guys got to get quantum computing first because if the bad guys get quantum computing, the world is at risk.

Alan Kaplinsky:

Yeah, yeah. Okay. Tom, we've come to the end of our show, but let me, before we sign off, just ask you whether there's any final remarks that you want to make about anything we've covered today or didn't cover, and in particular, your book, which I will give one additional plug to before we sign off. Is there anything you'd like to add?

Thomas Vartanian:

Yeah. So if anybody wants to see anything more about the book, they can go to [thomasvartanian.com](http://thomasvartanian.com). I've got a website on it. I hope you like it, and I hope you'll put it in a review on Amazon because it's very important for that kind of feedback. But let me just say this in summary of all the things we've talked about now, and your questions have been just fabulous in terms of ferreting out the kinds of things that I've been thinking about for the last 40 years, but particularly in the last three years in writing this book.

Thomas Vartanian:

I think what I say in conclusion is this is we have the capacity to be the smartest financial regulators in the world. We have the capacity to build a system that both provides consumers with the most innovative products and the best protection. We are not reaching and fulfilling our goals in that regard, and we're not fulfilling them for a lot of reasons. They include having too many regulators, too much bureaucracy, not enough direction, too much politics in economics, and not enough technology driving the kinds of data and the kinds of information that our regulators could have.

Thomas Vartanian:

So, yes. Could we have the best system in the world? Absolutely. Could we have a system that prevents financial crisis in the future? I think we could. I think financial crisis is a part of every ebb and flow of an economy, but the problem is, and I don't think anybody would debate this, since the Great Depression, our financial crises are getting worse, not better. In 1913, the Fed was established. The president went on a podium as most of the congressmen who were involved in the creation of the Fed and said, "From this point on, the United States of America will never have another financial crisis because of the establishment of the Federal Reserve Board."

Thomas Vartanian:

Well, that sure hasn't happened. In fact, what's happened is the crises have gotten worse, and intervention by Congress has now been supplemented by intervention by the Fed. Sometimes the Fed gets it right and sometimes the Fed gets it wrong as history suggests. We haven't built a safer and soundly system doing what we're doing. So I would suggest we ought to think about doing something different because at the end of the day, the final bill gets handed off to the consumers. Right? The consumer has to pay for all of this. As a consumer, I would say to Congress, "I've had enough of a system that charges me more for my loans that I need to pay, that pays me less interest on my deposits than I should be getting, and is getting me less return on my investments because of the amount of regulation in the system that is ineffective. Let's get a system that is more effective."

Alan Kaplinsky:

Okay. Well, Tom, thank you again. I want to thank all our listeners today and again, remind them to make sure that they buy your book, *200 Years of American Financial Panics: Crashes, Recessions, Depressions, and the Technology that Will Change it All*, written by our guest today, Tom Vartanian. Available on Amazon. It is an extremely important book for, I'm sure, most of you that listened to our program today. Okay. We're at the end of our program, and I want to, again, thank everybody for being part of it.