Allison Nathan: This is Exchanges at Goldman Sachs, where we discuss developments currently shaping markets, industries, and the global economy. I'm Allison Nathan from Goldman Sachs Research, creator and editor of the firm's Top of Mind report which focuses on macroeconomic issues on the minds of our clients. And I'm excited to be bringing the Top of Mind at Goldman Sachs podcast to listeners of Exchanges.

Going forward, for all of those loyal subscribers to the Top of Mind feed, we'll be publishing the podcast about once a month as part of the Exchanges feed. So please be sure to subscribe.

In this episode, we're focusing on a topic we think will resonate with listeners of both podcasts -- the state of the IPO market. Amid the economic and market roller coaster of 2020, the IPO market stood out, slamming shut in the first part of the year as pandemic uncertainties set in, only to open up with gusto in the second half of 2020 even as risks around the virus and its economic impact remind high.

The result was more than $300 billion of global IPO issuance, including record-breaking issuance of 170 billion in the US. These figures were all the more notable given the tepid IPO market only a couple of years ago. Companies were staying private for longer, aided by a surge in the availability of venture capital and private equity capital. In 2019, the number of US publicly traded companies was at one of its lowest levels in two decades.

This renewed focus on public markets has raised the question of whether the era of staying private for longer is truly behind us, especially as companies are increasingly receiving higher public valuations. Indeed, those lofty valuations have even begun to raise concerns of a bubble in public markets. And adding to bubble concerns is the other exceptional feature of the recent IPO surge -- the high number of special purpose acquisition companies better known as SPACs, or blank check companies, which are publicly held investment vehicles created to merge with a private company, thereby bringing the company public.

SPAC IPOs comprised more than 50% of US IPOs in 2020. And in the first three weeks of 2021 alone, around 60 US SPACs have been brought to market. With the IPO boom showing few signs of letting up and the number and size of SPACs continuing to break new records, the sustainability of these trends and the implications for companies and investors is top of mind.

To put the current US IPO boom into context, I first spoke with Jay Ritter, professor of finance at the University of Florida.

How does the recent boom period for IPOs compare to past booms?

Jay Ritter: The answer depends on how we define IPOs. In the '90s, a typical year had more than 300 operating companies going public. Last year, my count was 165 operating companies. Both of those numbers don't include foreign companies using ADRs, but they also don't count SPACs.

In the 1990s, SPACs were almost unheard of. Whereas last year, 248 companies did a SPAC IPO. But by the standards of the last two decades, 2020 had a large number of operating companies going public. Those that got a lot of attention like Airbnb and other tech-oriented companies certainly deserved the attention. But if we look at the industry with the highest number of IPOs, it was actually biotech where 77 companies went public last year, the most of any year ever.

The big difference from the last 20 years and the big dividing line is when the Internet bubble burst in 2000. Before then, lots of young companies, including lots of young tech companies, went public. And since then, almost no tech companies have gone public. It's been night and day in that regard. For many years now they have stayed private and been nurtured by venture capital firms. The vast majority of them will never go public, and that's a huge difference from what was true several decades ago.

For a lot of these companies, the value maximizing strategy is to sell out because a lot of the big tech companies are willing to pay top dollar. And getting big fast is more easily accomplished by selling out to a big tech company rather than growing organically.

Allison Nathan: I then spoke with David Ludwig, Goldman Sachs's head of global equity capital markets, to get his perspective on the recent strength of the market.

If you think about the current IPO boom period, how does it compare to past cycles in your career?

David Ludwig: What's similar to past cycles is that we have an enthusiast market, capital is readily available, and equity investors are expressing an optimistic point of view. What's

unique is that the attractive equity market conditions exist alongside an economy that's been under pressure from a global pandemic. The market's confidence in the success of vaccination, a low rate environment, and fiscal stimulus have enabled the financing markets to be in much better shape than the overall economy.

Allison Nathan: Does that mean it's fragile?

David Ludwig: I wouldn't say it's fragile, per se, because I think investors are giving credit that the economy will normalize given what's driven some of the slow down. You see vaccines come out very quick. And you are seeing vaccinations occur. And so investors are looking ahead and valuing companies on 2022 and beyond.

Allison Nathan: It seems really striking that literally a year ago we were about to write on the privatization trend and death of the IPO market. And obviously we've seen this massive shift. Why have we seen that shift?

David Ludwig: Five years ago, everyone was talking about companies staying private longer, and we were actually telling them that we think it was going to be worth the wait. You had very choppy markets in '15 and '16, and that actually made the public markets less exciting for a number of companies. But we've now seen a number of years of very constructive market conditions and increasing valuation multiples. And that leads companies to be more excited to move forward.

And as companies saw markets close briefly and then reopen in a very robust manner, many decided that now is a good time to move forward with their public market plans. The investor buckets are also broadening, so we continue to have the mutual fund and hedge fund community, the institutional investor community has been very active in a number of our deals. The sovereign wealth fund community, we have to more actively manage a good amount of their capital. The retail community, which there's clearly been a lot of discussion about over the course of the last year, have been active participants both in our transactions and the after-market. And there's other pockets that have also been participating including those that have traditionally been private market investors but also creating public market strategies.

So if you look at '21 and even beyond that, I think if the macroeconomic recovery continues, if vaccine prospects remain

positive, we think that we can come close to some of the buys you saw last year.

Allison Nathan: But given the surge in IPO activity and lofty valuations for newly public companies, I asked Ritter and Ludwig whether they're concerned that there's now a bubble in the IPO market. Neither of them is particularly worried, given generally solid fundamentals of the companies going public today as well as reasons to be optimistic about their futures. Here's Ritter.

People often talk about comparisons to the tech bubble of the late '90s. Are you in agreement with that?

Jay Ritter: The valuations are high on many of the companies. When you look at the numbers, say price-to-sales ratios, in the last 20 years in a typical year for tech stocks the median company going public had a price-to-sales ratio of about 6. In 2018 and '19, that almost doubled to 10 or 11. This past year, 2020, the median tech company went public at a price-to-sales ratio twice as high, about 24.

Now, there's variation. The market is not viewing all of the companies the same by any means. But when you start looking at these high ratios, the only way to justify them is with pretty optimistic assumptions. But there's a reason that the market has been willing to pay high multiples for some of these companies. The fact that there have been huge successes like Google, now Alphabet, Facebook, etc., that went public at pretty high multiples and fully justified that by outperforming expectations has resulted in the market being willing to justify higher valuations for companies that might have a great future. And indeed, valuations are higher because of lower interest rates today.

Back in the Internet bubble period, 30-year tips were yielding about 400 basis points, plus inflation. Today, 30-year tips are yielding about minus 30 basis points. The risk-free rate has dropped, and the equity risk premium has remained the same. So you could justify much higher multiples for equities.

Allison Nathan: And here's Ludwig.

Valuations seem pretty high, and some people are even making comparisons to the 2000-2001 tech bubble as it relates to that sector. Is that a fair comparison?

David Ludwig: I think it's a reasonable question to ask given there are definitely some common elements, but I also think there's some critical differences. The innovation we're seeing in the technology sector around the world is amazing. And there's no doubt the digitization of the economy and how we use technology in our everyday lives continues to expand. And that means a broad number of companies are driving massive change, and they create substantial value.

And it's not surprising that investors want to own these companies. Investors see how fast they've been able to grow at larger scales over a longer period of time, and their ability to drive profitability in excess of what the companies might have thought they could have and what investors thought they could have, investors are willing to capitalize these companies at higher valuations because of those trends and because they see the opportunities for these things to get bigger.

And when you think about the current set of IPOs we're seeing, these are businesses that are actually backed by solid fundamentals. Twenty years ago, many of the businesses going public were less developed, and they actually went public at much smaller scale than they're going today. Now some great companies emerged, but on average they were definitely a lot less established.

Allison Nathan: But both Ritter and Ludwig also acknowledge that a hit to investor sentiment should the economic outlook worsen or the quality of companies going public deteriorate poses risks to a strong 2021 IPO outlook. Here's Ludwig again.

When we looked at 2021, it looks like everything is shaping up to be another strong year, but what could dent that?

David Ludwig: One is the rates rise materially faster than investors expect. Typically, low-rate environments are good for equities. And if you have a good macro environment, that should be conducive to a new issue environment, especially IPOs.
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Two, the competence in vaccination and how that's going to lead to reopenings, if something shakes that confidence, whether it be the new strains or the vaccine's not showing broad-based success some of the initial tests showed, that could be a potential concern.

The third thing always is when you're in these cycles where the IPO asset class has been working as well as it has been, that

you sometimes see companies that shouldn't be coming public. They just may not be ready to be public companies. And if you start seeing returns become more inconsistent, I think that could slow down investor receptivity to buying IPOs. You may not be able to see companies get public at valuations and/or with shareholders that they care about. You may not be able to see them get public in the way that they want, and so people may decide to hold off until there's more normalization in the market.

Allison Nathan: And here's Ritter.

What would end the IPO boom?

Jay Ritter: The IPO market has always been hypersensitive to stock market movements. If the stock market took a dive like it did last February, the IPO market would likely shut down pretty rapidly.

Allison Nathan: But even if the broader IPO market isn't in a bubble, is the SPAC market in one? To help answer that question, I first turned to Ludwig to understand why companies might consider going public via a SPAC merger versus other listing options such as a direct listing or a traditional IPO.

David Ludwig: Different listing vehicles solve the bespoke objectives of any individual company. With a SPAC, you potentially have earlier access to the market given the ability to include incremental disclosure in the process. You potentially have access to more capital. And importantly, you de-risk the process by a negotiated price with support from a sponsor of the SPAC as well as the parties that will participate in the pipe.

At the same time, a SPAC could be more dilutive at a similar valuation to an IPO once you factor in the SPAC warrants while the sponsor promote. And you also have somewhat less ability to select the shareholder base as the pipe process is just naturally not as broad as IPO marketing.

On the direct listing side, direct listings are well suited to the needs of some companies as well. You get the broadest market pricing efficiency and you also get equal access for all market participants to buy or sell when they want. You have an education process that is close to the education process in an IPO.

I think the biggest trade-off in a direct listing is that you forgo the ability to select your shareholder base. And then until recently, you weren't able to raise primary capital in a direct listing, and that prohibited many companies from considering that option. But this is actually changing given some new rules that were approved late last year.

Allison Nathan: You think the traditional IPO route is still going to be probably the most popular. Why?

David Ludwig: There's more control in the process. It's more tested and true. And not every company is going to be perfect for a direct listing. Not every company is going to be perfect for a SPAC. And there's a number of companies who just feel like they have more control over the outcome.

So as we look forward, I think that the traditional IPO continues to see the majority of new listings, but we also expect direct listings, SPACS, to represent materially larger percentages of the listing market over time. Though one thing that we have been seeing in the recent environment is that the direct listing model is changing to add some of the elements that people like about an IPO. IPOs are changing to actually make it easier to add liquidity into the market within a shorter period of time, so I think that all these models are going to -- I'm not going to say they're going to coverage on the same thing, but you'll continue to innovate on each one of these models to continue to solve companies' objectives and take any friction points out that they see.

Allison Nathan: But has the recent popularity in SPACs in particular gone too far? Michael Klausner, professor of business and law at Stanford Law School, thinks the answer is likely yes.

Michael Klausner: Based on work that I've done with my co-authors, Michael Ohlrogge and Emily Ruan, with data collected from all mergers of SPACs in 2019 and the first half of 2020, which comes to 47 mergers, SPACs have a lot of dilution built into them, inherent in their structure. So when a SPAC goes into a merger, there's a big hole to fill. And what we found is that post-merger performance is closely correlated with the size of that hole. You end up with, at the median, $6.60 of cash per $10 share. So you've got a dilution hole, and you've got performance that reflects that hole.

Now, what we have currently going on, same structure for the

most part. A few exceptions but for the most part SPACs have the same structure. And yet we have skyrocketing SPAC creation. We have price jumps on simply rumors of deals. And we sometimes have a huge pop on announcements of deals. So to me, this doesn't look like pricing based on fundamentals. And that's why I think we may well be in a bubble.

Allison Nathan: What about the SPAC structure creates that hole?

Michael Klausner: There are four sources of the hole. First, we've got the sponsor getting its promote. Starts out at 20% of post IPO equity for a nominal price. Now, that's sometimes negotiated down in the merger but in our data not all that much.

Second, you have warrants being issued as compensation to IPO investors who are going to exit and keep their warrants.

Third, you've got underwriters being paid to sell equity that is going to be redeemed on average.

And the fourth factor is redemptions. Shareholder redemption gives up cash, but the empty shares are still sitting there. So the ratio of cash to total shares is going down as a result of redemptions. So each of those creates a situation where there is equity and no cash behind it. Or a portion of the equity has no cash behind it. And that's the hole.

Variability in redemption is probably the largest source of variability in total dilution. In our data, the range was from zero, which wasn't all that uncommon, some had no redemptions, to upwards of 98%. So the variation was huge.

Allison Nathan: All that said, are SPACs actually good investments? According to Ritter as well as Klausner, that depends entirely on which investor you're talking about, the pre or post-merger investor. The two groups of investors look virtually nothing alike. And their average return profiles are polar opposites with pre-merger investors historically making solidly positive returns at little to no risk. And post-merger investors suffering negative returns. Here is Ritter.

Jay Ritter: There are two separate parts of the life cycle of a SPAC. A SPAC goes public, typically raises $200 million or so, add a uniform offered price of $10 per unit where the unit is typically a share plus a warrant to buy half a share or some other fraction of a share at an exercise price of $11.50. And

the money from that IPO is placed in an escrow account. And once the sponsor of the SPAC announces we've got a merger deal that shareholders need to approve, the public shareholders have the SPAC have the right to redeem for cash or keep the share if they think that this is an attractive merger where the market is valuing the proposed merger at worth more than $10 a share.

But the warrant is also valuable. And on average, in the period between the IPO and the completion of a merger -- or if no merger occurs, the liquidation of the SPAC -- the average return for the SPAC IPO investor has been 9.3% per year. These SPAC IPOs are essentially analogous to a default-free convertible bond. Default-free because the money is put in an escrow account, and you can get your money back if you don't want to keep it there. And you've got the upside if it's an attractive merger.

So 9.3% per year has been a very attractive return, and it's no wonder that lots of investors, in particular the so-called SPAC mafia, a bunch of hedge funds that have said, "Hey, these are underpriced default-free convertible bonds. This is a really good deal." They've been happy to buy these.

And then as the word has gotten around, other investors have started to pile in. One of those investors is me. Until two months ago, I had never bought a SPAC IPO. And in the last two months, I have bought eight or nine. So historically, SPACs went public at $10 a share and started to trade at about $10 a share or maybe just a tiny bit above that. And by tiny, I mean 5 cents, 6 cents, 8 cents above that.

But in 2020, as soon as a SPAC goes public and starts to trade, the prices have been jumping up above $10. Last year, it averaged 1.6% as compared with 0.6% before then. And the first week of January of 2021, there's actually been more SPAC IPOs than any previous week ever. About 28 deals. And on average, they jumped up more than 5%. Investors are saying, "Hey, these SPAC IPOs are really a great deal. These really are underpriced convertible bonds." And if they were under priced at $10, let's bid up the price so that in the market they're no longer underpriced.

But then after the merger occurs, to date, on average, the returns have been disappointing. And so I would view the SPAC situation as important to breaking into these two distinct periods. For the IPO, finding investors is no problem. But convincing them that this is an attractive merger where this is

an operating company that's going to do well, that's where there's a lot of variation.

Allison Nathan: Ritter notes that history doesn't predict the future, and some recent SPAC mergers have performed well. If the recent strength in the SPAC market is any indication, he doesn't see the SPAC boom ending anytime soon.

Jay Ritter: The average post-merger return has been poor, but just as with IPOs, past patterns can't be relied on to repeat with certainty. And the same thing is true with SPACs. As we've gained experience, the return patterns seem to be different a little bit. For recent mergers which include Virgin Galactic and DraftKings, some of the returns have been very good.

Allison Nathan: Do you think this traction towards SPACs is going to continue?

Jay Ritter: 2020 had 248 SPAC IPOs, more than three times as much as any other year previously. And more proceeds than all previous years combined. I had kind of expected that after the big boom things might moderate a little bit, but the first week of January of 2021 has had 28 SPAC IPOs, more than any week in history. And eventually there's going to be some moderation, but it doesn't look like it's going to be coming real soon.

Allison Nathan: But Klausner argues that even if there is reason to believe that some SPAC mergers might perform better than history would suggest, substantial dilution is still inherent in the SPAC structure, imposing a large cost which is borne almost entirely by post-merger shareholders. That's not sustainable, in his view. And without some evolution to their structure, he suspects SPACs will eventually die out.

How do you think broadly about where the SPAC market could evolve?

Michael Klausner: I start with a really simple-minded question, which is: Why would you set up a structure that collects the cash, looks for a company to bring public, and then allows the people that invested the cash to exit and new ones to come in? I have never heard a good answer to that question. And the way I think SPACs should evolve should be if the sponsor's playing an important role, keep the sponsor. If the pipe investors are playing an important role, keep the pipe investors. But find the company first, have a sponsor, organize

the pipe investor, and have an IPO or a direct listing that involves those other components, which is really all the SPAC is bringing to the table. They're bringing the sponsor, and they're bringing pipe investors. You can do that in an IPO.

Everyone that's involved in the SPAC market can stay involved, but don't set up this expensive structure where you're paying these IPO investors just to, in effect, rent their cash for a little while and pay them a 10%, 11% return. Now, if we're just not going to do that, I think recent structures like the Pershing Square structure is a big improvement. It's got incentive alignment. It's got less dilution. It's got incentives not to redeem. That's the direction I would go.

But I still predict that SPACs will die out, at least in their current form, or shrink down a lot.

Allison Nathan: That may happen, but as SPACs continue to boom in 2021, we'll continue to monitor where the market goes from here. I'll leave it there for now. As a reminder, going forward, for all those loyal subscribers to the Top of Mind feed, we'll be publishing all of our future episodes as part of the Exchanges Feed, so please be sure to subscribe.

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