Raoul Pal:	**00:00:54**	Again, I wouldn't go quite that far. I think that they have become increasingly procyclical in their dynamics. I agree with in principle what you're trying to say. I understand. I would almost flip it on its head and say that the only way to get the attention of your representative, your senator, the regulatory body, etc, is to crash the market.
Rodrigo:	**00:01:16**	Welcome to Gestalt University, hosted by the team of ReSolve Asset Management, where evidence inspires confidence. This podcast will dig deep to uncover investment truths and life hacks you won't find in the mainstream media, covering topics that appeal to left brain robots, right brain poets and everyone in between, all with the goal of helping you reach excellence. Welcome to the journey.
Speaker 3:	**00:01:39**	Mike Philbrick, Adam Butler, Rodrigo Gordillo and Jason Russell our principals are ReSolve Asset Management. Due to industry regulations, they will not discuss any of ReSolve's funds on this podcast. All opinions expressed by the principals are solely their own opinions and do not express the opinion of ReSolve Asset Management. This podcast is for informational purposes only and should not be relied upon as a basis for investment decisions. For more information visit investresolve.com.
Adam:	**00:02:04**	All right, wow. We are here with Raoul Pal and my partner in crime Mike Philbrick. This is Adam Butler. . Welcome to the GestaltU podcast. Thanks for coming.
Raoul:	**00:02:15**	So great to be here. It's amazing. We're all in different rooms on the same Island.
Adam:	**00:02:20**	Yeah, you're right. It's kind of a waste isn't it? We probably should have done a better job of arranging. We've got a new … totally, we can just have lapel mics and that we're probably way better actually. I've done a couple of podcasts over drinks and I think they are some of the best podcasts that we've recorded. So I think there's something to that model...
Mike:	**00:02:39**	To get the Grand Old House miked up and get some Rioja. How's it going? One of the best tweets ever by the way Raoul.
Raoul:	**00:02:45**	My tweet threads on Rioja. Yeah.
Mike:	**00:02:48**	People love it.
Raoul:	**00:02:48**	I must have sold 1000s of cases.
Mike:	**00:02:52**	Thirdly, you're enlightening everybody on the arb that has been a very favorite arb of ours when we order wine anywhere. And that's to get a nice aged Rioja

however, any pretty much anything else, anything that's too young and in the bottle and everyone fawns over there, California's at five years old and I don't even know, you can't even drink a five year old wine.

Raoul: **00:03:10** I'm not even sure I can drink the California wines. Every time you look at them there are another percent higher in alcohol, some are sweeter and sweeter and sweeter. And then you go back to these old Rioja's that 12% and they last 60 years, 70 years and they're amazing.

Adam: **00:03:25** Your time is valuable so I wanted to make sure we give the people what they want, which is more Raoul Pal.

Raoul: **00:03:30** Less Rioja.

Mike: **00:03:35** That's one of the top investments that he has for sure.

Themes for the Future

Adam: **00:03:37** Exactly. I want to know your royalty model actually, we'll talk about that afterwards. Rioja Deal. Let's move into the core discussion. I'm curious what are the two or three major five to 10 year themes that you're most interested in digging into when you go to the desk in the morning or wake up in the morning, what's really got you jazzed up in terms of what to dig into as major profit opportunities over the next three five years.

Raoul: 00:04:07 The three to four big things that I really see. There's a death of macro going on right now. Bonds, with screaming because bonds are at 1.6% and this is too high, right? So therefore, we're going to be bound by 2% on the upside, minus half on the downside and minus 50 basis points on the downside. There's no market. It's a cyclical trading market. For FX markets, yes, there is some movement. But generally, I think people realize that the dollar which is the big daddy of everything, 88% of world trade, cannot be allowed to move too far up or too far down. So it's been in a range for the last five or six years, up and down. So that leaves us with very limited opportunity sets in that global macro world, credit is also pinned lower. So what's interesting though, equity markets at all time high valuations, we could talk a bit about that later. But there are some big themes out there that are super interesting. One is the massive rise of digital assets. There is a parallel financial universe being built in front of our eyes, and people are slowly migrating across. People have no comprehension yet of how big this is, they're still bickering over 'is Bitcoin an investment vehicle' without realizing the magnitude of what is actually going on. That's one, that's the biggest theme, it will remain probably the biggest theme that any of us have ever seen. I talk about it, it's a supermassive black hole. It's making my job very difficult to even care about anything else.

If I look at Bitcoin, it's up 94% year to date. Ethereum is up 140%, year to date and it's left everything in the dust, left everything in the dust last year and it'll continue to do so, and there'll be some cycles in it. But it makes all other returns worthless in comparison. So that's the super powerful trend. There is a trend that will develop, I'm not bearish on the dollar. I actually think it goes higher for a bit. But I do think it's stable. I think the central banks, the Bank of International Settlements and others don't want the dollar to move much. And in that case, a stable dollar is very good for emerging markets. There's a technological revolution going on where countries that have aging crappy old infrastructure can walk straight into a new digital world and gain huge productivity without the cost of a legacy system, because theirs is so out of date anyway. So that's very bullish. Countries like India, North Africa, tons of countries, I think those assets have wildly under-priced versus developed markets. And that trend of let's say, the US versus MSCI World is the most stretched it has been since 1954. So it's incredibly cheap. I like that a lot. Demographics are better, debt profiles are better, all the macro problems don't exist so much that I think there is a secular thing to be traded, which is the rise of green investing, everything from green tech to just the fact that the regulators are forcing investors into this space, forcing regulation, forcing things like the cost of carbon to increase. I think that's a very powerful trend and I think there's a lot of money to be made out of that.

Overall, I think there is a continued rise in the disruption of technology. It's a secular theme that I think is very very big and investable and it will outperform over time even though it's wildly overpriced right now, if we're talking long term time horizons. So those are the things that really capture my attention. I spend more time thinking about than anything else, I'm finding it difficult to care about bonds or even currencies or most equity markets. These are some really big, important, massive return drivers that I think most people aren't truly properly focused on yet.

Adam: **00:08:09** So I think the crypto or digital asset discussion could, like you say, be a black hole that follows this entire conversation. I want to press pause on that because actually Mike and I are super interested in there personally, and agree with your assessment of the potential there. But I think we'd love to learn a lot more about it. I'd love to try and triangulate a couple of your themes against another theme that is I think rising to the top of people's attention just in the general financial zeitgeist.

You mentioned the role of technology both in allowing, let's call it like deeply emerging markets, or very early on early stage emerging markets to leapfrog the expensive legacy assets that all of the developed economies are saddled with, the entire global financial system runs on the back of 1960s IBM as400's that you need Fortran programmers in their 60s and 70s now to be able to maintain, this is one example. So you've got all these countries that are able to leapfrog that and that's a huge boon to productivity and productivity is by its very nature disinflationary, and then just in general technology as a theme. If software eats the world, then that is also extremely disinflationary. And then you've also said within the bond segment, we're probably range bound. So you're not really looking for a major break higher like a long term break higher.

Raoul: **00:09:33** Because the super-cycle of debt is deflationary. If rates go up, spending goes down. So we're in a hugely deflationary cycle.

The Inflationary Impulse

Adam: **00:09:41** So the inflationary impulse that we're observing your thesis is that this is transient.

Raoul: **00:09:48** Yeah, it's just cyclical based on supply disruptions and demand coming back on, so year on year comps are going to look good, and then the economy is going to settle back down even with the rise of fiscal stimulus backed by the central banks. I don't see a way around globalization, technology, aging demographics, the massive amount of young people that have gone into the labor force at the same time as the baby boomers. There is no way of generating wage inflation on a broad basis. And now we've just laid off a bunch of retail workers who will never get jobs back again. Structurally, I do not see a way of creating classic CPI inflation. Monetary debasement, that's a whole different issue.

Adam: **00:10:30** But you're not expecting monetary debasement to show up in the classical CPI measures, partly by design.

Raoul: **00:10:38** Partly by design, it's actually showing up in asset prices. And what that means, I think that for most people that really understand what this rich/poor divide is all about. It's all about the fact that wages have not risen in real terms in any meaningful way since about 1975. But what's happened is asset prices have outperformed wages. So that means over time, you can buy less of a share of the S&P or less of an ounce of gold or less of a house with your average median income. Don't use average income because average income is skewed towards very rich people. So the median income is the important one here and the median household income adjusted for inflation has barely risen. But the problem is the assets have risen.

So the inflation is happening in the assets and there's actually deflation at a human level, for the reasons I talked about. There's way too many people in the labor force. We've got 76 million baby boomers and 81 million millennials at the same time, all in the labor force. Meanwhile, Marc Andreessen's 'Software is Eating the World' is playing out. So through less and less jobs. So we're seeing the labor force participation rate collapse. We are in a secular, massive disinflationary trend. I know everybody wants to look back to the 1970s and say, Look at the money printing, we're going to have the 70s again.

People don't understand, the 1970s was based on the largest generation of people in all history going into the labor force at the same time earning a paycheck. So what happened is it created a massive once off secular demand for goods and services and for increasing wages. That is never to be repeatable basically, unless we can create an enormous baby boom that's not offset. So the problem is that the millennials is they're offset by the retirees of the other. So we have a terrible disinflationary wave.

Adam: **00:12:37** So there's also a bit of a Stein's Law ending here. If something can't go on forever, it'll stop. So if we have this major wealth gap as a function of disequilibrium between the growth in medium wage and growth in asset prices and we're now I think we're either at or very near a point where most people aren't able to afford a home in many of the major growth centers of the economy. If the whole 'software eats the world', or tech eats the world, if you want to broaden it implies this tech cluster based engines of growth. So it's not widespread, you hollow out many major centers and everybody needs to move to a smaller number, focused on tech. If this trend can't go on forever, how is it resolved?

Raoul: **00:13:27** Well, one way is being resolved in front of our eyes, demographics happen slowly, but the births per capita have collapsed. That happened in Japan first, then Europe, now the US. So the millennials aren't having kids. And why is that? Because both parents have to work, it's incredibly expensive and they can't accumulate assets. So they can't improve their wealth. So the only wealth that they can generate is their own productivity. Now, that's okay if you happen to be working in tech or an industry that pays a lot of money. If you're not, you cannot generate wealth. And this is why we've got the rich/poor divide.

So that will continue until it doesn't, as you say. What changes that? There was always a rich/poor divide so we're not going to get rid of that. But its disparity is going to be changed by fiscal policy both not only taxing the rich, which is will be an ongoing trend because the rich are actually, have lower taxes and pretty much most time in history. Corporations, they will get taxed more. But also there will be stimulus that goes to certain people, and I'm talking about things like universal basic income, because what that basically is, is a transfer payment from technology to people who have been disrupted. Really, that's what's going on, or globalization. How does that get paid for? Those are other problems.

Are there ways of solving it with technology? I think there are, the monopolistic model of you and I going on to Google and then monetizing our eyeballs and we get the utility function, won't last, I think what happens is we're going to be paid for our attention and those of us here who live on Grand Cayman know there's a group here called Brave Browser, and Brave Browser do exactly that. They participate, you participate in your own attention. So the attention economy is a large part of the new economy that we live in, and we will get to monetize that over time. This is all part of the crypto conversation as well, it comes later. So I think this will get solved by technology because the technologists are some of the people even though they're some of the richest, they also have a social conscience in some respects, even though they built the evils of Google and Facebook, they understand that it’s unsustainable. If you understand that, then people are going to solve some of these problems.

Disruption in Emerging Markets

I wanted to talk about this disruption in emerging markets. I’ve got a very clear example to show how game changing this is. And it's India. India’s a gigantic market, it’s bureaucratic, it's messy, it's difficult, but the Indian stock market keeps going up. And I've been bullish on it for a long time because it's coming from a lower base than China and it's fraught with everybody saying, India will never sort itself out. Meanwhile, the stock market keeps going up. So a few years ago, they decided to de monetize. They got rid of the large rupee notes, part political, part genius. The political side was to get more taxes in, and it was a populist thing by Modi. But the idea was to do that and start moving towards Digital India. So Digital India was the big initiative. They created, nobody talks about this, even Silicon Valley doesn't talk about it, UPI, the universal payments interface, which is an open source payments interface that processed instant payments without a middleman faster than the Bitcoin blockchain. It's not blockchain based, it's stunning. They then move to a national ID called Aadhaar which is like your usual national ID but one stage further, they did it by fingerprint or retina scan. That Aadhaar number now links to your bank. You can actually go in India and pay for a pint of milk with your fingerprint.

Now, it's not happening at scale yet, but they got 1.2 billion people onto the Aadhaar system. So they're now all registered so that they can now open banks, they can open all this stuff. What Aadhaar also has is something incredible called India Stack. This is visionary. Part of India Stack is that your KYC documents are authenticated once and held according to your Aadhaar so therefore your fingerprints. So you can go open a mobile phone and they ask you for proof of address all that bullshit, you just go sure, there you go, or you do it from your phone. Okay, that's a new world. Now, it's still not being fully utilized in India but it's happening. And it's all open networks API's. So that was the first part of the story. The second part of the story is this one of these rich dudes in India called Mukesh Ambani. Mukesh Ambani and his brother used to hold this big company called Reliance, and they split it up. He kept the oil refining business which is now one of the largest in Asia and made him one of the richest men in the world. His brother took the telco assets and basically drove them into the ground and failed. As soon as he was out of the non compete, the two brothers fell out. Mukesh Ambani launched something called Geo.

Geo walked in to the mobile phone market in India and said, we're gonna give you free phone calls and free data and basically pushed some of the mobile phone companies into bankruptcy and became 35% of the entire mobile phone market in two or three years. It was destroying everybody and everyone said, the guy's an idiot. It's cost him $18 billion to take control of this market. He's an idiot, he's gonna go bankrupt, he doesn't know what he's doing. So that's the situation. Cut to April last year and Barney announces that he has paid off the debt, the fastest of any company in history by raising $18 billion in equity by teaming up with every single major Silicon Valley company from Google to Facebook. The only one he didn't team up with, he's at war with his Amazon. But he teamed up with them all. And the big VCs and the Saudi Sovereign Wealth Fund, and everybody else that mattered in the world, and raised $18 billion dollars. Paid off all of that immediately said, now what? I own the biggest network.

Now, why this is pertinent to our conversation. How did he do this? Everybody else had 2G infrastructure and 3G infrastructure. He walked in with 4G. Data is free, everybody else had a marginal cost of data. So we could just give data away for free. Now Indians are massive data users and they're the largest data users in the world of mobile phones, and he owns it. And now he's done deals with all the Silicon Valley companies and he's going to own the whole future of Digital India, considering that the government have built out all the digital infrastructure and payment rails.

So he's building out digital shopping, digital online stuff, he will own probably the rails where they come with a digital currency. I mean, the lot. Now, the chances of that being a trillion dollar company I think are pretty close to 100%. He's already the richest man in Asia. This was genius because this is a country of 1.3 billion people going from zero to 100. And the world hasn't really even noticed yet. So this is the step change, the amount of people you can bring into the banking system, the insurance system, the jobs market, the people who can connect with each other, create business, the small marketplaces for farmers to sell goods. I mean, the whole lot becomes hyperconnectivity. As we all know, the basis of this technological revolution and network effects. And what he is creating is a platform for network effects across India. It's genius.

Mike: **00:21:06** Do you want to go into that a little bit in your work in Metcalfe's Law and dig into the network effects of it for everybody?

Network Effects

Raoul: **00:21:12**

The one thing many of us got wrong, and I will hold my hand up to that, is back in the late 90s we all saw the internet bubble and we still to the day refer to as the internet bubble. But we were wrong really, it was really just overpricing. Yes, the market collapsed. But there was no bubble in actually what was going on. What was going on was a secular shift so enormous that none of us have lived through anything like it before. It was the rise of exponential growth. Exponential growth based on network effects are wildly different than exponential growth of somebody who sells more goods. Because network effects means that people have basically, created a more robust growth mechanism by more people joining it.

The best examples are the internet itself. Mobile phones, they're all driven by what's known as Metcalfe's Law. They're valued at actually, not necessarily on the data that trades over the phone network, it's the number of nodes on the network, because there is so many things you can use it for. And Barney's just proven that. But he can take over the entire Digital India because he owns the network. So that network value is enormous. Facebook then walked in and Google and created networks and Amazon, the three giants, and they are network effect businesses. So Amazon was a network effect of retailers. They put all the retailers in one place and then put all of the eyeballs in one place. And you've created a place that nobody else can not do business with. Facebook had a simple thing which was, I'm going to let you connect with your friends and you're going to invite your friends. So you create network effect. And we got utility to be able to talk to our friends and that grew into Instagram, whatever platform you choose to use, that all came out of this. Twitter, multiplying network effects. The more people on it, the more benefits. But the secret to Facebook is they own the network and they can monetize it. So they've made supernormal profits. And then this is what Ambani is doing in India. He's creating the foundation stands for network effects everywhere, just using data really as the foundation stone.

So this is now something we're learning to live with because these companies don't revert to the mean. So usually a bubble, like the Volkswagen, the classic bubble in 2008 goes up, reverts back to the main, game over. But these exponential stocks don't do that because the network keeps growing. And what happens is they tend to revert to an exponential moving average. So over time, they're always rising and the valuations keep rising because we're using the wrong valuation matrix. We're using like, price earnings, but it's actually being priced by Metcalfe's Law. So we misunderstood all of this, and this is the secular rise of technology. This has given back and much of this has been driven around behavioral economics. What creates great networks is behavioral incentives.

So Facebook's behavioral incentive is if you get your mates on from school, you can talk to them and then they'll remind you of the friend you didn't see and the ex-girlfriend that you have and still want to flirt with, all of this stuff. Behavioral economics really got embedded in Silicon Valley. Later than most people realize. It was around I think it was around 2013, 2014 when Zuckerberg and a whole bunch of these guys went and met with Daniel Kahneman, the forefather of behavioral economics, and then he had this close group of people and he basically explained to them what behavioral economics is about. How you can create behavioral incentive systems to get people to do things. And he said, you've already started with the things like the 'like button', but you can supercharge this by driving emotion, and we can get people to do things. The penny dropped for the whole of Silicon Valley and everything went exponential at that point because they figured it out.

Start Mini-riff here

Then in the midst of all of that comes this ridiculous white paper of which nobody understood, which was the Satoshi white paper. What the Satoshi white paper did was a bunch of complicated maths of which none of us can explain, and a very simple thing is, well, I want to create a network of money and the more people that come onto the network, the more valuable the money is going to be worth. So can you imagine that what Facebook, what we get out of Facebook is, or Instagram, or whatever you choose is, I can get a network of other people onto it. This is, I'll get money. That is the most powerful incentive system ever devised. No wonder it's the best performing asset in all recorded history, up 99,000,000% so far. I mean, it's simply ludicrous. But we're humans, we're driven by behavior. The behavioral economics now rules the world whether people like it or not, that's what the stimulus programs are going to become. That's how central banking is going to become, it's all going to come around the rise of behavioral economics and incentive systems and Bitcoin is the best example I've ever seen.

Adam: **<u>00:26:13</u>** Using the word behavioral economics instead of behavioral engineering. I think that's a generous framing. But in reality, it is a group of network owners who have figured out how to engineer and manipulate human behavior to maximize profits.

Raoul: **<u>00:26:30</u>** The advertising industry is exactly the same. In fact, every salesman does it. In fact...

Adam: **<u>00:26:34</u>** We've just supercharged it. `

Raoul: **<u>00:26:35</u>** We've just supercharged. Technology has changed the game on it because if you think of the old model of advertising, which was very powerful, it was a push only environment, where you had limited data. So you had limited ability to understand your impact. Now with big data and behavioral economics, you can engineer it, you can give it real time and massive scale to understand do you prefer blue or green? Will that make you buy something or not?

Mike: **00:27:04**

There's very little hard work delivery system where you think about the network effect of a fax machine? Very similar, the first fax machines aren't worth anything. But then we've got to roll out the purchase of all this stuff. It's like hardware, it's a hardware delivery system that's not going to function well in an exponential growth rate. Whereas downloading something like Facebook and becoming a member when that platform is there.

Raoul: **00:27:26**

There's another interesting variant of this, which is Apple. So Apple created a community of people around brand. But what they did very cleverly, is they massively under priced. When they walked in and created iTunes, they massively under priced music. Why? What they did was they got hundreds of millions of people using iTunes and then sold them hardware and made a fortune out of the hardware, then they did it again with these ear sets, genius. So they created network effects and then created a problem and provided a solution. Really, really clever. Very different model, non-advertising led, product lead and it doesn't feel so egregious to all of us because we actually like the product. It's clever, but it's still network effects.

Mike: **00:28:19**

So it seems to me like technology's got this built in redundancy like fashion, where something's just not cool anymore, and thus needs to be replaced. The coat’s warm, the pants work, but let's change the boot cut, let's change the look and that just makes it go away and then you need the new thing, the new Ear Pod, the new iPod.

Adam: **00:28:40**

With the added dimension that the new tech typically has more features. Whereas for fashion, it's like you need to stay fresh and cool. There's an element of that to tech, certainly Apple tech, there's a cachet to having the most recent Apple product and there's also this added benefit that it typically has more features that are useful and that further the network effects. So Raoul, I'm totally buying this thesis. Again though, it's one of these questions of like something can't go on forever, then it'll stop. I look at these platform companies and think Metcalfe's Law, exponential growth, eventually, the power that these companies wield will exceed the power of governments. How do governments react to that? I think we've seen other times in history when companies have grown too large and there's been a bit of a backlash politically, you've had this these antitrust periods.

Raoul: **00:29:33**

The thing people don't understand about Google is they own more data on more people than any entity in the world. People worry about the Chinese having all the data, Google has it all. We don't even ask how safe is that data? How many cyber hacks are they're getting from the Chinese, it's never mentioned. So clearly, it's a very super important thing. My guess is they're going to end up splitting Google's data from let's say other parts of it. Facebook from its data, I think we will see that. But what's also happening is the customer's getting pissed off with this. They realize there's monopolistic rent being extracted from them and so I think we're going to see the rise of distributed networks. And again, this plays into the Bitcoin and the whole blockchain that the whole space is going to become distributed. So there's the free market having a solution and the regulator's having a solution, and we will create something different. What that looks like, I have no idea. But again, just think of the exponential rises. Therefore, how does this end for Google and Facebook? It probably ends with a whimper not a bang. They're just replaced over time by something that the market perceives to be better, and the regulators perceive to be better.

Adam: <u>**00:30:46**</u> This is great because we've been orbiting the digital asset conversation. I think we've crossed the event horizon, let's just go right into that. So how does the digital asset ecosystem factor into or translate into this new ecosystem for apps and markets and all of the things that I think we see the potential for?

<u>The Digital Asset Ecosystem</u>

Raoul: <u>**00:31:09**</u> So there's two things going on at the same time. One is there's a parallel financial system being built. And if we talked about going out with a whimper, not a bang, we all know how screwed up the current financial system is. And we thought it might go with a bang. But they've rescued it every time by creating more externalities and more laws of unintended consequences. I think everybody knows that now. I think the central banks know, everybody. It's not a secret. But what we're doing is creating this parallel financial universe which is distributed, recorded, trusted, and that is a much safer system to build on. And what we're seeing is a slow migration. And that is why we're seeing the rise of Bitcoin prices and digital asset prices go through the roof, price discovery. Everyone's moving into the new home. And this is the new home, and it's over here. And when all of those baby boomers moved into their new homes back in 1980 or whenever they were 30 years old, the price of all those homes were like, this is what's going on.

So there's a slow migration, and we're seeing it from the traditional investment managers, we're seeing it from family offices, we're seeing it from individuals and we are seeing it from central banks who are now because of Bitcoin, creating digital currencies to realize that there's a new digital world. That's one thing going on, that's not big enough, within that is embedded decentralized finance where algorithms provide yields.

There's lending, transmission, remittances, payments, custody, settlement. I mean, this is a multi quadrillion dollar world that's being developed in terms of flow, in terms of stock, the bond market, equity markets, all of these things are 2, 3, 4, hundred trillion dollar markets each, and a lot of this is going on to this. So this is the magnitude. And currently, the digital asset market is 1.7 trillion. So what is it going to be worth? At least 100x from here still, probably 200x, maybe even 500x. So that's the magnitude of the opportunity … This is the biggest thing we've ever been given in anything, but that's only parts of it. Because the internet was basically the exchange of information digitally, what has been built in the digital asset space is the exchange of value which is the top tier of the internet that it didn't have, the digital exchange of value, that's changing everything because it's not just payment systems and integration. But it will change everything because people could watch this video and have streaming payments, so you only watch for the milliseconds that you watch. We talked about Brave Browser and the other mechanism by which we might get paid for the attention economy, we might have our identity on the blockchain, so therefore I can get paid for my use of my identity. And that's only part of it. Because what is going on in the digital world is people are realizing digital things have value. Because the digital world and the physical world are no different.

So in the digital world, I will overpay for a T shirt because it's come from a fancy designer, it cost me two bucks. No, it cost the manufacturer two bucks, and I probably paid $70. It's a yellow T shirt but because I want to be the human, I want to have social signalling, we're stupid idiot tribal creatures. Online, it's identical. Kids will buy skins or swords or trophies or whatever it may be to socially signal online. They have the exact same value. It is no different. People who don't understand that don't really understand what drives humans.

But within that world of exchanging value, there's even yield curves on those skins now, because you want to borrow my skin because it's cool, because they will help you play a different level in the game that you want to play. There's 10 year old kids trading yield curves. The whole gaming world is coming together, the art world and non fungible tokens, communities. Currently, if you're a recording artist or a famous person or a sports star, you get paid by using the monopolistic platforms of Google and Facebook and you will then capture advertising revenue by doing deals with brands. But that's a clunky system of many middlemen. We're moving to a world where communities participate in economics. So you'll have community tokens. So if you're Lady Gaga, you'll have a token and that token is exchangeable within the community for goods and services and discounts and it may or may not have a security like value, but it means that the artists can directly therefore monetize with their audience, without anybody in the middle. You don't need iTunes, you don't need your PR agency, you don't need your Artists Agency, you don't need Google, you don't need Facebook, you don't need anybody, distributed. So what we have is value changes.

So here we are In the Cayman Islands, we hear a lot of tokenisation talk, all of us, but nobody really yet knows where it means. We've just seen a piece of art sell for 69 million on a token. Again, I have no problem with that. Did somebody overpay for it? Who the hell knows? But I still think art is art and whatever format somebody wants to pay for him, whether it's a photograph or a painting, or whether it's music, whatever it is, but tokenization. So here we are in a country, and this is where things are going to change dramatically. Here we are in a country, we’re on Seven Mile Beach, properties unaffordable for most. So if you're an average Caymanian, you don't participate. So it's the rich families and the wealthy foreigners get to participate, everyone else gets left behind. But once you tokenize that real estate, if you tokenized apartments in Seven Mile Beach that were $8 million dollar apartments, well, they could buy a fraction of it in their pension plans.

So the pension funds could own parts of the island without having to buy whole properties. Or you could build your own basket. I want some on Seven Mile Beach, I want some in South Sound, I want a bit of that development. So now I'm participating in the same projects as the billionaire. Remember the problem we had before that we said the average person's wage deflation meant that they couldn't participate much. Well, now you can participate a bit more. So you're democratizing access to all assets, which is a huge game changer. If you are a millennial, the 30 year old now versus the 30 year old baby boomer back in 1980, the baby boomer got 7% P Ratio in the equity market, 18% interest on fixed income and the cheapest property in inflation adjusted terms since the war.

So that meant you had to be an idiot not to accumulate wealth. They were idiots because they accumulated debt as well, because they were too impatient. But they had to be an idiot to accumulate. So then the same 30 year old now for this millennial generation, huge bunch of these guys, they've come out in debt from university, they're on the back foot as opposed to their parents who actually ended up in debt, these are started in debt. They started in debt, they started with the equity market all time record high valuations, the bond market at all time record high valuations, the credit markets at all time high valuations, the property market all time high valuations. That is going to be a lost generation. Suddenly the digital asset world walks onto the scene. Now, I'm talking about a 500x growth potentially over the next 20, 30, 40 years, their investment lifetimes, where they can participate in things that were expensive.

We could have all potentially, if that piece of art was tokenized for many not just tokenized for one which was the NFT, we could have all participated in that. We could have all made money from all those Monet's and Picasso's that sold, we couldn't because none of us could afford it. We couldn't make money like the billionaires in New York who could own all the property. But now we can. This is game changing, it levels the playing field, It's democratization on mass. So we've got everything from the digitization of everything, the Internet of Value, and change of the internal financial system, and a change of the very construct of how we can save and invest.

Participating in the Internet of Value

Adam: **00:39:22** How does somebody participate? Like what are the first steps that you would recommend for somebody who is...because we talk to a lot of older Gen X, baby boomer Gen who are fascinated by this ecosystem, but have absolutely no idea what it is, or how to dip their toe in the water. What are some ways...

Raoul: **00:39:38** The problem is this is an incredibly complex world that is moving at a faster pace than anything I've ever seen in my entire career. I've never seen anything like this. Is faster than the internet, the brain drain of people, the talent and what is going on is of an order of magnitude I've never seen. Why? Because money is there. When I first got a job, I was looking for jobs at university. I graduated in 1990 in the middle of recession, and a friend of my dad said to me, what do you want to do for a living? I said, I'm thinking about going into marketing like that. Or I'm thinking of going into finance because it looks cool. I said, what do you think? Not that I had a choice, there was a recession. I had 120 rejection letters in my drawer.

But theoretically, that's all you think. He gave me the best piece of advice ever. And this applies to this situation. He said, you can go work for Mars, in marketing, it's an amazing place for fast moving consumer goods marketing, and you know what? You'll get free Mars Bars. Or you can work for a bank and you'll get free money. And this is why this is attracting so much attention, is because it's the system of money itself that's up for grabs. So the amount of billionaires that are going to come out of this space is beyond comprehension. It's basically if those of you who remember what happened in Russia in 1990, basically, they just handed over the keys to the world's largest amount of commodities. Russia has more commodities than the rest of the world added together, this gave people for free. It was the largest number of billionaires in all recorded history came out of Russia over the next 10 years. This is an order of magnitude larger.

Mike: **00:41:22** What do you think about the asymmetry of opportunity in that space though, given that there are people in it, there are people deeply involved in it, and are accruing assets. And we're not looking at the addresses given that the addresses are very concentrated, but there are reasons for that. But walking it forward, this is a very complex set of calculations that are going on that are almost understandable. And there's a very small group of people there. So how does the ecosystem ensure that?

Raoul: **00:41:50** Is this ecosystem going to go anywhere? Okay, the foundation stone of the ecosystem is the store of value of which it's built, which is Bitcoin, simply by Bitcoin, that's one. Then if you say, okay, I understand that this is the store of value that still has the exponential network effect curve, and I can make a lot of money, but I want to be involved in the broader space. Okay, that's when it gets difficult. Because it's like VC projects in real time. VC, you don't get a mark to market, so you can manage the risk because you only have to mark the market when you call the people and say as the business doing? But with this, it like goes, they overpriced them at the beginning, they crash down, they're worthless, everybody hates you, then it might recover. That's every business, every start-up. If you show every start up how ugly that process is, it's terrible. And this is showing it in real time. So it doesn't look good. People don't understand that. There's a really easy way, is this makes money Hunter Horsley owns a company called Bitwise. They've got an index of the top 10 by market cap. If you'd have done that in the S&P in 1980, you'd have been fine. You don't need to be the genius, just own the 10 things in an index and let the index readjust accordingly. So we can all be dumb money in this and do well.

Trying to be smart money is actually pretty difficult in a space like this. Trying to be dumb money is actually the easiest way of doing it. So I approach it as dumb money. I'm not looking at every single thing, how I construct my own personal investment. I started with Bitcoin, I then took a big slice of Ethereum because I thought that Ethereum was a platform for the future of all of this and best represented that view, the incentive value, the store of value, the monetary system was best represented by Bitcoin and then there's a bunch of other alternatives which some will be worth hundreds of billions in market cap and some will go to zero. So I bought 10 of what looked like they were getting some elements of network effects and sounded interesting and split them down between defy decentralized finance, decentralized exchanges, derivatives, some other bits and pieces. And that was a damn allocation of equal weighting, no clue, I just want to get some more. And I'm sure it'll work out for this part of the cycle which is the risk part of the cycle when everything goes up. Will it work in the hard part of the cycle when things go down again? Probably not.

Adam: **00:44:11** So where does it fit into a portfolio? At the moment? I know you've stated very publicly that it is the vast majority of your...

Mike: **00:44:22** You're responsibly obscenely long.

Adam: **00:44:24** Yeah. So you're saying you're irresponsibly long, which is fair, but what is responsibly long? What does that look like in the context of a broader asset allocation?

Allocating to Portfolios

Raoul: **00:44:32** It depends what your age is and depends what you do. If you're an institution, we actually commissioned an entire paper about it. And basically, they looked at something like a 5% allocation is pretty decent. What happens is, it's a very volatile asset but bizarrely when you put it into a portfolio. Portfolio effects actually lower the volatility of the overall portfolio. The skewness of Bitcoin and distribution of returns make it highly attractive and highly accretive to a portfolio. If you put in 5% in and Bitcoin goes through its cycle like commodities do, or it falls 50, 60%, you lose 3% of your portfolio over 18 months, that is no great shakes. But the upside is it can go up to 10x, 20x over time. So you've got a massive skewness to the risk reward. So it is very accretive to a portfolio. I don't like the idea of such a diversified portfolio unless you are getting closer to retirement or something like that, you get once in a lifetime to make a bet. If you believe the system is broken, take that. Well, then this has a very good chance of working. If you believe that the equality gap needs to change, this has a good reason to work. If you believe that the third world needs to be banked and that remittances need to be cheaper and that there's a digital revolution happening in countries like India, Kenya, Nigeria, then you need to get involved.

I don't see a world where this is not going to pay off over time. And the younger you are, the bigger the bet you should have, or the closer you are to the space. So I had small bets and now I've just think, its returns is eating everything else, that will not go on ad infinitum, we will have down cycles and I will try and time that. But my guess is once I get out, I'll probably try and do VC investments or token investments with somebody who knows what they're doing, maybe give it to somebody else to allocate, because the easier part of the cycle is done. So I can't really answer the question, anybody’s stupid not to have 10% of their liquidity. Because everyone uses this net worth, it's like most people have a house and it’s not liquidity, we live there. It's a different thing. So the money that you would invest in your portfolio, I think, even if you're pretty conservative 10%, because then you can call me up in two years’ time say, Raoul, you lost me 5%, unlucky, I don't care.

The flip side is, I make you another 5x from here till the end of the year, and I've made you 25%. Okay, 5 for 1 in the nine months in an asset class, but I still think it goes to a million by the time we get to 2025. So the returns are astronomical. And if you enter the space then your mileage will vary and I'm 100%. I cannot find any other asset worth investing. There's some great trades out there.

European carbon is a great trade, I think you could probably buy the dollar, there's a bunch of stuff, I don't care, I find it really hard to care about anything else. Because I've never seen anything this big in my life.

Adam: **00:47:37** In terms of how to invest, there's all these ETFs and closed end funds and stuff. It feels to me a little bit like, you've got this new tech like a cell phone, but you're only able to talk between two cell phones by connecting them to one of those old tin can telephones. So you get this two tin can phones ringing, this phone speaking to … it's like this weird, this weird antiquated technology wrapping around this new tech. But notwithstanding that, do you still think that's a viable place for people to start maybe?

Raoul: **00:48:09** We haven't actually got great vehicles. There is an ETF in Canada. It's a bit patchy now. It always makes me laugh. One of my favorite bets in emerging markets is Iran. And everyone looks at me goes, well, where's the ETF? I'm like, the point is there is no ETF. The harder it is, the better the returns. And it's the same with the crypto space. Actually, people are making it easier so we can all be done money. And I talked about some of those funds like Bitwise. Anybody can invest in that. That's pretty straightforward. There's the Grayscale Trust that trades, that used to trade at a huge premium, that's a slight discount, there will be an ETF that comes, there's a futures contract or you can just get up to speed and buy Bitcoin, because this is not the old world. This is the new world and the moment you do it, you realize how different it all is. Then you realize the speed of which you can pay somebody, the speed of which the system settles. How you are your own bank, how you can get your own yield outside of the banking system. And then you start going, this is a whole different world.

Mike: **00:49:14** I just see the coin inventory coming off of the exchanges, and all of the miners are now Hodlers. And the potential for some ETF to come in the US at exactly the wrong time where there literally are not enough coins, and driven by insensitive buying money flowing directly to an ETF that must track that index. There's a setup here that looks insanely bullish.

Raoul: **00:49:43** Yes. And I've noted that too and I've called it the 'wall of money'. The only supply actually in the market, to be truthful is a couple of big funds that rebalance at month end and quarter end, because that's what institutions do and that's new for this space. And basically, day traders being stopped out or being cleared out of inventory because there's no actual supply. And you're putting these elephants into the bathtub like BlackRock, there's no room for them all. And then you add an ETF, there is no room. So I think there is a risk and I don't know what the probability is. But it's higher than most people expect, that we don't stop at 200,000 on this cycle, or 280 where Plan B stock to flow is, but we actually go batshit crazy because of this and we get to half a million or maybe even a million. I don't know, I can't price the upside. But I feel like the same thing is I've never seen something like it.

On the flip side, you can see there are brakes being applied. The brakes really come now, it keeps shifting around but currently, it's known as FUD. Fear, Uncertainty and Doubt. And you've seen this a lot, because people are finding it very hard to catch up with the fact there's a parallel financial system being built. So people are cynical by nature, they don't want to believe in Silicon Valley. And I watch this on Twitter all the time, the mean reversion is the nature of most people means that they get cynical, they enjoy going up a bit and then they turn against it. We don't believe in this, they did it all the way through technology and I'm guilty of that too. And now I've realized that it was wrong of me, because these are exponential rises that go on over time, the 'wall of money' is huge coming into it and the more the market cap goes up, the more it brings in other people. It's a reflexive loop of a magnitude I've never seen before. The slowing of the brakes keeps changing with this FUD. But the key one that's going around now is energy, that's come from the ECB. Why? Because they want to slow institutional adoption, because they've created another hurdle now, and I've been having calls with all of these institutions. So now we need to prove that it's worthy of our ESG mandate, because we've been mandated.

Mike: **00:51:55** So we're going to start shutting down all the pool heaters, you can't eat your pool anymore people, I'm sorry.

The Currency of the World

Raoul: **00:51:59** The reality is actually driving green tech revolution, that the richest man in Norway has just set up a hydro plant to mine Bitcoin. And it's driving actually electricity cost down around the world. So it's a wrong narrative but it's yet another FUD narrative that we all have to stand up and fight for if we believe in this space, and we've gone through so many of these, it doesn't stop, because what is at stake is the very system of money itself. I'm not saying in the anarchist way of, we're all going to have a new currency and Bitcoin will be the currency of the world. And I believe that there's a probability of it, but I don't believe it. And I don't really care. All I know is that this massive digital playing field has been built for us to all completely immerse ourselves and make money from, enjoy, our business models will change, everything will change. And it's fantastic.

Mike: **00:52:48** I also think it's really interesting that this is a system that survived, or an ecosystem that survived the March 2020 events without intervention by any overarching central bank, without being bailed out and the exchanges survived. No one went sideways or bankrupt, I'm sure a lot of traders were stopped out of positions and there was a reset done. But that system functioned without an overseer trying to manage the parts of it in order to avoid any outcome that they didn't want.

Raoul: **00:53:19** And it functions without system breaks 24/7, 365 days a year, with as you say, there is regulation. It's a truly free market and it works.

Adam: **00:53:31** Also, let's be fair, there's the level of rehypothecation and collateralization of crypto and stuff is still at a very nascent stage compared to the rest of the global financial system. Like you've got a massive amount of leverage in the global financial, like the traditional financial system that you do not come close to having in digital asset space yet.

Raoul: **00:53:52** That's my favorite. Human to humans, and they can't help themselves but lever up. And so even though everyone thinks it's a pristine system where you can have this trusted recorded ownership of who owns the collateral, I get that blockchain helps a lot. We humans will find every single way possible to create leverage.

Adam: **00:54:10** We're going to have one FTCLOs for sure.

Raoul: **00:54:13** Of course you will. CLO’s squared, as an ETF which is tokenized. Given to orphans and widows.

Adam: **00:54:26** I think it's a super exciting time and a really exciting space and you paint an incredibly compelling picture for a variety of different use cases which diversifies the investment case I think.

Raoul: **00:54:37** Certainly, people have focused on the narrow. There’s this war, stupid war going on about all of this stuff. When you just step back and just bark it down on a whiteboard. You go okay, what's actually going on here? You sit back and go, Oh my God, I've never seen anything like this before.

Adam: **00:54:53** The call option on a future, it's like everyone wants to sell the put? I'm like, Can I buy the call on that?

Mike: **00:55:01** Can I get the right tail on that.

Raoul: **00:55:03** Exactly right. I call it that. A call option on the future, as simple as that.

Mike: **00:55:08** You convey the idea over and over again, that we truly don't know. When the internet came to be and started getting some adoption and popularity in 95 and 96. You didn't know Netscape, Ask Jeeves, Google, what was going to win and how it was going to change. What Amazon would become, you can't know that, you can have some confidence that the problems will be solved because there is so much energy and computational energy and the smartest people working on it and incentives driving that. I listen to this negative feedback all the time too. Well, he doesn't do this and won't do that. Well, let's go back two years ago, what didn't it do then? What does it do now? You won't know, it's okay not to know and have certainty about how this is going to play out and what impact this is going to have, because it's not knowable.

Raoul: **00:56:03** You should revel in that. Because what a beautiful puzzle to solve and to watch. A film that you don't know where it's going to end. It's magic. Most of us are pretty bored with being pessimistic about this whole thing. About financial markets, right? We've all been pretty pessimistic since 2000. Because those of us who pay attention to the macro, saw where this is all going. We've all been pessimistic. And here is the chance to just say, forget all that. It's over here. Let's just be optimists. Let's buy the call, or not keep buying puts.

Adam: **00:56:37** I think that's a great place to end because I think you and I are around the same age, we're bitter Gen Xers. Coming in to our own in 2000 and always seeing the bear case and I totally agree. Here's something that is actually exciting and new and has the potential to realize tremendous positive change globally and solve a lot of the problems that I've been so frustrated about for so long. So it's a dead obvious case, it all could go fucking pear shaped. But, we got a chance.

Raoul: **00:57:05** For cynical Gen x's, it takes a while to get there. But when you get there, you're like, you know what? It's a lot easier to be optimistic.

Mike: **00:57:11** So much more fun.

Adam: **00:57:13** Raoul, this has been absolutely tremendous. Thanks for sticking with us through the technical difficulties. And man if we could actually get to get together and grab a pint or something.

Raoul: **00:57:21** Well, I'm around, I'm diving next week. But after that, hit me up and let's go have a drink. But yeah, there's a lot of fun. So thank you, I appreciate a lot.

Adam: **00:57:28** Thanks for the energy and the insight, and we'll do it another time.

Rodrigo: **00:57:32** Thank you for listening to the Gestalt University podcast. You will find all the information we highlighted in this episode in the show notes at invest resolve.com/blog. You can also learn more about ReSolve's approach to investing by going to our website and research blog at investresolve.com, where you will find over 200 articles that cover a wide array of important topics in the area of investing. We also encourage you to engage with the whole team on Twitter by searching the handle @investresolve and hitting the follow button. If you're enjoying the series, please take the time to share us with your friends through email, social media, and if you really learn something new and believe that our podcast would be helpful to others, we would be incredibly grateful if you could leave us a review on iTunes. Thanks again and see you next time.