

Exchanges at Goldman Sachs
Understanding the Metaverse and Web 3.0
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Allison Nathan: This is Exchanges at Goldman Sachs and I'm Allison Nathan, a Senior Strategist in Goldman Sachs Research.

Today we're going to be talking about the metaverse. What exactly is it? And is it hype or the next big thing. To help shed light on the topic, I'm joined by my colleague Eric Sheridan who covers the US Internet Sector for Goldman Sachs Research. Eric, welcome to the program.

Eric Sheridan: Thanks so much for having me. It's great to be on.

Allison Nathan: You recently published research outlining your view that we're entering into the future of Web 3.0, of which one element that is getting a lot of

attention is the metaverse. Start by explaining, first of all, what is the metaverse?

Eric Sheridan: So, the metaverse, broadly, is the concept that we're going to take what our physical world experience is, and broadly move them into elements of mixed reality, virtual reality, and eventually augmented reality. The idea that you will have experiences around interoperability, creator communities that are very immersive, some of which you'll experience through consumer headsets. Some of which you might experience through the camera on your phone. But they basically are taking what we know of now as digital experiences, predominantly your mobile smartphone or your desktop computer, and bringing them to a more immersive layer than they are today.

Allison Nathan: So, if we're embarking on Web 3.0 as you describe it, how did we get here? How has the internet evolved through its various stages?

Eric Sheridan: What we've talked about is that there've been two phases of the internet to date: Web 1.0, which

was the concept of desktop computing. And desktop computing on a global scale became much more ubiquitous. There was the rise of the web browser. There was the introduction of banner advertising and e-commerce checkout. And it was broad consumer adoption of the desktop web. Then we moved into Web 2.0 with the adoption and the invention of the smartphone. Obviously, Apple with the iPhone lead the broader consumer adoption of that as a category. And what we saw was the operating system layer, Apple's iOS and Google's Android, the rise of subscription models, the rise of the scaled platform, the beginning of social networks, streaming media. But it was all primarily rooted around the rise of mobile computing.

Web 3.0, which we believe will be next now that we're in one of the later innings or the later stages of Web 2.0, will be this element of more decentralized web. There will be less centralized players that will act as either walled gardens or gatekeepers for how you consume content, how you interact with creators. You might have more control over your identity. There could be additional rise in privacy. There could be more local experiences. And part and parcel with that is the idea that you could have

augmented reality and this concept based on your first question of the metaverse where we will interact in a more virtual world with each other, with less of the tenets that we've seen in Web 2.0.

Allison Nathan: So, where are we in that evolution towards Web 3.0?

Eric Sheridan: Well, predominantly what I'll call the investment cycle. And in your intro, Allison, you talked about hype versus reality. There is a lot of news coverage of this concept right now. So, there is a lot of press coverage. There are alternative investments being made in consumer hardware, in content, in creator ecosystems. Even down to infrastructure to enable bandwidth for these types of experiences to be at both the consumer and the enterprise side. So, I think we regard at two points at this moment in time. There's a lot of attention on it. And there are a lot of investments being made.

If we think about what comes over the long run, we always phrase that as the next three to ten years, there will be experiences that will make the consumer hardware

cheaper, consumer adoption will go higher. There will be use cases that will make this an interesting technology that needs to be adopted. And then you'll see elements of revenue monetization and scale in the platforms over the long term.

Allison Nathan: So, was there a practical catalyst for all the attention that the metaverse is getting right now? What has precipitated this interest? Why now?

Eric Sheridan: Yeah. Great question. And there are really two aspects of it. In the gaming community, there was the public listing of Roblox and there have been these experiences that have grown up among gamers in games like Minecraft, Roblox, and Fortnite where you go into these games. You have rather immersive experiences. You use virtual currency. You buy virtual goods. You interact with people as a character in all different parts of the world in this sort of virtual world. So, the concept or the building blocks were laid out of the gaming industry.

And then recently, Facebook renamed themselves as Meta Platform. They changed the name of the company to

identify to the investment community and to the broader internet community that the focus of the company over the next ten years is going to be to build this concept of the metaverse and build upon the asset they acquired a number of years ago, which was Oculus, which was a virtual reality company. So, I think those catalysts as we went from 2020 to 2021 have brought this concept to bear.

One other point to make on this that's interesting is gaming, as an end user experience, accelerated as a result of the pandemic. I'm the father of a 14-and-a-half-year-old who has played way too many video games over the last 18 months as there've been elements of work from home, stay at home, and school from home. And what you've seen is a rapid adoption of gaming experiences as a form of media consumption by a wide array of people. So, I think all of those themes have brought this to bear in the last couple of months.

Allison Nathan: So, you've talked about the evolution, potential evolution of the metaverse ahead. How big is the potential opportunity? How do you quantify that and think about the size?

Eric Sheridan: Yeah, a headline number to sort of throw out is we think this could be as much as an 8 trillion-dollar opportunity on the revenue or the monetization side. How do you we think about that? We look at the digital economy today, which is broadly, roughly about 20 - 25 percent of the global economy. There are various elements of online travel that are 60 percent penetrated. And then there are elements that are single [UNINTEL] penetrated of the global economy for online versus offline experiences.

We see the digital economy continuing to grow. And on top of that we see a virtual economy that can grow within and alongside this digital economy. And that's how we come up with a number for various outcomes of anywhere from 2 trillion to 12 trillion dollars, with 8 trillion at the midpoint on potential outcomes in terms of monetization from this thematic element of the evolution of the internet.

Allison Nathan: So, we're basically in this investment phase as you said. How is the pace of investment that we're observing affecting the role of private capital and startup formation in this space?

Eric Sheridan: Yeah. So, to give you two really interesting data points, you know, when they changed the name of the company from Facebook to Meta, Facebook disclosed that in 2021 they were going to lose about 10 billion dollars in the company itself in investments in what they called the metaverse through a division of theirs called Virtual Reality Labs. That's just one company making these investments towards the future.

Alongside of that in 2021, you saw in excess of 10 billion dollars of private capital raised across various sectors such as gaming, online games, augmented reality, and virtual world experiences. So, that's the type of scope of investment we're seeing right now.

We could see a multi year cycle, which is what we've talked about. And the result of that could be anywhere from 132 billion of investment to 1.3 trillion of investment, again, against that idea that there could be an output of this around 8 trillion or more.

Allison Nathan: And, you know, when we think about the

applications of this, we're already seeing evidence of the metaverse in video games as you mentioned. I also have an 11-year-old son who has the Oculus stuck to his face a lot of the time. And these devices are blurring the lines between virtual and physical events. Maybe talk about how it's playing out in the gaming industry more specifically.

Eric Sheridan: Yeah. So, you've seen examples where companies like Fortnite, Roblox, Minecraft within Microsoft, these are all various platforms that have hosted sporting events, concerts, music festivals, luxury fashion shows. I'm not loathe to admit that my family has sat down and watched a concert inside Fortnite together as a family. That is something that is a different experience than we all had three, four, five years ago.

And I think what you're going to see over time is the potential for it to evolve beyond just gaming and for more experiences to come into these types of experiences and expand the potential footprint beyond gaming.

Allison Nathan: So, a lot of these developments do sound very futuristic. I guess a few years ago we could never have

perceived of sitting around and watching a concert together. But you know, how far are we along in this developmental phase? And is it really too early to assess the winners and losers here?

Eric Sheridan: It's a little early to determine winners and losers because we are in the beginning of a cycle. But I think what we're looking for are elements of what are some of the end markets that can move into these type experiences? We've talked about music. There could be retail. There could be education. There could be forms of advertising.

So, if you think about some of the parts of the global economy and then the digital economy within that economy that could be disrupted or shift, even from a digital environment into a virtual environment, those are all examples of end markets that we could see shift with dollars over the next three to ten years. And we'll be watching that to see what that means in terms of winners and losers in the long run.

I think generally when you talk to technology leaders about

this transition, this concept of it being decentralized is core. So, centralization allowed some elements of very large companies to grow up in Web 2.0, and they're some of the largest companies in the public markets today. If decentralization stays as its core, there is a debate out there in the technology industry of whether there will be large-scale winners in a Web 3.0, or if there'll be a greater proliferation of smaller winners that take advantage of different niches. I think that remains an open-ended debate. And we'll have to continue to monitor how that develops in the years ahead.

Allison Nathan: But it also seems like in order to create a true virtual world, other tech and social media companies will have to open up their platforms. How likely is that to happen?

Eric Sheridan: Yeah, it's a great question. You will likely see what happened with Web 1.0 going to Web 2.0. There were companies that were scaled players that were operating at scale, taking advantage of the desktop computing cycle. And some companies pivoted quite successfully into mobile computing. Some fell by the

wayside. And others popped up that were not there before. Apple, for instance, which is not a company I cover my coverage. But it's an example that I can give you of a company that was a smaller player in a desktop computing world, but obviously become a massive player in a mobile computing world.

Google was a company that bridged the gap between both of those worlds, desktop search going into mobile search and Android. So, I think we're going to have to watch how some of the companies that are considered leaders today continue to adopt and invest into these technologies. And whether they succeed to execute.

And as we talked about a little bit earlier in the conversation, Allison, there's a couple of unlock steps here we have to watch to see who gets it right and who gets it wrong. There is the consumer hardware piece. There's the content piece. There is partnering with creators to want to partner with distribution with platforms as they grow and scale. Those will all be really interesting elements to watch for how different companies react and execute against those opportunities and challenges in the years ahead.

Allison Nathan: The metaverse seems to be so uncharted in so many ways though. So, when will regulation be necessary in this space? And how do you think future regulatory action will impact Web 3.0 investments?

Eric Sheridan: Yeah. I want to make two points here. I think it's really an interesting topic. There is obviously a lot more regulatory scrutiny of the internet today than there was five or ten years ago. We've talked about how that's an output of the scale of the companies that exist today and how mission critical they've become to the economy on a global scale. So, the scrutiny is already there from day one. And if you think about what we talked about earlier, the transition from Web 1.0 to 2.0, there was not a lot of regulator scrutiny of companies at that point. So, already we're going through a computing cycle transition where regulators are on the lookout for is a company gaining too much power? Is a company gaining too much information?

So, therefore, that could have implications for who scales and in what manner they build to scale as we move into Web 3.0. That will be number on.

And obviously, more consumers and regulatory entities are attuned today than they were ten years ago to elements of content, privacy, and identity. So, there is a really interesting theme that you could see elements of this metaverse, or elements of the broader Web 3.0 being built on the concepts that regulators are struggling to regulate in Web 2.0 as a starting point in Web 3.0.

Allison Nathan: Finally, Eric, you've been covering this space for most of your career. How would you characterize the development of Web 3.0 within the evolution of computing more broadly?

Eric Sheridan: Well, first, I've been doing it for so long because it's always interesting. I never lack for things to read or learn or try to continue to educate myself about. And this is yet another topic over the last couple of decades where I'm trying to think about how technology is going to shift, how it's going to have real impact on consumers and enterprises going forward.

I think the way I think about it is we have a lot of

computing power, more than we've ever had. And there's an element for connection, both in enterprise applications and social applications. And there's an element to want to consume content and have shared experiences. So, it really does feel like if the execution can be done on both the hardware side and the content side as we talked about, this could open a lot of economic opportunities in the next five to ten years.

You know, we've talked about some examples like concerts. But there are even broader examples around education and travel. And how it could open up opportunities where some folks might not be able to have the money to experience something in person or experience even digitally. But for less dollars they could experience it virtually or in an augmented reality world. And that tends to be an economic expansion driver. And that's what I'm the most focused on and the most excited about.

Allison Nathan: Well, Eric, I'll look forward to the time when our avatars can have a conversation about these changes. Thanks so much for joining us and sharing all these insights with us.

Eric Sheridan: Thank you so much.

Allison Nathan: That concludes this episode of Exchanges at Goldman Sachs. Thanks for listening. And if you enjoyed this show, we hope you subscribe on Apple Podcasts and leave a rating and comment.

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