

## BCG Center for Macroeconomics

# The Power Law: A Conversation with Sebastian Mallaby and Howard Morgan

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Sebastian Mallaby is the Paul A. Volcker senior fellow for international economics at the Council on Foreign Relations (CFR). An experienced journalist and public speaker, Mallaby contributes to a variety of publications, including Foreign Affairs, the Atlantic, The Washington Post, and the Financial Times, where he spent two years as a contributing editor. He is the author of five books, most recently *The Power Law: Venture Capital and the Making of the New Future*. Mallaby's interests cover a wide variety of domestic and international issues, including central banks, financial markets, the implications of the rise of newly emerging powers, and the intersection of economics and international relations.

Howard Morgan is currently the Chair and General Partner of B Capital. He co-founded First Round Capital with Josh Kopelman as the first professional Seed Stage Fund, where he remains Senior Advisor. Prior to First Round, Howard helped found Idealab with Bill Gross, and served as President of Renaissance Technologies, which he co-founded with Jim Simons. Prior to his move into the business of technology, Howard served as a professor at the Wharton School and the Moore School, both at the University of Pennsylvania, as well as at Cornell University. He is also an Executive Fellow at UC Berkeley.

In a live event with Philipp Carlsson-Szlezak, BCG's global chief economist, Mallaby discusses his recently published book, *The Power Law: Venture Capital and the Making of the New Future* while Morgan brings his practical perspective as a venture capitalist.

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**Philipp Carlsson-Szlezak:**

Hello. My name is Philipp Carlsson. I'm BCG's Global Chief Economist. And together with Paul Swartz, I run the Center for Macroeconomics here. I'd like to introduce the panel, Sebastian Mallaby, Senior Fellow at the Council on Foreign Relations, and author of the book that we're discussing tonight, *The Power Law*. Of course, he's also the author of a series of other excellent books. A Greenspan biography, which won the FT book of the year. And was it 2016 perhaps, that he wrote the definitive account of the hedge fund industry, *More Money Than God*. He's also an accomplished journalist, was a long-time columnist for *The Economist*, on the editorial board of *The Washington Post*. And so, Sebastian is going to give us the scholarly perspective on the venture capital industry today.

And we're very pleased and happy to also have Howard Morgan, who is an accomplished practitioner in this space. Howard was co-founder of Renaissance Technologies. Later, founder of First Round Capital. Now, Howard is chair and general partner of B Capital Group, which covers I think the whole spectrum of VC from early stage, all the way to growth and beyond. And so, he's actually a living example of the power law, having made investments in Uber, ROBLOX, and I'm sure many others that I'm not aware of.

So, it's a pleasure to have both perspectives here today. Thank you for joining. What we'll do, Sebastian is going to talk for maybe 10, 12 minutes bringing out the themes of his book. Then I'll ask questions, put questions to both, and we'll bring in the audience also.

Thank you very much for joining. Sebastian, the floor is all yours.

**Sebastian Mallaby:**

Okay. I'm not going to be too academic here. I'll begin with a story. So, one of the nice things after my book comes out, like six weeks ago, people have been in touch from all over. And in one case, I get a message from Bangalore, India. And the chief sort of whatever general partner in Bangalore, India for Axel Capital, one of the big valley firms, saying he'd like to have a chat. So, I'm like, "Great. Okay." And we get on the Zoom. He explains to me that he's Indian. He went to work in the US. He worked at Intel. He got a business degree from MIT. And then he went back to India in 2010 and he began doing venture investments. And I'm like, "Okay, great. So how has the culture since 2010 to now, how's it changed?"

He says, "So in 2010, I do an investment. And after a while, the founder comes to me and he says, "I need some help." And the VC says, "What do you need?" And the founder says, "Well, I need to get married." And the VC's like, "Well, what's that got to do with me? You want to marry me? What's going on here?" "No, no, no. I want to marry my girlfriend, but her father says that because I'm an entrepreneur, I must be a loser and wedding, forget it. But you, Mr. Venture Capitalist, you went to America, you went to Intel, you went to MIT, you have standing, you can call out my perspective father-in-law and say, "Entrepreneur does not equal loser." So, the venture capitalist says, "Okay, I'm in the service business here." He makes the call, marriage intermediation. Entrepreneur does not equal loser. Marriage goes ahead. It's all good." So, I say, "Okay, so that was 2010, 2011. What's it like now? Are you still doing marriage intermediation facilitation?" He goes, "No, now these days all the perspective fathers-in-law are watching Shark Tank in Hindi."

And there's a serious point to the story, right? I'm going to make one point with this little talk. This is what you got to remember, culture changes. You can have an anti-entrepreneurial culture in 2010, which becomes pro-entrepreneurial a decade later. After my book comes out, I always give all sorts of talks in Europe. I live in London. I go give talks. And people are like, "This venture capital thing, it's never going to work here."

Whatever that stuff is that they've bottled in the water in Silicon Valley, or they breathe in the air, we don't have it here. We do not think that failure is like failing up. We think failure is failure. And just culturally, we're not going to have a dynamic ecosystem.

I think that's fundamentally wrong. India shows you culture can change. And in fact, if you go back to the origins of postwar venture capital in Silicon Valley, it's a great story that illustrates how culture can change. 1950s United States, the sort of seminal work on business culture was called organization man. It was about how you join a company, you work there loyally, you stay there till your retirement, and you get a gold watch, and that's it. You're loyal, right? And when eight engineers wanted to leave, Shockley Semiconductor, because although the boss Shockley, won a Nobel prize, he was a complete jerk to work for. They were called the traitorous eight. The traitorous eight, because to leave the company was to be a traitor.

So, many people know the story about the traitorous eight in some sense, but the spin I give on it is a little different. What people don't realize necessarily is that the reason these people set up their own company, because the financier flew out from the east coast, this was Arthur Rock, met with them. And his mandate from them had been, "How do we get hired as a team? We want to leave Shockley. How do we get hired as a team by another corporation?" And it was Arthur Rock who said, "Don't join another corporation. Start your own. Share in the fruits of your own brilliance. Build your own company and get rich." And they're like, "We don't have any capital. We can't do that." And he says, "Well, I'll raise the capital." And then he sort of says, "No, you need a leader for your group. You've got eight people here. But, if you're going to have your own company, you might need to decide which of you will be the leader." So, they choose Bob Noyce. And Gordon Moore emerges as the number two.

And amazingly later on Gordon Moore described himself as the accidental entrepreneur. This is the guy who founded Fairchild, from which, if you look at a family tree of Silicon Valley, like two thirds of the market cap at Silicon Valley comes from that. He then went on and founded Intel. Moore's Law about semiconductors is named after him. He is the iconic Silicon Valley entrepreneur. But he said he's an accidental entrepreneur, who was an accident that was caused by Arthur Rock, who was the guy who went out and said, "No, you can do this." Arthur Rock liberated him from being a corporate engineer, made him into an entrepreneurial engineer, which is why I call venture capital, liberation capital.

And I think in that little story there is a wider lesson about how culture changes, about how venture capitalists can underwrite risk. And it's more than just the act of leaving the company to set up a new one. Just imagine a situation where there are no venture capitalists. And you have an engineer who is halfway up a large hierarchical vertically integrated corporation. And this engineer has an idea. Now half the time the research director will say it's a bad idea. Either because he doesn't like the guy. He doesn't like the idea. Or maybe the company has got some other business line that's going to be attacked and cannibalized by this new upstart idea if it were to work. So, at this point, the idea is dead.

But, if you introduce the venture capitalist into the equation, that frustrated engineer goes to a party or a bar or something, sometime in the next week or two and starts moaning about this. And the venture capitalist says, "Well, you've got an idea. You're an engineer. Why don't you start your own company?" And the engineer says, "I don't have the capital. VC says, "I got the capital." Engineer says, "I don't know how to build a company. How do you incorporate it?" VC says, "No, but I've been on lots of boards. I'll be with you. I'll be there in the trenches. I'll help you to build the company." Entrepreneur says, "Yeah, but to build the company I need like five other engineers to help me build the product." And the VC says, "Yeah, I got a Rolodex. I'll

help you. We'll interview these people together." And then the entrepreneur says, "Yeah, but these other guys, I mean, why would they join a startup? Startups fail all the time. Why would you leave your comfortable job at a nice established company to go and join a risky startup?"

And the venture capitalist says, "You know what? Startups are risky, but I'm going to tell these people, if you join this startup and it fails, I'm backing tons of other startups and I'll slot you in somewhere else." That's where failure becomes a question of failing up. Failure is not failing up because of what you drink in the Silicon Valley water. It's because the venture capitalist comes along and de-risks the system. So no, my book is a narrative history of venture capital from like the 1950s until now. It starts with this Arthur Rock story. And the early stuff about Rock went on to finance Intel and Apple, and so on. It ends with, WeWork and Uber and US, China competition and so forth.

There are two things in it. There's like, how do you allocate capital in the face of all this incredible uncertainty? All investment is a tricky bet, an uncertain future, right? But if you don't have any quantitative metrics because there's no book to value ratio, I mean, your startup has no book value. There's no price earnings ratio. I mean, there's no earnings, right? What you've got is two-legged mammals who walk into your office with a dream. How do you value that? So, venture capital is like allocating money in an extreme uncertainty. So that's an intellectual mystery I wanted to kind of get my head around.

And then there's just the fact that the impact on the world, right? Less than one percent of the companies that get started every year in the United States raise venture capital. You look at the market cap created in the stock market over the last 25 years. 75% comes from venture backed companies. There's incredible disparity. Less than 1% in 75% out. I wanted to understand that. So, there's lots of things I could say, right? But I wanted to just focus on this one message. Venture capital changes culture. Venture capital liberates talent. Venture capital is a machine manufacturing courage.

**Philipp Carlsson-Szlezak:**

Thank you, Sebastian. As a preface, I'll have to say, Howard confided that after reading the book, he bought 20 copies and gave them to all the partners in his firm. So, I suspect you agree on a lot of things tonight. This could be a celebration of venture capital. So, it falls to me to ask a few tough questions. I'll do my best. I'll start with this one.

In the book, early on and at the end, you position venture capital as the third pillar of capitalism. So next to firms and markets, you say venture capital really makes use of the best elements of both. And reading all the detailed and meticulously researched examples that comes to life a lot. And yet if we take a step back and think about it counter-factually, I cannot imagine a world without firms. I cannot imagine one without markets. I can imagine one without venture capital. My question to you, Sebastian, is, would the economy look substantially different, the landscape of firms substantially different, if we did not have that phase of venture capital that you research in the book?

**Sebastian Mallaby:**

Yeah. Yeah, I think it would look very different indeed. I mean, I just said 75% of the market cap is venture backed companies. Now, there's a debate about, did the venture capitals create that stuff or they just show up for the success? And that's a subtle debate which I tease out. Basically, I do think that different financial mechanisms achieve different objectives, and they come to the different points in history. And, if you think

about the creation of the limited liability joint stock in the 1860s in England the corporate form that made possible scale. That was the financial format that suited the times. Stockholders, stock market capitalism, very good for steam, electricity, rail, and scale.

Then, if you think about the PC comes along and you need to re-engineer the corporation. Now you don't need all those players in the big corp. So, you need the junk bond, married to the leverage buyout. Have a lot of takeovers. Re-engineer the corporation. And I would argue that now in a world of intangible capital, it's about creating intellectual property, software, innovative business models on top of existing technology. It's not a coincidence that the big corporations in the world are disproportionately tech ones. You could say Microsoft is a semi exception, took venture capital, but after they got going, so I concede, Microsoft as a semi exception, but I can't think of very many others....

**Philipp Carlsson-Szlezak:**

And yet I think the period you cover in the book coincides with declining growth rates, with declining productivity growth. Are you saying those would have been even more paltry, more disappointing without the impetus of venture capital?

**Sebastian Mallaby:**

Yes, I am saying that because I think, demography, post-war catch up, a bunch of other things explained the booming fifties and sixties. And I think that we were destined to slow down anyway, and it's hard to argue that the new products coming out of Silicon Valley created a productivity slow down. There is a debate about whether it failed to create the productivity acceleration that we might have wanted.

**Philipp Carlsson-Szlezak:**

Right.

**Sebastian Mallaby:**

I would say that's a measurement issue, but slow down.

**Philipp Carlsson-Szlezak:**

No, that is not a controversy.

**Howard Morgan:**

Just let me add, in some sense if you take the counterfactual view, you can look at those countries which are where the major form of capitalism comes from family-owned enterprises, large family owned... If you look at El Salvador was run by the Catorce, the 14 families who owned everything in the country and even in Germany, the big publishing and media were all basically family businesses, which continued to grow. And yes, if somebody created something nice, it was small and then they bought it to continue growing because you couldn't scale a company because you didn't have the capital. So, venture really made that really different.

**Philipp Carlsson-Szlezak:**

So, Howard, let me ask you, you were in the room for most of the story told in this book. You were there the whole time, virtually, and as far as this is a new phenomenon and you stressed the novelty of the model and how VC was deployed. Is that how you lived it? Was it a new thing or did you stand on the shoulders of others? Who did you look to when you got started in VC?

**Howard Morgan:**

It was pretty much a new thing. I started investing in venture before I started Renaissance. So that was sort of '77 which is when Kleiner Perkins started. There were other firms before, as you point out in the book. And so there was some culture in Silicon valley, a little bit less so in New York.

In New York, JH Whitney and the Rockefeller people were the people doing what they called venture capital after the sort of debacle with George Doriot and ARD, American Research and Development, which was venture capital as a public company. It turns out venture capital doesn't work very well as a public company.

Many of the stories I'm familiar with, was in the room for, as you point out, and it was growing through that period of the eighties, in particular, when Jim Simons and I were doing a lot of venture capital. And then the nineties when I did it with Idealab and Bill Gross and Hubble. And then obviously after that, and it has definitely changed the world and the countries that have adopted it earliest, Israel and to some extent, China have seen the benefits of it.

**Philipp Carlsson-Szlezak:**

Let's talk about performance in the venture capital industry for a moment. If you get to the end of the book, in the appendix, there are a few charts and the first one... I thought there was a bit of an irony because you see the immensely skewed distribution of performance. It almost is reminiscent of the power law itself. So only the 95th percentile consistently and clearly outperforms public equities. The 75th percentile here, the vintages you show, sometimes they do, sometimes they don't. The median underperforms, and the 25th percentile is a sad picture. That almost puts the investor in VC in the same position as VC investors who have to pick entrepreneurs. If you want to put your money in venture capital, you have to pick the winner to have those strong outperformance that you're looking for. So, I guess my question to you first, and then I'll have one for you Howard as well, but Sebastian looking across the whole VC space, all the different models, flavors, approaches, is there one that you think is most likely to have durable outperformance, an approach to VC that looks particularly successful in its distribution?

**Sebastian Mallaby:**

I mean, traditionally the predictors of success were that the founders of the venture partnership were very deeply embedded in the valley network. And that could be the Andreessen Horowitz founding story. It could have been a pre-partnerships like Benchmark, not all of them, but most of the founders have background, having been to Stanford is helpful or that Harvard Business School.

Being in the network and this slightly gets to the point about, there are companies, there are markets and there are networks in the middle. It was traditionally this sort of parochial networky business because it's all about deal flow and getting early to the best entrepreneurs. Those entrepreneurs want to work with you and you know the right people to check them out. And so that was the predictor. I think now we've moved into a

position where in the last 20 years, ventures within the US, and Howard's company First but also globally, it's in China, most spectacularly, but India, Europe.

So, I think we've got a position now where there's two emerging models. It's kind of a globalized VC partnership where Excel, Lightspeed, the few that have kind of set up offices all over the world and then there's sort of the opposite, like people talk about a barbell, I think that's going too far. But on the other end there would be the solo VC who is just one extremely energetic, connected individual because I'm not doing venture at large, I'm just doing my... I'm going to get my way into good deals and have no overheads.

But it is difficult to predict. I'll made a checklist of the kind of five qualities of successful venture partnerships are, you need a great network, you need a prepared mind. In other words, you need to think ahead, new technology is coming, which business opportunities will that create, you need to apply some sort of either formal decision science or formal understanding about how you make decisions dealing with very subjective evidence. So, you need to be self-critical and have self-awareness about how you're making those decisions, which companies you back, which companies you don't. They need to add value after the investment. Finally, if it's a partnership, not an individual, what I didn't expect to find is how important it is to have the right chemistry within the partnership, so that the sum of the partners, is more than just the individuals, I think that differentiates Sequoia and those that leave successful handovers from one generation to the next about the chemistry within.

**Philipp Carlsson-Szlezak:**

That addresses one question I have for Howard, the role of the individual. And I spare you that question, but the other question I have for you on this topic, so if the distribution of performance is so skewed and you really need to have access to the 95th percentile... I mean, this is not really an asset class that is then broadly accessible. Even for those with capital that comes down to network and connections and access, how do you view that, the access issue?

**Howard Morgan:**

Well, the access is very, very difficult. I mean until a year or two ago, if you wanted to get into Sequoia, you couldn't, pretty much. They had all the capital that they could take. When we started B Capital Group, we were global in the same way with offices in China and India and Singapore and around the US. We were fortunate to have some really strong partners, including BCG that gave us access to capital that we might have not gotten for a couple of funds, in terms of performance.

It is very important, and it is not an asset class that you can say, I'm going to create an index fund to venture capital firms. That doesn't work. It really does have the power law distribution. The NVCA studies in the nineties and early 2000s said the same thing, which is basically all the profits in venture came from the top five or six firms, I think they got like 85% of the profits and that was the Sequoia and Excel and Kleiner and Benchmark, and one other one. And that was it.

If you had any other players there, some of them made money. Some of them might have made 2X or something, but they didn't give you those 10X kind of returns that were outsized. And that remains true, which is why so many people are going to this solo GP model and saying, I'm going to do an index fund of the solo GPS because they're likely to have power law. Some of them are likely to have power law returns and if I

do a number of them, then I might get there. But I think Sebastian's rules, his five key points, are absolutely critical.

The most important thing in venture capital is sourcing, got to be able... The sin at First Round Capital and the Senate B capital group is not in passing on a good deal. It is not seeing it to be able to pass. And so, we check every quarter, what deals didn't we see? And that's where we tell people, look, one of your KPIs is to make sure you see these deals. We don't care if you pass on a bad deal. We passed on Airbnb, we passed on Twitter, but we saw them. If you didn't see them, you didn't have that opportunity.

**Philipp Carlsson-Szlezak:**

Okay. Let's talk about the universality of VC as a model. So, it's worked beautifully with disruptive software, but most of the examples or many of the examples anyway in your book, Sebastian, speak to asset-light business models that are scaled rapidly. They're not speaking to business models that require heavy upfront investment and physical goods. Put another way, does VC stand a chance of turbocharging green technology, decarbonization? Or is that something that is out of reach for VC? Maybe starting with you actually, Howard, would you invest money?

**Howard Morgan:**

In 2008, we tried. A lot of firms tried and got killed, partly because of the global financial crisis, partly because of Solyndras really cratering and all the auto companies being created at that time. But we will invest in that today, because today it has a much better chance of success and today there are so many mega capital funds that can deal with capital intensive... Obviously as VCs, we prefer software. It's asset-light. It's easy. But if you want to make... if you want to create a Tesla, you need to have capital. And we do invest in climate tech now. At Idealab, we just took two of our climate tech companies public, Energy Vault and Heliogen, and we had ideas like that in 2008, 9, 10. They weren't practical and they would've cost way too much. In the last five years we were able to do that, still raising large amounts, hundreds of millions, in some cases billions of dollars of capital. You can do that today. SoftBank's \$100 billion fund said you could do that. They invested in one of those companies.

**Philipp Carlsson-Szlezak:**

Sebastian, do you think the period you described in research in the book is a golden age of VC, or do you think this will continue and it's replicable across other industry sectors?

**Sebastian Mallaby:**

I think it's replicable. I mean, I would say that of course asset-light has worked very well. There is a prehistory. The first part of my book, the examples are big conductor companies, Apple doing personal computer, all kinds of router companies. So, there is a sort of hard tech, hardware story that predated the software one. Software took over really with the arrival of Netscape, after that. And I think what's striking is if you look at the two term sheets of venture capital companies in the pre-internet era, we're taking a third of the capital series a round, then you get to Facebook, they're taking one eighth capital.

And if you want to go back to doing tougher deals, which are going to take longer to come to fruition because of hardware and where there's going to be more rounds, you're going to be diluted by later investors because it's capital intensive, you can do that. You just have to write a different term sheet where you say,



excuse me, I want a third of the company, I don't just want an eighth. And I think there's been this... It's difficult to change the template. There's a norm and it's been established of A, founder friendliness that has gone too far and B, we'll only take a small share of the equity. Both those things have to be rethought.

**Howard Morgan:**

You also have space tech, which is getting a lot of money. But don't forget, and for those of you watching Super Pumped, Uber started in First Round's office, and we invested at \$4 million, but it raised billions and it was not a hardware play. It was a company that had to lose money to get market share and had to raise billions to do that. But it didn't need the billions to build hardware. It was a capital-intensive software company. Almost an oxymoron, but that's what it was. So that has happened, and that money is available today.

**Philipp Carlsson-Szlezak:**

Right. Let's talk about monopoly a little bit. So, across the book, there are examples of early-stage avoidance of competition. In fact, there is a nice quote in the book by Thiel. I think he says, what is it, "All failed companies are the same." He reflected the fails, "They failed to escape competition." The case study you research, PayPal and Elon Musk, what is it EXCOM? What is it called?

**Howard Morgan:**

X.com.

**Philipp Carlsson-Szlezak:**

Right. Essentially it is venture capitalists coming together and saying, we're killing competition, so we're making a winner. I don't want to suggest that VC as a whole is anti-competitive, but there are tendencies there. I mean, essentially, you're creating a market and you're rigging a market in some ways before it's become one. You're colluding in some ways to merge two companies so that there's no competition. Is there some credibility there to that argument?

**Sebastian Mallaby:**

I disagree, the natural tendency that they want disruption. Disruption means competition. It means taking on the incumbent. It means creating the insurgent. They're way pro competition force. Then occasionally they create so much competition that they want to put the lid on, causing a merger between two payment companies that were doing the same thing. So, they put X and PayPal together, they make the new PayPal. But I think that's Peter Thiel's dictum. First, Peter Thiel just loves to be contrarian, and secondly, it's a reasonable corrective to what they are wired to do which is create more competition on this.

**Philipp Carlsson-Szlezak:**

But the value does come from monopolistic market power, doesn't it? I mean, Howard, some of the outperformance performance comes down to owning market share and having power there.

**Howard Morgan:**

A lot of that comes from network effects. So, the companies that we like best are those that have network effects. With Uber, if you have more drivers, they get there faster, therefore riders want to use Uber because the drivers will come more quickly. So that is really what drives that. We were investors in PayPal when we bought X.com at Idelab, actually, and the problem there was X.com had a similar model. They were giving out money to people, but they had some real serious security problems in the way they had built theirs. They got hit with some very bad fraud at the very early on and their VCs were getting very nervous. So, it wasn't just that PayPal was able to take out a competitor. The VCs were just nervous that X.com was going to fail if they didn't do that.

**Philipp Carlsson-Szlezak:**

Let's move on to the role of government for a second. So other histories of Silicon Valley have emphasized the role of the state quite a bit more and reading the book, it felt that you're downplaying it quite a bit. So, I think it's obvious and true that government is not great at devising good gadgets and products and commercializing them and getting them to consumers. But earlier in the process, the basic research that often is prohibitively expensive, they were good at spotting the gaps, they were good at funding that. And so, isn't there really more of a case of a symbiosis there, particularly if you think about the crop of technology that has fueled a lot of the tech firms? Some of this research has been popularized, repeatedly taking the iPhone, looking at all the components. A lot of it has an origin of public money. Why did you stress so much the protagonists of the VC space and gave relatively little space to the role of the state?

**Sebastian Mallaby:**

So, I'm all in on the symbiosis. I'm happy with that. And I think I stated multiple times. What I don't agree with is those who say the ultimate venture capitalist is the state. It's just dumb. And I think the internet is the best example of that. The internet was indeed created by the government, but then the government is not going to make it something that changes how everybody lives, the government scientist's platform. And what changed it into a mass medium was venture capitalist backing company UUNET in my book, which then turned all the telephone lines into data lines.

And then, in another parallel story, you've got a government lab in Illinois developing Mosaic. Then they kind of sit on it, mess it up, don't do anything with it really. But the young guy who was the main mover, Mark Andreessen, moves to Silicon Valley, and then he gets venture capital backing, and then he makes Netscape and that's what a niche is.

So, I think there is a literature out there that says industrial policies, government, and more government. I think if you look at Europe, there's too much government trying to be an LLP. And there's actually literature on when the government is flooding venture partnerships capital directly, it actually means that you've got lots of venture partnerships, which accept very low returns and it crowds out the proper return-seeking investment. It's actually counterproductive.

**Howard Morgan:**

I do think one thing the government's done to the state of California, and you point this out in the book, is making sure there are no non-competes allows the people in the California market to move from company to

company very quickly. Right. And that's something that we don't have... And that's what killed Massachusetts because people were too locked in and that is in the book. And I think that's very important.

And I also think that the role that government played, and I had machine 50 on the ARPANET back in 1972. But the role government played in that kind of research has been taken over by Google research and Microsoft research and the private sector where government's still important in biology and pharma with NIH going forward. Where the government's role as an investor has helped is Israel, where they had what they call the chief scientist's money and then they have the BIRD Foundations. But they don't fund the partnerships, they put money into companies on a competitive process in a way that they get two or three times the money back in loans and so on, but they're not trying to grant ownership. And that has worked well there.

**Philipp Carlsson-Szlezak:**

Great. So, before we take some questions from the audience, one final one from me. Looking forward, what are the biggest risks to venture capital? Is it the risk that we're moving into a higher interest rate environment that would be tough on valuations? Is it the abundance of capital, which is sloshing around? Is it the fact that a lot of the period you...? A long stretch of the period you described here, networks were different, pre digital age, today networks are more democratized, more accessible, expertise is more abundant, more accessible. What are the risks you see for VC being less of a force going forward? If any.

**Sebastian Mallaby:**

I think the fact that the network sort of spreading around is fine. I think the world ability to collaborate remotely that can be managed. If you look at the way... so, Silicon Valley had a particular historical story, you are obviously digital networking. If you look at the way that China developed a tech ecosystem, tech activities spread between five different cities. And I think that's kind of a natural... A perfectly fine model. Europe, it's also quite distributed. Yeah, in India as well, by the way. So, I think sort of Silicon Valley's intense geographic clustering was a historical accident. And I don't think it's a threat that the future will be different. I do think the bubble is; it's going to be interesting to watch next year because Tiger Global is the poster child for the group that said, "Okay, we're going to do tech beta. We're going to throw masses of money in to establish tech companies."

So, we know there's some traction, just going to buy tons of it. And I write about Tiger Global in my book and I'm sympathetic to the origin story and they are smart people, but they were doing an index fund and they created this index fund at the peak of the market. You had masses of money deployed last year. And now they're saying, "Well, we're going to redeploy money. We're going to put a billion into seed." A billion into seed is a lot of money in seed, right? So, I think there is a kind of too much money danger, which will create losses. But I think I view that as a correction we have to go through, not negative story in a secular sense.

**Howard Morgan:**

I have to agree on that one. When we started B Capital in 2016, we worry about Andreessen Horowitz, which had just raised a \$3 billion fund, which was considered very big. And then in 2018 it was SoftBank with the Vision Fund at \$100 billion, which... And was pouring giant amounts of money into companies like WeWork, not always well thought through as we have come to find out. And then more recently it's become Tiger

Global. And I saw this in the '99, 2000 period when people dramatically overpaid to get into companies. And the other thing they did, which Tiger and others are doing is, they elbowed out all the competitors. And that meant when the markets turned south and they needed help in a company, no one was going to help them.

And we are seeing some of that as well. We'll see that in the next two years, because it is clear, there was been too much money sloshing around in venture, not so much at the very early stage, but certainly in the growth stage. Somewhat more in the early stage than we used to have. And there just aren't that many startups and that pushes the price up. As my partner, Josh Kaufman at First Round said in one of the notes to our investors around 2010, he said, "Our entry price has gone up three X since we started in 2005. Our exit price has gone up 1.2 X. Simple arithmetic, our returns are coming down." And that's exactly what is going to happen now.

**Philipp Carlsson-Szlezak:**

Right. Thank you. Do we have a few questions from the audience?

**Audience question:**

Thank you very much, thanks Sebastian. Really interesting and I can't wait to read it. I was in Silicon Valley in the late nineties, and I remember a picture of an engineer sitting on a red Ferrari. And yeah, this was, I think just after Netscape had gone public and... We're human. We want to dream. We want to have that vision. I think it feels a little bit like a lottery to me. And I don't know if you can fix human nature there. I think the capital's going to be... Even the flood is going to be even worse because of the advent of crypto and coins and ICOs. And I wonder if either of you have a view on how that might change the landscape.

**Howard Morgan:**

Well, we are investing, not in the ICO market, but in the picks and shovels around crypto. Web 3.0 as people are calling it is dramatic. It's going to be huge. I mean, it is huge. We have two NFT investments. We have FalconX, which is some digital prime brokerage firm of choice. It's gotten... It's a unicorn at this point. We have CoinDCX. We have a bunch of things in that space. I think that is going to grow dramatically. And particularly the metaverse space.

When you see things like Sandbox, which is... If you want to buy virtual land, if you want to buy it near Snoop dog, who has a whole marketplace there, you're paying literally thousands of dollars for a couple of pixels worth of land. And there's been no sign of slow down. And I don't think there will be for quite a while. And so, yes, I think crypto is huge and it's an area the institutions find very difficult to deal with because the volatility in tokens is so high that if you are a manager who's got a... "I want a 5% allocation to crypto." Well, it might be 5% today. It might be 12% two weeks from now, and then 4% two weeks after that just doing nothing. Just because of the way that crypto changes, which is very hard for most institutions to handle.

**Audience question:**

Howard. You mentioned you have an office in China and Sebastian, I see you have a chapter on China. Some of the differences between China and U.S. Venture and especially what's going on in China now with the crackdown on business, the regulatory crackdown. Is that influencing the way that VC is working?

**Sebastian Mallaby:**

So, I mean the thing that stunned me about my research in China was the way that not only is it the case that Arthur Rock, as I said at the beginning, helped to kickstart entrepreneurship early, all of the early Chinese digital companies are famous. All of them had American ventures. And so, I really didn't expect to find that. And certainly for the early story, that's government did have a tech policy and it was to develop a semiconductor industry, because they still don't have semiconductor industry and they ignored the consumer internet because it's not strategic.

So, he had a massive impact on setting up the... Since become the case that it's... Whereas it was begun by American practitioners, those guys are basically... Chinese, the whole playbook, they don't need... Where's it going to go in the future? Well, I think the logical answer is that when you start just declaring that digital education... Are longer, no longer welcome, and we're going to clap down on them... Arbitrarily changing the rules, confidence in the business climate will be badly impacted and you know, that's got to have an effect on vibrancy of the good, but I have to say that in the medium term, I think it's just going to ride through.

Anecdotally I know about a well-established Chinese venture company just closed its like twelfth fund. The interest from American LPs in investing fund was equally as eager as in the other 11. Zero diminution of enthusiasm. And I think most VCs there A. They can't leave because they have an illiquid portfolio, and they can't just back up and B. They figure that if you avoid things that the government has doubts about, but you focus on semiconductors, AI, and health tech government loves that. So, it's fine.

**Howard Morgan:**

I, well I agree. Climate and climate tech. What we've seen is the Americans came in first, Mary Meeker was publishing reports on China. I remember running into her in Shanghai, in the Hyatt and she was there and Gary Rieschel who you mention in the book went over from SoftBank to start scheming ventures that he's now back in the states. What we learned at B Capital, we have offices in Beijing and in Hong Kong and some people in Shanghai, is that 1. Listen to Xi Jinping. The reason he, and two, by the way, two days ago, you noticed that China said we're now finished with this crackdown, and we do want the companies to stay listed in America and we'll figure out something with the SEC on the audited policies.

But what he did on education was a little different and the backstory on education, which we were fortunate to have heard before we made some investments in the area was, he had 300 million kids learning English, but they were learning it with American materials and American values. And he was worried. They're learning American values. I'm going to stop this for a year or two and then build our own materials, English learning materials that espouse our Chinese communist values and not the American values that they're getting from that and if you look at the movie industry, what movies they allow in China, et cetera, they're very careful in which movies they let people see because they want to move the country.

But as you point out, we've done a bunch of biotech investing. They love that. And most of the biotech companies have offices in Beijing, and in London, and Cambridge, England, and in New York, and in Silicon Valley. So, they're really global companies that they're creating in biotech. In AI they are a world leader, as everyone knows, and you can read Kai-Fu Lee's books and in climate tech, they have declared that they want to be the world leader, as they did with solar panels, because they have to. They know that from the climate point of view they have to be. And that means there's huge opportunity. And we're very much investing in that.

**Audience question:**

I think it was Founders Fund that kind of famously said "We wanted flying cars and we got 132 characters" or something like that. And I was curious, I mean venture capital loves to position themselves as driving all this innovation, but there's a critique from Peter Thiel and others and kind of curious what you make of it, that they actually invest in a fairly narrow slice of people. They're kind of looking for Mark Zuckerberg clones, and a very narrow slice of innovation. Do you think that's fair? I'm curious both of your takes given your different perspectives on it?

**Howard Morgan:**

Well, I think it's not fair, but Peter as you point out always loves to be contrarian. No, we didn't get flying cars. Actually, we do have flying cars. There's about three or four about to come out so it just took longer than we expected. It just took longer than we expected to get the flying cars. And the 160 characters became 320 characters now in Twitter, which was progress in that. I think that there's been a huge community in the last five, six years investing in deep tech, which are people who are willing to take slightly longer time horizons.

So, we look at all the space exploration companies out there now, look at how many satellites are up there. We did Planet.com at First Round in 2011, I think. We have 400 satellites taking pictures of every point on the globe every day and stuff like that. And you have Starlink that Elon has put up. We are getting some of that. I think it's an overblown criticism. Yes, there are areas that venture capitalists traditionally won't go into, but they're usually the sort of old machinery type things, the industrialization. And at B Capital, we do a lot of investments in digitization of the industrial world, but we don't want to do the industrial. We're not making a better tractor, but we're helping John Deere make those tractors smarter. And I think that there is a blind spot in the industrial.

**Sebastian Mallaby:**

When I started my career at The Economist magazine, it was a joke that the formula for writing a good article in you understand, simplify, and exaggerate. And Peter Thiel is the master of that. He's messing with you.

**Philipp Carlsson-Szlezak:**

Well, thank you so much, Sebastian. Thank you so much, Howard for joining us. Thank you all for showing up. It's been a pleasure to have this conversation

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