



# The Australian Finance Podcast Episode Transcript

**Episode:** Semiconductor ETF (ASX:SEMI) review, ft. Kanish Chugh

**Release Date:** 29/10/2021

**Speakers:** Owen Rask & Kanish Chugh

**Duration:** 24:59

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## **Episode transcript:**

**Owen:**

Kanish, welcome back to the podcast, mate. It's always a pleasure.

**Kanish:**

Owen. Yeah, thanks for being back.

**Owen:**

Today, we're going to talk about a really popular ETF that you and the team at ETF Securities have just launched. Which is, the semi ETF, as most people know it. Investing in and around the semiconductor industry. It's a really interesting one, particularly coming out of the COVID pandemic. We see supply-chain bottlenecks, lots of delays on people's favourite products, whether it's an iPad, or whether it's something for a car, or anything basically, electrical. People are thinking, "When am I going to get this thing delivered?" Most of us blame Australia Post, but sometimes it's other things that are impacting the supply chain way back at the, I guess, the fulcrum of the internet technologies and just technologies generally speaking. And that is in this microchip and semiconductor space. So, let's just kick things off. Tell us a little bit about our semiconductors, what they are? The industry, and basically what are the key dynamics in this industry?

**Kanish:**

Yeah, so Owen I think, to start at the beginning, and you framed it correctly, semiconductors really in light, at the heart of all electronics. So, they're the brains of modern electronics. Anything that we use, the fact that your laptop, your phone, and more and more as we develop technology. From our vacuum cleaners, the smart TVs, even cars, as you said, are becoming more and more aligned upon semiconductor chips. So, in reality, the way you can see it, is they are the bricks and mortar of the future. It's what you may think about in terms of what oil was to the world, or from an industrial perspective as well. Because, without semiconductor chips and without constant development, you're not going to see advancements in technology. And you're going to see potential slowdowns in production of many goods.

**Kanish:**

And we've already seen that, because currently there is that chip shortage, you mentioned, because of COVID 19. I think that's partly the reason, there wasn't just enough supply at the time. And there was this big onset of demand as people started working from home, onset of tech, driving personal electronics, but also from a car perspective, we're seeing that the use of semiconductor chips within cars is actually going to increase. I think, it's sitting in about that 20, 25% at the moment, and it's expected to reach upwards of nearly, 40 to 50% within a decade, or so. And that's really important to understand that, especially as we move towards more electric vehicles, semiconductors are going to be much more required within the automobile space. So, that's why we need semiconductors.

**Kanish:**

And they're not an old industry either. I think people sometimes forget. Everyone thinks, "Oh, semiconductors, I'm only hearing about it now." I think we're only hearing about it now, because semiconductors have been around for about 30, 40 years, from when we think about the first computer, there was chips there, but the idea of the semiconductor chip and the reason why it's become more important, is as they become smaller, as the processing speeds, or the ability for more memory can be stored on semiconductor chips, it has allowed them technology to advance. So, the fact that you have iPhones that are constantly now being updated and being developed, is partly a result of advancements in semi-conductor chip manufacturing. So, they work hand in hand. And as I said, because of our now reliance on electronics, they're becoming more important and more relevant to us at the moment.

**Kanish:**

And I think it's just in terms of the industry that, that's important to understand, how does this all work and who's involved. So, within the semiconductor industry, it is very much dominated by a few players. And in some companies, they actually hold monopolies on the spaces that they operate in. So, if you break it down, you've got basically four different types of the industry. You've got the semiconductor designers. So, these are what's called fabless companies. Companies like Nvidia and AMD, two very well known companies at the moment. And they essentially, they don't even make microchips themselves, but they design them. So, they design the types of micro chips. You've got the semiconductor factories and everyone knows now who TSMC is, or Taiwan Semiconductors Company. Now, TSMC, they operate foundries. And the foundries are the manufacturing plants that create and manufacture semiconductor chips.

**Kanish:**

So, they don't design the chips. They take those designs from companies like AMD and Nvidia, and they essentially manufacture them. And to manufacture these chips, or to build those foundries, it costs billions of dollars and it takes many years. And I'm sure we'll talk about the chip shortage, that's one of the reasons why there's a chip shortage that currently exists. You've then, got integrated device manufacturers. And essentially, these are companies that do both the design and the manufacturing. So, they're companies like Intel. So, that's a really good example. It does both designing of the microchips and builds them too. Again, some of these companies, they generally don't do both, because of the cost involved in terms of trying to do both. And then, finally, you've got the equipment makers and the equipment makers are essentially, they make machines that are used in the factories to build semiconductor chips.

**Kanish:**

So, companies like ASML, or Lam Research. Now, these two companies are integral in the industry of semiconductors, but not many people know who they are. So, for example, in a factory, the air has to be so pure that you can't breathe it. So, the idea of dust particles can ruin chips in the manufacturing process, or they're working on such precise measurements. And that's where companies like ASML with their lithography machine, or Lam Research with their etching equipment, that's where they come into it. So, without some of those, and again, some of these companies like ASML, they are the only ones that produce the lithography machine that is widely used. And the cost is something about \$140 million per machine. So, it's unbelievable. Some of the market share that some of these companies have.

**Owen:**

Yeah, I think we talked about ASML recently, you and I. Just to put it in context for people. Well, sometimes, the leading edge of microchips and semiconductors is around three nanometers. So, that is, you wouldn't even see it. And that's why if dust gets into these environments into these clean rooms, the dust can actually be bigger than the actual semiconductor, the transistor itself. So, it's actually a really interesting scale when you put it like that. And on the other end, we go from tiny to huge. It can cost tens of billions of dollars to get one of these foundries up and running. And if you do get it up and running, which China is funding at the moment, you could be five years behind by the time it's built.

**Owen:**

And then, there's no guarantee that you're going to be at the leading edge of that. And I think, that's a really interesting thing too, because basically, it's economies of scale. So, these incumbents are so big, that they basically etched out a market for themselves. And I think it was the Trump administration, if I'm not mistaken Kanish, that basically tried to squeeze China a bit with TSMC. And now, China's trying to build their own foundries to a similar standard, but again, it's going to be very difficult and it's going to take many years before we get to that.

**Kanish:**

Yeah, that's true. So, it wasn't only just TSMC, but they did ban actually, they requested the Netherlands to ban the exports of ASML's lithography machine to China. And so, the New York Times, and to your point, you mentioned about five years in terms of development for foundries, but the lithography machine, that technology, because it's pretty much only held by ASML. The New York Times did some studies and said it would take China 10 years, or more to create a company, or the technology that can do what ASML does. So, by the time they do that, we're also going under the assumption that ASML is constantly redeveloping and innovating on its own technology. So, by the time it gets there, what's going to happen with that technology, is already outdated. So, that is a very big roadblock to a lot of new starters coming up, in terms of this industry, which is why as I mentioned, it's very much dominated by the companies that are from market-size, that are the largest, but also that constantly have the largest capital investments as well from a budget perspective.

**Kanish:**

So, those companies that are constantly investing in the R&D side, are the companies that are leading in the semiconductor space. And we actually have seen, when you look at R&D spend across industries, biotech from an industry perspective, is normally seen as the highest in terms of research and development costs, but semiconductors and the

related semiconductor industries are actually combined potentially higher than what the biotech R&D spend is, from an industry perspective.

**Owen:**

Hmm. Yeah, it's fascinating, because obviously, they've got to invest so much back into this, and it's such an important part of our entire society these days. This conversation would not be possible without some of these innovations. And to your point earlier on, I was reflecting when you said that this industry's around a long time, this is going to be a bit nerdy of me, but I remember the old Terminator movie, I think it involved someone in a microchip factory, and they were trying to stop basically, the end of the world in the show. And it was to try and stop someone who had the keys to the city in microchip land. So, that was fascinating. So, we've already talked about a couple of companies inside the semi ETF and inside the thematic. Are you able to just draw on a couple of them that you think are really interesting and people should know about?

**Kanish:**

Yeah, definitely. So, I think a really important one is say, Lam Research. Now, Lam Research at the moment, it produces the etching equipment that Foundry actually uses to produce semiconductor chips. So, actually it's funny. Lam actually says that they are one of the companies that no one actually knows who they are, but they're one of the most important, because they've got their fingerprint on pretty much every single electronic in the world. So, it's a real interesting company from that perspective, but it's a company, again, not many people would know of it. It's very specific in the equipment that it produces, but it's a company there, that really is crucial within the industry at the moment. So, I think that, that's a very interesting one. Another one that I mentioned is ASML and you and I have spoken about ASML before, so I won't spend too long on it, but essentially, it's got a monopoly on the lithography machines, which is the essentially it's the machine that puts transistors onto microchips.

**Kanish:**

And for a machine that costs 130, \$140 million, that is a company that essentially, is operating in a space that, no one else can produce that technology. So, again, it's one of the companies that now has become well known, but it's been producing this machine for many years. And from their perspective, is a leader in that space. People know about Taiwan Semiconductors. AMD is an American... We talk about that chip designers. So, the fabless and AMD is an interesting one, because many years ago, you would've said, "Well, it's nearly bankrupt, about five years ago." But, it's really done a big turnaround. It produces now, some of the best central processing units. So, the CPU. So, what a lot of our computers, what a lot of, when you consider iPhones and things like that, or some of the smartphones that they use, some AMD chips. Now,

what's actually really interesting is that it's also the preferred choice for a lot of data centres.

**Kanish:**

So, if we're talking about cloud computing, so, we talk about thematics and semiconductors potentially, is at the heart of a lot of other mega trends. So, cloud computing, that's how we're going to be using and storing data. Well, AMD is at the heart of that. So, Google Cloud has recently, talked to AMD about producing processes for its servers. So, they're just a few of the companies that are really interesting, that are working in this particular space, in terms of where we see that the industry going.

**Owen:**

Mm. Yeah, what's interesting about the semi ETF, is that you can have a company like ASML, which is from the Netherlands, and you can combine that with a company like Taiwan Semiconductor, and you can have US companies in there as well. So, you can get that basket approach. And that's why we love ETFs, right? In general. So, if you're looking for this thematic, you get a more in a basket, which is really interesting. Tell us a little bit more about the ETF then, and how it, I guess... Well, not as much the ETF, but also the index. What index does it follow? How are companies screened? I know that there's a cap on waitings. And how is the portfolio constructed? So, really just bringing together the semi ETF, we know what the companies are. We know what the thematic is, how does it select and put them together?

**Kanish:**

Yeah, definitely. So, the ETF and the code is semi, SEMI. It tracks the sole active global semiconductor 30 index. So, essentially it's 30 companies from developed markets plus Taiwan and Korea across the semiconductor value chain. Now, to get to that 30 stocks, what the index does, is it first looks at the industry classification. So, firstly, the company needs to be classified as being a semiconductor company, according to [Faxit 00:14:37], or according to [Arbics 00:14:39], which is another classification company. They have to be classified as a semiconductor equipment and services, or a semiconductor manufacturing company. So, a company, for example, Apple, we get asked sometimes this question, "Well, what if Apple gets into semiconductor chip manufacturing?" Or, an even bigger one is Samsung. Now, we know Samsung is doing a lot within the semiconductor space, especially in terms of R&D and also chip manufacturing.

**Kanish:**

We don't have Samsung in the index at the moment. And the reason being, is as per the industry classification, Samsung is a multinational corporation doing a lot of things. Semiconductors is one of those things. It is yes, a 30%, or I think at this point, roughly

around 30% revenue contributor for Samsung. Semiconductors are, but it's not the only revenue contributor. They do personal electronics, they do a whole range of different things. So, if at some point semiconductor manufacturing became a bigger part of Samsung's revenue stream, then they could be classified as this semiconductor company. Because, as according to this industry classification, then yes, they could feature in. But, at this stage we're looking for more pure place, so that there is not going to be that, influence that other parts of that business can impact on that fund, on that company's performance.

**Kanish:**

So, first they have to be classified as the semiconductor company. Another really important one is the market cap. Because, we're looking at an established industry, the minimums to feature in this index are quite high. So, the minimum market cap for new entrance is \$1 billion and they have to be traded over a period of six months for about at least \$1 million a day. So, the average value traded has to be \$1 million. So, again, it's very high liquidity. And again, when we're talking about developed markets, Taiwan and Korea, we don't want to be investing in very, very small companies that are hard for the ETF to buy into.

**Kanish:**

And finally, you mentioned that the limit on the company, so it chooses the 30 based on the largest. So, based on the market size, the market cap, but it caps it 10%. And again, the reason for that is companies like ASML, Taiwan Semiconductors, Intel, they're very large companies and they potentially could have featured a lot larger than their current positions in the portfolio at the time of the rebound. So, just to make sure that there is some distribution across the 30 stocks, there is that cap of 10%.

**Owen:**

Yeah, because I did notice that, because obviously, there are a few companies that accrue a lot of the value in this industry, because it's such a tightly held industry. A lot of that surplus in economic terms goes to select companies. And as a result, they're massive companies, right? So, inside the ETF, it's interesting that you have the cap there and it's probably appropriate. Okay, how about then, in terms of just the ETF, generally speaking? So, I noticed that it's got a 0.57% management fee. It's the annual management fees. 57 basis points. Distribution, semi-annually. An investor overseas, but it's on the South here in Australia. So, there's no w8 Ben form. Are there any other metrics that you can throw out across the portfolio, generally speaking, what are people getting? And what are investors getting when they buy into the portfolio as a whole? I know, some things that people like, PE ratios, dividends. Is this a type of ETF that would pay dividends?

**Kanish:**

Look, it can pay a dividend. I'm not going to say, it can't pay dividends. So, the actual ETF does have a semi-annual distribution. So, any stocks that pay a dividend within the periods of the six months, so December and June, this ETF will pay out those dividends, but the actual distributions, or dividends, this is a growth play. A lot of these companies, when you consider them, they're not paying out dividends, they're actually reinvesting their capital for that R&D spend. So, I wouldn't be, as an investor, looking at this as an income play, this is a growth play for investors to consider. If you looked at performance over one year, this is to the end of September 2021, the one year figures on the index. Because, obviously the ETF has only been running since late August. The index has had performance of roughly around 46.2% over one year, annualised performance over five years has been 31.8%. So, that's where it sits at the moment. It is very much a growth play for investors to capture that thematic, on semiconductors.

**Owen:**

Mm. And an important note there, you can check out all of the figures and the performance metrics and also performance warning on the ETF security website. There's also a great white paper, which I read before we started recording, which introduces investors to the industry and all the different players and what can be expected from the industry over time. So, there'll be a link in the show notes to that. Mate, one more question before we wrap up and it's just, so you said it's a growth play. How are investors coming to you and saying, "This is how I intend to use this ETF in my portfolio"? What are you seeing in terms of allocations? Is this a tactical play? Or, is it something that people tend to put in the core, even though it's only 30 positions? How do you see that playing out?

**Kanish:**

So, the way we are seeing it being played, is as a satellite. So, if you think about how can you use an ETF? It's either as a core position, as you mentioned into foundation building block, it has a larger allocation within your portfolio. It can be a satellite, which again, is a long term view on the thematic, but it has a smaller allocation within your portfolio. And then, tactical, it is very much short to medium term. Again, it sits primarily outside of your core and satellite. It's still relatively small as a percentage, but it's a shorter term play. The way we are seeing investors use this semiconductor ETF and most thematic ETFs to be honest, is as a satellite. So, it's a compliment to other building blocks that they may have in their portfolio. What's really important to recognise, is this isn't an industry...

**Kanish:**

We talked about being an old industry, but as a mega trend, it's something that's only going to continue to grow. Current wait times for chips are sitting at around 21 weeks, I believe. And it's not looking at the moment, that, that will come down anytime soon. Even if they do come up with enough supply to service the current demand, well, you're going to then see increased demand on say, electric vehicles over the next 10, 20 years. That's only going to increase demand on chips. You're going to see greater use of personal electronics, or greater advancements in electronics, not only you in personal, but also industrial.

**Kanish:**

So, the way in which we use electronics, whether it's in agriculture with AgTech and the fact that you have autonomous tractors, to autonomous vacuum cleaners and smart vacuuming cleaners in the home, or your Google Home and things like that, all of these require semiconductors. So, it's really going to be relevant and necessary going out. So, it's a long term mega trend that people need to consider. And that's why I say, looking at it as a satellite.

**Owen:**

Mm. Yeah, it's one of those ones. And I don't think you'd get too much overlap with existing positions. Of course, companies like TSMC, or Intel, or any types of businesses like that, would appear in other ETFs that you may hold, but not to this extent. So, this is a targeted thematic exposure, which is really interesting too. So, that's something that I always say just consider, how does it sit alongside what you've already got?

**Kanish:**

Yes.

**Owen:**

In terms of that overlap. And that's often a question we get too, but it's very targeted at particular industries. And as we talked about. Getting exposure to something like ASML, for example, is not easy. Not many people have direct exposure to a business like that.

**Kanish:**

No.

**Owen:**

So, yeah. So, interesting. Fantastic. So, okay. So, just to wrap up, where can people find out more about the semi ETF, if they want to keep learning, and discover more?

**Kanish:**

Yeah. So, the best place to look for more information is our website. So, that's [effsecurities.com.au](http://effsecurities.com.au), you can find all the information on the semiconductor ETF there under the products tab, but you can also find information on some of the other funds that we have, or outside of that, speak to your financial planner, stock broker, or even go on to your brokerage platform, if you are using that. There is information there as well on the fund.

**Owen:**

Mm. Yeah. And we'll put links in the show notes to the white paper that you guys have produced to go along with this. So, Kanish Chugh from ETF Securities, always a pleasure mate. Thanks for joining me.

**Kanish:**

No, thanks having me on.