



Tech it to the next level

ERIC SCHLEIEN is the host of The Intelligent Investing podcast, and the founder of Granite State Capital Management. Here he explains that when it comes to growth, ‘S’ marks the spot

OVER THE PAST few months, a lot has been written about large tech companies such as Amazon, Facebook, and Apple. In particular, many of these firms have seen their stock market valuations rise significantly following the pandemic. Questions arise whether these and other tech companies are in a bubble. Is this a replay of the 1990s with low-interest rates, a rising stock market with big tech leading the way, and unsustainable growth rates? Or, is something else at play: could it be different this time?

I believe the answer to this question is more nuanced than that. There are plenty of smaller SaaS (software as a service) companies that are trading at sky-high valuations. Many of these companies will grow at double digits for years to come and these valuations will have looked reasonable. However, some of these companies will be competed out of the marketplace or won’t make it, and will have looked expensive in hindsight. It’s pretty difficult to pick winners and losers.

However, when it comes to big tech – especially companies such as Google, Apple, Facebook, and Amazon – I believe these companies are here to stay for many years to come and the valuations we have seen both pre- and post-Covid will end up looking reasonable to cheap in hindsight many years from now.

There is a massive shift going on in the way that business is done. Returns on capital of major companies have never been higher in human history. That is not some kind of bubble owing to cheap debt – in fact, it may be a justification for a lower interest rate world.

For example, a hundred years ago, it was high cap-ex businesses that were the most dominant in society: steel, railroads, oil, etc. With these businesses, the book value of the company was often a good peg to the intrinsic value of the business.

Today, many firms have a book value that is nearly meaningless to the actual value of the company. For example, companies like Uber and Lyft don’t own any vehicles. We have retailers such as Amazon and Alibaba that own little to no inventory. We have Airbnb which has now become one of the world’s largest providers of living accommodations for travel yet they own no real estate. And Facebook which one could argue is now the world’s most popular media company owns no content.

Something is going on and it’s not a fad, trend, or a bubble. There is a rapid and permanent shift that is happening. To understand what is going on, it is useful to provide some context.

Technological S-curves

S-curves have become trendy among startup firms attempting to show how growth is just around the corner. While these projections don’t often pan out, understanding how S-curves work is crucial to grasping why these massive industry shifts are here to stay and why the Covid-19 pandemic has merely furthered their acceleration.

If you look at the ‘Perez Technological Surge Cycle’ you will see that the growth of any industry looks like an ‘s’.

At the beginning of any technology, you have early adopters: these are the people that purchased computers when they were

hard to use, those who used the internet when there were just message boards and other arcane systems, or the few who purchased automobiles when cars were only available for the very wealthy.

As each technology became installed into society, the growth of this technology and companies that providing it grew alongside. At some point there becomes a frenzy. Whether it was the canal S-curve starting in the late 1700s, the industrial S-curves of the 1800s, the automotive S-curve starting in the early 1900s, or the computer industry S-curve starting in the 1970s, we have seen technological S-curves throughout history.

As these technologies begin to grow and people become excited about them, a bubble forms – and like all bubbles, they eventually collapse. When these bubbles collapse, business models that don’t work fall by the wayside and there is a temporary decline in the industry. From this decline, business models that work emerge and come out stronger, and growth begins once again. Growth starts to speed up as adoption becomes more widespread and this leads to a maturity period where growth starts to slow as the technology becomes saturated in society.

If you look at a GDP chart starting from year 0, world GDP is basically flat from year 0 until the 1500s. However, that number starts to skyrocket rather quickly and is now more than 100 trillion. We have had more GDP growth in the past decade than we had from year 0 to the year 1400. Nobody would say GDP is in a bubble.

It’s important to understand technological S-curves within the context of exponential GDP growth due to the fact that adoption cycles (shown on the S-curves) have become steeper and steeper as the human race continues on. There is no ‘reversion to the mean’. What’s even more interesting is that these cycles are not impacted by economic recessions. ▶

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Adoption curves continue to accelerate

If we look at different industries and measured how long they took to get to 25% adoption by the American consumer, we would see the following:

- Early 1870s: Electricity – 46 years
- Late 1870s: Telephone – 35 years
- 1890s: Radio – 31 years
- 1920s: TV – 26 years
- 1970s: Personal Computer – 16 years
- 1980s: Cell Phone – 13 years
- 1990s: Internet – 7 years
- 2000s: Social Media – 5 years

You don't need to have a PhD in quantitative analysis to see a trend here.

I assert the rise of companies like Google, Facebook, and Amazon are merely byproducts of very long-term technological trends. The 1990s were simply part of the boom/bust part of the computer/internet adoption curve.

So why do I believe that these companies are here to stay and aren't just bubble companies as a function of Covid-19?

The answer is down to the speeding up of S-curve adoption cycles as well as being able to aggregate consumers at scale. These

businesses have a winner-take-all dynamic to them due to the scale factor.

If we look at the way business used to be done, it used to cost more and more money for a company the larger it became. For example, if I sold widgets in the 1950s, my cost of customer acquisition in the early years would be low as it would be the early adopters, the fanatics that helped me sell my product. These early adopters would then tell their friends and word of mouth would get out. As word of mouth about my widget got out, the cost to market them increases. At some point word of mouth isn't enough anymore and I need to advertise my widget, which costs more money.

At some point basic advertising doesn't work anymore and I need to go bigger to reach more people hence commercials during primetime and the Super Bowl. The more widgets I sell, the more it costs me to acquire customers. This allows for new widgets to come into the market much cheaper and compete with me.

Market dynamics have changed.

Now, the more customers a company has, the greater the customer value proposition becomes. The larger Facebook becomes, the cheaper it is to acquire

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customers. This creates a winner take all dynamic as it becomes harder and harder to compete with Facebook with each passing year. The same thing goes for the network of Apple product users, Amazon users, and Google searches. The larger these companies get, the better their customer value proposition becomes.

As the adoption of these businesses become greater, growth will continue to speed up. These companies are not only outside of a bubble, they are becoming stronger and being adopted even faster. **H** Eric Schleien is the host of *The Intelligent Investing* podcast, and the founder of *Granite State Capital Management*. Listen to his podcast on podbean.com.

