

Transcript

The Ideas Exchange

Episode 12: Market makers and their role in the ETF ecosystem

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[00:00:02] **Voiceover** Welcome to the Monthly Ideas Exchange podcast brought to you by ASX, the heart of Australia's financial markets. Each month we'll connect you to a range of leading industry experts who'll give you a look into the finance industry and deliver valuable insights, hear about important market events, industry research, tips for your own market research, as well as innovative products to help you diversify your investment portfolio.

[00:00:33] **Martin Dinh** Hi, everyone. Welcome to the Ideas Exchange podcast. Now, before we get into it, I just wanted to say a huge thank you to all our listeners who have helped support the podcast since it first launched exactly a year ago. I hope you found the podcast useful in your investment journey. We appreciate everyone's support and feedback. After this month's episode I'll be taking a step back from the podcast, but we have two fantastic hosts, Anastasia Anagnostakos and Helen Chong, two of ASX's business development managers in the wealth management space, who will bring a lot of experience in the finance industry and a fresh new perspective on investing. Now in this month's episode, I chat with Morgan Potter and Gordon Reid, two of the co-founders of Nine Mile Financial, one of Australia's biggest market makers, as we learn about one of the most important market participants in the ETF ecosystem - market makers. In this episode, we cover a diverse range of topics including, what the role of market makers are, how market makers price ETFs, how they navigated the COVID 19 pandemic, and a whole lot more. So a really exciting episode ahead. Let's get into it with Gordon and Morgan.

[00:01:38] **Martin Dinh** Gordon, Morgan, great to have you both on today.

[00:01:41] **Morgan Potter** Thank you very much for having us.

[00:01:43] **Martin Dinh** One of the most unique features of ETFs is that all ETFs have market makers, and they play a really significant role in the ETF ecosystem. And really, how they do this is they ensure ETF prices are accurate and that the trading of ETFs is smooth in all market conditions. So now, despite market makers, you know, being one of the most important market participants in the ETF ecosystem, we still get a ton of questions from investors. So I guess it's great to have you both on here today to help us understand more about the role of market makers, as well as how they support the ETF ecosystem. So really, I think the best way to start off is I might throw a question over to you, Gordon. Most investors, they are probably familiar with major ETF providers like iShares, BlackRock, BetaShares, etc. But I'm sure some might be not so familiar with

market makers such as Nine Mile. So maybe Gordon, could you tell us a bit more about Nine Mile and what you do?

[00:02:38] **Gordon Reid** So we're a small Australian firm. We started in 2016. I say small, but we're the second biggest market maker by turnover in Australia at the moment. Morgan and I were working together in a large institution previously, in New York actually, and we just sort of found that trying to build a business like a market maker inside a bank with this ever increasing burden of regulation was a little bit stifling and difficult to actually get things off the ground properly. We identified an opportunity back here in Australia in the market for a new market maker, to introduce more competition and decided that, you know, let's do this and start from scratch and become another market maker in the Australian market, and that's what we've been doing for the last five years.

[00:03:15] **Morgan Potter** If I could just add a couple of points. First, I think from my perspective, ETFs bring such an amazing opportunity to investors. The low cost, access incredible manages, access global themes, trends, different sectors, all via a single instrument listed on the ASX. Secondly, I think technology has changed not only the way people invest, but also who invests. And as a result of the ETF growth that we've seen, we wanted to really create a business that helped the industry grow, that really helped people gain access to these products, partner with asset managers, and importantly make sure that people who have liquidity in ETFs and in the various products that are listed on the exchange. So our goal really was to create a business that could help drive that process and also enjoyed growing a business together at the same time.

[00:04:05] **Martin Dinh** Gordon, you mentioned that Nine Mile is second highest in terms of turnover. I've also looked at the number of ETFs that you've covered. So you've covered over 130 ETFs in a space of five years, which is absolutely phenomenal. But Morgan, I wanted to, I guess, go into a bit more detail about what your role is as a market maker for these ETFs. Maybe if you could explain that.

[00:04:24] **Morgan Potter** Yeah, certainly. So investors can buy and sell equities, BHP, Rio, et cetera, on the stock exchange, and they can also buy and sell ETFs on the stock exchange. So for us, we are there to provide operational efficiency. We're there to provide liquidity on the exchange as a specialist trading firm. The role of a market maker really is to ensure that investors wanting to buy these ETFs are able to do so, and that really comes down to liquidity and providing liquidity at a price for people to invest. And that's not just investing into the securities, that's also divesting, if they want to sell the securities and then purchase something else. So as a liquidity provider, Nine Mile helps maintain and improve the overall transparency of the ETFs by quoting bids and asks around a net asset value of the ETF. And so by providing that liquidity, we make it easier for investors to really access that stock and many other ETFs that exist on the exchange as a result of that.

[00:05:20] **Martin Dinh** So when you're saying you're providing liquidity, are you saying that, for example, I buy or I choose to sell an ETF, are you kind of taking the other side? Is that kind of what you mean by providing liquidity?

[00:05:32] **Morgan Potter** Yeah, exactly. I guess providing liquidity is really an industry term, but essentially it's we agree to purchase securities at a certain price and we agree to sell securities at a certain price. So the role of a market maker is a regulated role by ASIC, and it's a role that's really important for the exchanges and the issuers to make sure that when people want to invest, and if the ETF doesn't have enough liquidity or enough people trading it at any point in time, then we step in and provide that accessibility effectively for people to really buy and sell those securities. And it ensures, particularly during times of volatility, it ensures that people have a guarantee that someone's going to be there at any point in time to be able to purchase those securities if they do want to divest or if they find an opportunity or a manager that they really like, then they can obviously purchase those ETFs and we become the seller of those ETFs to them.

[00:06:28] **Martin Dinh** So when you're quoting your buy price or your bid and ask prices, as well as your volumes, Morgan, what sort of factors do you take into account when deciding what prices and volumes for ETFs?

[00:06:40] **Morgan Potter** Yeah, it's a great question because there's so many different flavours of ETFs. There's ETFs that have underlying fixed income constituents. There's ETFs that cover thematic sectors that are offshore, equities, there's commodity ETFs. So there's a vast range that people can access. I think that's the most exciting thing about ETFs, for retail, for institutions, to really gain access to that. But it's really, I guess, the understanding of how these instruments are priced is really quite key, and so the factors for us are, we decompose ETFs, which means that we look at the ETF and we look through the ETF to what the underlying constituents are, firstly. Then we obviously look at the liquidity profiles that exist for all of those constituents to make sure that we can price them properly, are they on a real time exchange? Is the exchange live at any point in time? For example, some of the constituents might be US based, so they're closed. Some might be in Europe, some might be in Australia. So for us, we have to come up with a value of that ETF at any point in time. So that value is really derived by us understanding the products, understanding what the prices are of those products at any point in time. If some of those instruments are closed, then it's really understanding what we can do to substitute those securities with other securities to be able to then roll up those constituents to a price that is equal to the net asset value of the ETF at the time.

[00:08:01] **Martin Dinh** And when we say net asset value, that's just basically the value of the underlying assets in the ETF. Is that what you mean?

[00:08:08] **Morgan Potter** Exactly. So, really the price of the ETF is determined by the underlying constituents. So in a very simple example, if the ETF is just made up of BHP and Rio, and it's a 50 per cent weight on each of those securities, then it would just be price times the number of shares in that portfolio and the sum of those really add up to the net asset value of the sum of the assets underlying, which is effectively BHP plus Rio.

[00:08:32] **Martin Dinh** So Morgan, you touched on a pretty interesting point. You mentioned that you also make markets or, you know, you provide liquidity

prices for ETFs that hold, say, underlying shares that don't trade during the Australian trading day, an example is U.S. shares. You mentioned that you look at certain proxies or something, could you go into a bit more detail about that?

[00:08:52] **Morgan Potter** Yeah, certainly. So, I guess one of the advantages of ETFs are you can get access to Microsoft and Google, you can get access to Exxon, you can get access to companies that trade in Sweden or Great Britain. But given the time zone differences and the fact that exchanges don't trade 24 hours a day, then a lot of those securities aren't open at any point in time. So if we take an example where Microsoft is a constituent of an ETF that's listed in Australia, then Microsoft is closed. So what we would do then is utilise futures or another equity that was correlated to Microsoft that's open in our time frame to really understand where we think Microsoft will open when the US opens the next morning. So that's really for us to be able to again roll up, what do we think the fair value of this ETF is at any point in time? Which really comes back to, if all of the instruments were open, then we can easily calculate what the fair value is because it's obviously the price times the volume in the portfolio. But for those ETFs that have constituents that are closed, then it's really a substitution of something that is saying Microsoft will be at X dollars tomorrow, and usually that is a futures contract or a security that's listed potentially in Japan that's highly correlated to that security.

[00:10:12] **Martin Dinh** So you mentioned earlier that you're regulated in terms of when you provide liquidity. So are there any certain minimum requirements when you publish prices in volumes, for example, is there a limit in terms of what sort of prices that you can set for an ETF or the minimum number of units you need to make available throughout the trading day?

[00:10:30] **Morgan Potter** Yeah, absolutely. So it's a great question because there's two factors here. Really, the regulator wants to ensure that the market maker that is providing that liquidity does so in an orderly fashion and make sure that the market maker maintains an orderly market, and the exchange where the instrument is listed also wants to make sure that the market maker operates under certain rules to ensure the investment by people into these securities are done in the most efficient manner. So when a security or an ETF gets listed, the exchange, ASX, will say that that security needs to operate in a certain schedule, and that schedule means that it really is a schedule governing what rules the market maker needs to abide by. So that means that, there are three things, there's a minimum quote size that we need to ensure that we provide. So that means a dollar size that we need to be at a minimum on the bid and the offer. So there might be \$50,000 or \$100,000, again to make sure that if anybody is selling or buying, there's enough liquidity there, or enough dollar value in size that they can access at any point in time. So that's the first one, minimum quote size. Second one is a maximum spread between our bid and our offer. So again, making sure that that isn't too wide for investors, and again, protecting the interests of the investors to make sure that, obviously, when they want to buy from us or sell to us, then obviously there's not too much of a price difference. The third factor is a minimum amount of time that we need to be in the market. So the market opens at 10am and closes at 4:10 pm. So we need to make sure we're there for a certain percentage of the time during that day, and that's

usually set at 90 percent, which means that we can have periods that we are out of the market, it might be for technical reasons, it might be because instruments are potentially closed or they're in trading halt. But we need to be there for 90 per cent of the time in any one trading day to make sure again that people have access to the liquidity to various prices at any point in time, regardless of market conditions.

[00:12:33] **Martin Dinh** Morgan, one thing when we talk to investors and I've also spoke to a couple of the ETF providers and they provide this feedback as well, is that their clients love ETFs because generally, when their clients are trading units in an ETF, they're able to get an ETF or buy and sell units in the ETF that's quite close to what you said, that like the fair value of an ETF. So I was wondering, could you explain how market makers like Nine Mile, how you help keep the price of ETFs close to the underlying value of the assets of that particular ETF?

[00:13:04] **Morgan Potter** Yeah, absolutely. So I guess there's probably two points here. Firstly, ETFs are simply an instrument that holds a number of other instruments, and each one of those instruments is able to be traded. So BHP, for example, as in my earlier example, may be an instrument within an ETF. So that means that all of the instruments within an ETF are very transparent to everybody in the investment community. So everybody, in theory, see where that ETF should trade at any point in time. Secondly, ETFs are an open ended unit trust, which means that the units in the fund can be created and redeemed on a daily basis by an authorised participant and an authorised participant means that someone's allowed to create units in the fund. So with the authorised participant being able to create and redeem units, and the fact that they can see exactly what is in the portfolio, they can trade the underlying constituents. It means that there is an arbitrage opportunity that exists because if the ETF trades too high relative to its net asset value, then the market maker can sell the ETF and buy the underlying constituents and create an arbitrage, and then at the end of the day, they can create the ETF by then, obviously delivering the underlying constituents. That in turn materialises that arbitrage and flattens the position for the market maker. So the open ended unit trust and the transparency of ETFs in general, means that there's an arbitrage that exists between the ETF and the underlying constituents. So competition, additional market makers, traders, various participants within the market, are given an opportunity to make sure that the ETF doesn't trade too far from its net asset value. Otherwise, people will come in and try and arbitrage that, which is a great thing because obviously then people who are investing in ETFs are really assured that prices don't drift too far away from net asset value, by virtue of the fact that competition will obviously arbitrage out those pricing differences.

[00:15:05] **Martin Dinh** And Gordon, Morgan's talked about how market makers can play an important role in keeping the market price of the ETF close to its, I guess, fair value. Morgan's mentioned the arbitrage mechanism, and they also ensure that trading occurs smoothly in all market conditions, and this is also including volatile market conditions. So what I'm curious about is during that COVID sell off in March 2020, we saw a lot of volatility and uncertainty around the pricing of asset classes, and you would know for sure. So maybe could you

just walk through, you know, how you stayed on top with pricing ETFs at a fair value during this very difficult time?

[00:15:42] **Gordon Reid** Yeah, sure. I mean, as Morgan mentioned, particularly with domestic products where anyone can look through and see all the constituents of that ETF, you can precisely calculate what the fair value is at any given time, there's no ambiguity there. So what's really important is being able to update and provide prices to the market in a timely fashion, so that the price of your ETF is not lagging what the underlying market is doing. That's really all about having a scalable technology platform. You know, latency is super important to us, but so is that latency being able to remain reliable, consistent during times like COVID. I mean, there's volatile periods and then there's COVID, right? So that's like, you know, unprecedented. So for things like the domestic products, it's all about, we just got to be quick, and that's something we continually investing in. We put a lot of energy into that. Then those products that Morgan spoke about as well, where there might be some US underlyings, you know, some of the easier ones like the Microsofts and the Teslas where we might just be proxying with S&P 500 futures or something, it's less of an issue. But for the more complex products where it could be a basket of global futures and depository receipts or other equities in different time zones, those proxy relationships may break down. Then we're in a situation where our proxy is not necessarily tracking or predicting where the instrument we're trying to proxy out is going to open the following day. So in those cases, we may have to widen a little bit or scramble to try and adjust our proxy. So I guess there are two sort of areas where we put a lot of energy in terms of technology. One is the throughput and the latency, which, you know, in all market conditions that's important, especially volatile conditions. The other one is pricing. So we built our own tools to do the regression analysis and work out what are the right proxies. You know, they may persist in perpetuity or for a short period of time, or they may completely break down in situations like COVID. So when that happens, we go back to the process and try and work out or adjust. Maybe we add in some new factors into the proxy to smooth out the tracking error, or maybe it's a different model altogether.

[00:17:33] **Martin Dinh** Throughput and latency, in layman's terms, what does that mean?

[00:17:38] **Gordon Reid** Sure. So ultimately, we're trying to quote on the market, so we're sending orders to the market for investors to buy and sell ETFs. Latency is simply a measure of how quickly we can consume inputs, calculate a price and send that order to the market. So we tend to think of latency as a single order latency, but in reality, the market does not process one or at a time. You know, there are millions of orders going through every day. Throughput is kind of like the other dimension, which is how many orders can we send per second? And what does that mean for our latency at that time? So if we were only trading, you know, four or five funds, we probably wouldn't be too concerned about throughput. But you know, as you mentioned, we're trading hundred fifty, multiple venues. Throughput is really important.

[00:18:21] **Martin Dinh** How many orders are you putting through a second, say on average a day?

[00:18:24] **Gordon Reid** It's definitely not a linear profile. There are busy times, you know market open is always busy, end of the day is always busy. Then there could be, you know, RBA rates announcements, it might move things. You know, when Trump was in power, every second day he would say something or do something and then things would wig out. So most of the work that we do is we're catering for maybe five percent of the scenarios that occur actually in the market. When things are steady, it's less challenging, I guess. So order rates, you might go from, you know, 10 orders a second up to 2000 a second or more. Definitely we've seen scenarios like that or even higher.

[00:18:58] **Martin Dinh** And Morgan, I actually got a request from a listener and they were wondering, sometimes when they look at the order book, they only see a limited number of buyers and sellers. On the surface, the ETF itself may look illiquid. So in this scenario, is it incorrect to say that the ETF is illiquid, given that there's only a limited number of buyers and sellers in that ETF?

[00:19:19] **Morgan Potter** Yeah, it's a great question, and something that we've spent a number of years talking to institutions and financial planners and retail investors about the liquidity profile of ETFs and why it doesn't sometimes stack up to something like a BHP or Rio that's got lots of participants trading it. It really comes back to one thing, which is the creation and redemption mechanism or the open ended unit trust nature of the ETF, which is really one of its key benefits. So the liquidity profile that's on the screen is obviously important because that means there's an immediate ability for people to transact. But really, it's about, because there's an open ended nature to the ETF, the market maker can continue to sell or continue to buy at a certain point in time or price indefinitely because of the ability for the market maker to create units in the fund continually, and that happens on a daily basis. So we try and work through what is the right quote sizes that should go onto the market relative to the underlying liquidity profile of those stocks. So for example, if you've got a fixed income ETF that's got a lot of hybrids or mortgage-backed securities that are illiquid, then that's really the only constraint that we have is how do we purchase the underlying securities to then deliver those securities to the issuer to create those units? So for domestic equities, you know, there's always liquidity in the underlying constituents, so people shouldn't be discouraged by the fact that there is a smaller amount of liquidity on ETFs because the market maker will continue to replenish those quotes and ensure that investors are able to buy and sell much larger amounts than is on the screen at any point in time, purely because of that creation and redemption mechanism.

[00:21:01] **Martin Dinh** And Gordon, you mentioned before you cover over 100 ETFs and you mentioned the times when you could be doing a thousand transactions in a second. I think when I put into context, when you're making markets for 150 ETFs, each of those ETFs can hold tens, hundreds, thousands of stocks and bonds. We've also learnt by chatting to you both that you're also constantly adjusting prices based on what's happening in the underlying value of

the assets of that particular ETF. So my question is how on earth do you keep on top of everything?

[00:21:32] **Gordon Reid** Yeah, it's a great question. I mean, technology is absolutely critical to our business. I think there's no doubt about that, but it's more than that, I think. Even with a huge team of traders, trying to manage that amount of activity is extremely difficult or in today's world, impossible, I'd say. We built our trading platforms from scratch. So we have complete control over what we do and we spend a lot of effort trying to make sure that the right information is available to the trading team at any given time. Trying to present everything all the time is, you know, it's impossible and it's extremely unwieldy. So things like, do we think we're pricing correctly? What are our margins? Where's the flow in the market at the moment? Are we meeting obligations for where we have obligations that Morgan talked about earlier? We try to make sure all these key things are presented in the most efficient way possible. Sometimes our front end can look like a bit of a Christmas tree. There's red lights here and green lights there and blue lights there. We use sounds popping off and it's quite fun actually coming up with these sorts of triggers that we can grab people's attention and say, you should probably focus on this for the next couple of minutes. It's all about the technology and it's all about trying to make sure that we're presenting information as efficiently as possible. Then when we do find gaps, gaps in the platform where you know, we're not doing something as well as we think we can, there's a real discipline there to go back, do some design and build into the platform an automated solution. Automation is absolutely key, rather than to just sort of Band-Aid over with manual processes. So we try to keep that discipline and constant interaction and iteration between the trading team and development team to make sure that we can stay on top of all this trading.

[00:23:09] **Morgan Potter** It's really a fun exercise and quite amazing because you end up consuming data from many, many exchanges globally that are open, Chicago Futures, LME, different exchanges in Asia. And so really, as Gordon mentioned, it's the scalability and the ability for us to process data quickly, efficiently is so important because you've got a limited bandwidth with people. So the technology really has to be the driver of that scalability and to make sure that obviously it's correct at any point in time. So the process really for us, is to spend quite a lot of time upfront, making sure that we're choosing the right proxies, we're choosing the right constituents, we're using the right exchanges, we build the models properly. So then the traders can really sit back, let the technology make sure that it can scale across many, many instruments, whether that's 150, 300 or a thousand plus and have the confidence to then make sure that we're right because obviously we need to make sure that the investors are getting the right price and we need to make sure that we're managing our risk appropriately as a result of that.

[00:24:12] **Martin Dinh** And Morgan, you know, after speaking with you guys, I don't think there are many people in the industry that are as knowledgeable as you guys when it comes to trading in an ETF. So I was wondering if you could share with our listeners any tips when it comes to buying and selling ETFs, just ensure they don't get caught out on the wrong side when trading ETFs.

[00:24:29] **Morgan Potter** Yeah, absolutely. I mean, ETFs thankfully trade like any other security. You can buy and sell ETFs through the app on your phone, through CommSec, through your broker of choice. That's the beauty of ETFs, really. But there's some strange nuances that I guess people should really be aware of. Firstly, Australia has obviously an opening auction, which is graduated over a number of minutes and alphabetical opening of the underlying securities. Then the closing auction, obviously, is a final snap at 4:10pm, so those two periods are really periods of uncertainty for market makers because market makers in the opening auction don't have all the information at hand. For example, Telstra doesn't open until later in the auction cycle. So if Telstra is an underlying constituent in an ETF, at 10:02, then the market maker has to try and predict where will Telstra open. So there are certain pieces of information available to us to be able to work out where the indicative auction price is for that security, but it can vary depending on the time, how far away you are and also what type of volatility environment you were in. So during those times, generally market makers are slightly wider than they would be during the continuous market. Then additionally, during the close, the same thing applies. We don't know where the securities will close. So market makers generally have a slightly wider spread as a result of that, to be able to manage their risk of ensuring that obviously they can get access to Telstra or BHP at the right price relative to where the ETF trades on the closing auction. So I guess our advice is just be conscious of the fact that there are opening and closing auctions. Market makers are consuming as much information as possible, but when there is a trading halt that exists in a certain security, today for example, CSL's in trading halt pending an acquisition. That's usually a large constituent in an ETF. Also, if constituents are closed due to auction times or closing auctions, et cetera, then it's hard for market makers to price and hedge that. So really the best times are when everything is open and really, I guess our advice would be just be conscious of the fact that certain securities within the portfolio might be closed, whether it be due to an auction, and that will affect the pricing of the ETF, not because the market maker takes an adverse view on the stock, not at all, it's really just about making sure that the market maker has the ability to hedge the exposure that it gets when it buys or sells an ETF to somebody.

[00:27:08] **Martin Dinh** Final question for you Gordon. Market making, it's quite a tricky topic, but you guys have done such a great job explaining some of the fundamentals behind it. I'm sure a lot of our listeners, when they listen to this podcast, they'll probably want to learn a bit more about it, given the importance of market making in the ETF ecosystem. So, for those who want to follow your work and learn more about ETF market making, where can they go to?

[00:27:33] **Gordon Reid** Yeah, sure. I mean, it's definitely true, it's a quite a niche part of finance in general. We have a very active LinkedIn page. I think a lot of the good information about market making comes from market makers themselves, and we definitely try to disseminate info and comment on things that are happening in the industry. I think there's even a book review up there at the moment. So definitely find us on on LinkedIn. Also, we have a website there as well, and we're always looking for good people to come and join the team so you can contact us, there's a link there for careers as well.

[00:28:03] **Martin Dinh** So what's the book that you were reviewing?

[00:28:05] **Gordon Reid** Trading at the Speed of Light.

[00:28:07] **Martin Dinh** I'll check that out. Well, Gordon and Morgan, this concludes this month's episode. I just want to thank you both for taking a time out to help explain market making. It's not the easiest topic to articulate, but it's great to have you guys on to be able to explain something that's quite fundamental to the ETF ecosystem. Have a good Christmas and New Year and hope to have you guys both back down on the road.

[00:28:29] **Gordon Reid** Thanks very much, Martin.

[00:28:30] **Morgan Potter** Thank you, Martin, and really appreciate your time and happy holidays, everyone.

[00:28:34] **Martin Dinh** Well, that wraps up this month's episode. It was awesome learning about the role of market makers in the ETF ecosystem, in particular, how they help provide liquidity and help investors enter and exit their chosen ETF at a fair price, throughout the whole entire trading day. Now, in next month's episode, Anastasia will be chatting with BetaShares, to learn about one of the most talked about topics in 2021, you guessed it - cryptocurrency. So stay tuned for a really exciting episode that you can't afford to miss. For now, keep safe, and we will see you next episode.

[00:29:08] **Voiceover** Test your trading skills and sign up for the options trading game suitable for all experience and knowledge levels. Visit optionsgame.com.au to register.

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