

Interview with a regulator #1

SPEAKER1 00:02 OK, so can I just start by asking, what was your sort of what was your background in the financial sector? You know, what is your experience?

SPEAKER2 00:19 Yes. So, I mean, I started a long, long while ago in the mid-1980s as a blue button on the stock exchange floor. So, it's been a couple of years, sort of a trainee trader. I spent about five or six years working on the sell side, trading stocks out of [REDACTED], which was a European based stockbroking firm. So that covered both institutional and private clients and then left and went to [REDACTED] and spent a couple of years there. And [REDACTED] at that time of setting up, I suppose, was like a wealth management business. And I switched across to that and sort of moved more onto the buy side, if you like. And from there on, really spent the rest of my career in the markets on the buy side as a trader and at [REDACTED] which became [REDACTED] for four years and went to [REDACTED] and was there for about 10 years. And then a company called [REDACTED], which is a US based asset manager, took over some of the City asset management business. And I went there for the last four, five years of my career. And then eight years ago, I was kind of getting a bit fed up with trading and thinking about something completely different, if I'm honest. So, I took the opportunity to take a sort of voluntary redundancy package from [REDACTED], took a year out trying to find other things that might be more interesting than the financial markets without really finding anything. And then ended up coming back as a regulator. So, I saw a job advertised as a technical specialist at the FCA looking after sort of trading related activity, which seemed pretty good. What I was doing, and I joined there in 2014 and up until about two weeks ago, that's where I was. So, seven years as a regulator, the various roles of our markets, but to mainly supervising firms, whether brokers or trading firms or exchanges. And I sort of, again, took a voluntary redundancy package for the FCA and the end of June, and so I left in June, and I'll be going back to the market in about two months' time. And the compliance role, which is kind of relevant for what we're going to discuss, because I'm going to be setting up an electronic trading compliance function in one of the investment banks.

SPEAKER1 03:00 OK, great. And on that subject of the trading, I mean, since you came to the market, saw that all those years ago, how have you seen the sort of markets evolve, particularly in the equities world? I think it's been quite well known because it looks like flash boys and things like that way. You know, there's been a lot of public interest in in how sort of algorithms have started to shape the markets and high frequency trading and things like that. And they've sort of become popularized. But perhaps what's not so well known is what's happened in maybe the FICC markets. And I've always had a sense that maybe they're playing a bit of catch up. I mean, how have you seen things evolve in that time?

SPEAKER2 03:43 Yeah, I think that's probably right, to be honest. So, I mean, I was primarily on the equity side when I was in the market until I saw that exchange occurring really

from outside from the introduction of this one in 2007, 2008. That's at the time. And that's when the equity market really became fully electronic. And pretty much all of the trading I did was some form of electronic trading, not necessarily algorithmic, but certainly automated types of trading. And we also get a little bit of fixed income trading and some derivative trading. And I think depending on what asset class we're looking at, currency markets have always been, I'd say probably in step with the equity markets in terms of moving towards electronic protection and derivative markets were left behind a little bit, but actually now in some respects, a more sophisticated. But absolutely the problem in the commodity markets have really sort of lag behind. And I think probably it's only in the last few years, but you've seen some quite significant structural changes in the way that those markets operate. And I'm sure that over the next four or five years, you'll see an even bigger shift in sort of the way those instruments are traded in the exchanges, in the venues that they're trading on. So, it's pretty significant, I think, in that space.

SPEAKER1 05:09 What do you think is the reason why they've lagged behind thus far?

SPEAKER2 05:14 So, I think, again, it's sort of difficult sometimes to block all the FICC markets together. But in particular, I was sort of relatively active in. So, if you think about equities, there's a footsie one hundred which accounts for I'm not sure the exact percentage, but well over 80 percent of all the trading that takes place in the UK equity market. And that's pretty much the same for global markets are relatively focused. You know, there are two or three thousand equity stocks, but most of the trading is focused on those blue-chip names. And that's like with currency pairs, even more so, actually. You know, you've got half a dozen really actively traded currency pairs, but quite a lot of activity takes place in those relatively commodities instruments. And then you move out into particularly the options as well and the bond market world. And there are thousands and thousands of different instruments that you can trade. So, it becomes slightly more difficult, I think, to solve some of those problems via electronic trading tools. You know, people when they want to trade bonds, you know, certain features they're looking for and there could be thousands of different options are available to them, not a huge amount of liquidity and a lot of those instruments. And so that created a lot of kind of structural issues, I think, to some of those markets. And I think also they are a little bit more kind of old school in the way that they did things. You know, they were traditional broker dealers and they've been around for a long while. So obviously liquidity and generally speaking, the market was relatively comfortable with the way that that that market operated. And regulators in general sort of turned a blind eye to it. I think, you know, if you think back to if it won, a lot of those requirements were very much focused on the equity markets. And it's only really been two, which is still only three years old, where you've certainly seen that focus on other markets and other asset classes as well, which you think was so driven that more recent evolution in those markets and perhaps people getting a little bit more comfortable with

electronic trading tools and algorithms might also lead to that as well. And the only other thing that I would sort of say is that, you know, I've got a bit of a. I think some firms have a bit of an agenda, and in particular what we've seen in the equity markets and the fixed income markets is a rising and new type of participant, which is the principal trading firm, high frequency trading firm. If you want to call them and they like to trade in liquid on new instruments where they can use that kind of technology to gain an edge. And so, there's a big incentive from those types of firms to try and move other asset classes into a similar kind of template for trading because it suits their business model. So, I think there's quite a lot of lobbying going on at regulators and exchanges to try and replicate as much as possible in the equity market model. So, I think markets, which is what we're sort of seeing happening

- SPEAKER1 08:38 as a regulator. What's your perception? That these sort of older , sort of thick market firms , I mean , I used to work for broker firms myself , was your perception that they were I mean , all they are they ready for the changes that are coming , in your view , or is there a little bit of a concern that maybe they're the front desk is going much faster than the systems and controls can keep up with ?
- SPEAKER2 09:06 I think that that that's a legitimate concern. You know? I would have said before I really understood perhaps how some of the large investment banks were that you would have imagined that these guys would be using these tools in the equity and currency space for years. So, they should be relatively up to speed, and it shouldn't be too much of an issue. But I didn't really realize how siloed some of those firms are known. So, their equity business is completely segregated from their fixed income business, for example. So, you know, some of the some of the sort of comforts that we got were firms like Morgan Stanley and Goldman and this huge investment banks, the level discovered, I'm not quite so sure they will because those businesses are run as independent businesses. So, I think there is potentially a concern that they're not quite ready for those changes. And I think they won't really understand perhaps some of the implications until know it's really starting to sort of pick up. And I think there probably is some concerns around that. And it's definitely something that regulators should be thinking about.
- SPEAKER1 10:18 Do you think this sort of evolution in trading is creating new types of conduct risk which didn't exist before? Or is it something which really is just sort of a new way of old trading, if you like? And these are not really new conduct risks, but they are it is amplifying risks that already existed.
- SPEAKER2 10:43 Oh, that's a good question. So, I think a bit of both, it would be my kind of initial reaction. So, I think that there's certainly if you look at some of the kind of operational type risks that that we would look at, I think there's definitely a strong argument to suggest that each rating amplifies those risks. So, you know, where you've got like a manual trading desk. Of course, you know, that size can

have an error and they can make a mistake. The problem with an algorithm, of course, if it's kind of is an error in the code, the time that kind of mistake is picked up, it could have changed thousands of times, something I think definitely in terms of resilience, risks and things like that, this is an amplification of this kind of risks, I think it appears, and conduct risks. I think, you know, generally speaking, the same way that a trader might try to trade on inside information or might try to manipulate the market. And there's no reason why it might look to build that into a strategy that is operating. And we need exactly the same kind of checks and balances that you would do when you're performing your market. Use surveillance processes for each trading, as you would imagine trading. And I suppose the advantage there, to a certain extent, at least historically, has always been, well, everything is kind of contained within the code where you're trying to capture someone who's traded. You know, you're always trying to think, well, what was the kind of incentive? What was the guy thinking, at least with an algorithm, in theory, you can go back to look at the code and see if there's something contained within the code, which clearly kind of facilitates market abuse. And if there are, then, you know, someone coded that and then you can sort of pursue that. And the challenge there, of course, is that sometimes this whole teams of people involved in developing these algorithms. And so how do you get to the bottom of that? And then more recently, we're much more sort of focused on artificial intelligence. And is that scope for these strategies to use kind of machine learning techniques that develop their own kind of conduct, for instance, in the same way that, you know, a trader might? Evolve and might gradually sort of move into a more positive example in a certain type of market manipulation. There's no reason why an algorithm would go the same way if it wasn't set up properly and monitored properly and didn't have the right kind of control framework around it and so I think there is an amplification of certain risks and there are, I suppose. But one thing that I think is sometimes missed, when we met as a regulator with firms more recently, in particular when we've met with E trading desks and where we've met with, for example, high frequency trading firms. They are. To a large extent, technology firms and technology employees, these are the sort of guys that if they weren't working at [inaudible], would be working at Google or Facebook or and I don't think they see themselves as operating in financial markets. They see themselves as technology companies and technologists. And therefore, some of the things that that they might be completely acceptable to do in other areas and might not be acceptable in financial markets. And I'm not sure that they always get that to a certain extent. And so, I think that there might be a slight concern that, you know, these aren't guys that have spent 20 years in the market and now understand how markets work and what you can do and what you can't do. These are guys that turn up straight from uni or something. And I'm given a relatively free range to start developing strategies. And I'm not sure they've got kind of quite grasp some of the kind of complexities of how the markets work and how things fit together. So that might be a bit of a news there, I guess.

SPEAKER1 15:17 I mean, certainly in my time. In the city, I mean, that that there aren't that many enforcement cases that spring to mind involving. Algorithmic trading, there is a few, especially in the thick market. I mean, the main one that I can think of off the top my head is the Michael Coscia case.

SPEAKER2 15:36 Yes, that's the obvious one that everyone kind of refers to. Yeah, but outside of that, I completely agree.

SPEAKER1 15:43 And why do you think that is? Is that is their sort of a false sense of security from that actually things are OK, or is that because is that a resourcing issue with the regulator or, you know, are actually firms more advanced than we give them credit for?

SPEAKER2 16:01 So, I think a probably a combination of a number of those factors. So, it's sometimes difficult for me to kind of talk about the complexities of identifying market abuse, for example. Because. I come from a place where I think there's kind of some structural challenges in the way that it's operated. And I was talking with a guy that used to work with me at the regulator for six years. A really good guy has left, and he now works out of running their market surveillance. And we had a conversation, funnily enough, over the weekend where I sort of said, have you ever submitted a STOR of a suspicious transaction or two? And before on your own trading, in other words, trading undertaken by the firm. And he said no. And then on top of that, I don't think any firm has reported a STOR on their own trading. We're more than happy to report STORs for the clients, the client trading activity, but we will never submit on our own. I said, why do you feel about that? And he said, well, when you think about it, it sort of makes sense, because if it's our own trading activity, the first thing we do is go to the traders and say, what the hell is going on here? And then we have a conversation. And sometimes it gets escalated to senior management. But it's never even considered that we would submit a STOR on that because we'd be basically signing our own death warrant so we would fix the problem. He spoke. Rest assured, we would you know, we wouldn't let that type of activity continue, but the regulators never going to find out about it. And I'm not completely convinced that we're doing as a regulator enough of our own market abuse surveillance to really pick up on that stuff. So, I think the problem in structurally in the way that we try and survey markets for market abuse, I think we're missing a big part of the market where, you know, arguably 50 percent of trading might be proprietary type trading, whether that's an investment bank principal trading firm, a hedge fund operator. And I think all of that activity is not getting monitored properly from a marketplace perspective. And I think when you think about the markets, the split of agency and principal type flow is even more in the favour of principal. You know, there's lots of risk-based activity done on those markets. And I think that there's just that a gap in knowledge and a gap in surveillance on that market. So, I think if we go back to the Coscia case, it was you know, it kind of landed on our lap. Realistically, would we have had the chance to really find that ourselves? You know, for these markets become more and more complex and

complicated, the ability to do really good surveillance becomes more and more difficult. And so, I'm not overly optimistic that we be able to capture much of this going forward.

SPEAKER1 19:28 I mean, it's interesting because we've missed it, too. I mean, they brought in a lot more detailed transaction reporting. Yes. With the short code and things to identify algorithm trades that are coming from algorithms and things like that. He's suggested that that's not really working. Is that not really working as well as it should do?

SPEAKER2 19:49 So, I think that was definitely a step in the right direction. And I think that there was a lot of work on trying to get up to speed with kind of how markets work now and the fact that you haven't got necessarily a trader picking up a phone anymore. I think the problem is that shortly after we launched it to you know, we've had all sorts of you know, we had Brexit, and then we have Covid. And then we've got a new CEO at the regulator, which is not really an excuse. But I guess what I'm trying to say is I don't think anyone has really sat down and looked at all the new data we've got and started to really analyse that properly. And the challenge, of course, with what we've got is it used to get a lot of transaction reports out the of MiFID I requirement, we now get this huge number more with lots more fields in there. So, it's a huge amount of resource to actually really look at this stuff properly. And I don't believe that we've done that yet. And I'm not completely convinced we're going to be doing that in the short term, if I'm honest, because there's too many other kind of conflicting priorities at the moment, mainly kind of trying to understand what a post Brexit U.K. financial market is going to look like, and so I think we've got lots of good data, but I think we use it from here.

SPEAKER1 21:18 All right. In terms of that post Brexit market, I mean, how do you think? Would do you think the UK sets in terms of its level of sophistication and maybe being able to identify and engage with firms on these, you know, maybe about conduct that come from algorithmic trading, say, versus maybe the Germans or the Americans? Because the Americans, obviously, they love giving out penalties like parking tickets. I mean, they fine people left, right and centre. But then the Germans are on the surface extremely conservative and very suspicious about high frequency trading and things like that. But then they don't seem to do much in the public domain, correct?

SPEAKER2 22:03 Yeah, and it's a good question. And I wish I could really answer it comprehensively. But so, you're absolutely right that the model in the US markets is very much kind of enforcement focused. So, they are looking for enforcement outcomes with all their interactions with firms and we never have worked on that model. We have a relatively high bar to get things through to enforcement and us kind of take the view, well, that's the last resort. So, you know, we want to try and get firms into the right place. And if we absolutely can't or there's actually something so bad that we will put them into enforcement that

we'd rather sort of solve the problems out before they get to that stage. And I would say that kind of often is at the other end of that spectrum where, you know, they try to set things out very clearly early on in the process. And as you say, they're very concerned about the impact of trading, and they've got rules about their own safety law. But actually, any kind of enforcing against it, you very rarely see that so often outsource a lot of that. They kind of review stuff to third parties. So, they are really much more of a policy making sort of institution as opposed to supervision or an enforcement organization, so completely at the other end of the spectrum. And so, yeah, I worry about our appetite to really. Take hold of something in this space. My feeling has always been so when I joined the FCA in 2014, it was just at the time when Flash Boys was in the news all over the place and everyone seemed to be interested in this all of a sudden. So, I sort of joined right at the right time. If I'm honest, because suddenly, you know, there's always this kind of mantra that, you know, it's not until it reaches the data now before we really start to get interested in something, because that's when, you know, the average man on the street starts asking questions. And once Flash boys got into the Daily Mail, then suddenly they wanted lots of work done in this space. And we did a fair amount of work. And in a lot of that went into it, too. In terms of the requirements for our training, we published a report on algo trading, which was all kind of, if I'm honest, as a result of that initial kind of, you know, to describe it in the floor that was created by Flash boys and the rise of high frequency trading. And since then, it's kind of we've gone into steady state where kind of like, yeah, you know, we're technology neutral. And, you know, we don't think that these firms are necessarily being abusive. And, you know, we think that the technology is going to help markets overall. And so, I don't know if we have any appetite as I speak on behalf of the regulator, but obviously I'm not at the regulator anymore. But if I was, you know, coming back, going back, I'm not sure I would get a lot of, particularly in this environment coverage to actually do some really strong work on our trading and conduct. What will happen, almost inevitably, in my opinion, is something will happen in the next year or two. There will be some sort of flash crash or some sort of issue involving an algorithm, and that will prompt the regulator to suddenly start working in this space again. But I doubt it will do anything to do so.

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| SPEAKER1 | 26:02 | I mean, can you see I mean, there was a recently last few weeks the Treasury published this review into the functioning of the wholesale market. So, a lot of it's looking at possible avenues for divergence. I think... |
| SPEAKER2 | 26:20 | it's.... |
| SPEAKER1 | 26:21 | I mean, Britain obviously is very strong in the tech sense. I mean, outside America, it probably in Europe it is almost like the Silicon Valley, because we've got all the universities and everything, like you think there's going to be an appetite, you know, in the UK to maybe even deregulate in some of these areas to try and attract some of these businesses to locate here in the future. |

- SPEAKER2 26:44 I think that's a distinct possibility if you read that. I mean, I was sort of involved in the early stages of that. That all came with strong stuff from Treasury was, you know, we want to try and look for areas where we can be more lenient that would encourage business to focus on the UK to where can we see challenges with regulations that cause, you know, barriers to entry? Where can we relax rules to make things easier for firms to establish their business in the UK? And I think that was really the remit that was there. So, I completely agree that that's a strong chance that we'll be deregulated in certain areas to try and attract businesses to the UK market, which...
- SPEAKER1 27:36 I mean, as a regulator. I mean, what in your view, what should the regulator be doing to sort of meet the challenges? Because obviously it's phenomenally difficult to compete, I suppose, from a financial perspective with some of these firms for these kids that are coming out of Imperial College and all these places with, you know, quantum physics degrees and everything. I mean, how does a regulator meet these types of challenges, do you think?
- SPEAKER2 28:06 But it is a challenge, right? So, I mean, there's no doubt that the markets are far more complex than they've ever been before in terms of the way that they are structured, you know, they use multiple trading protocols and the sophistication and the speed at which trading takes place. I mean, it's changed massively since I was trading 10, 12 years ago. Almost unrecognisably about money is the weird thing about it is that they the system itself has changed, hasn't changed a huge amount, so if you look at the order books, the central order books that are operated for most of the equity markets and increasingly now used for some of the FICC markets, that protocol is pretty much the same as it was 10 or 15 years ago. But what's happened is it's just become massively more complex. So, you know, we're on a central bank order book 10 or 12 years ago. You might have, you know, a dozen or so, all the types and, you know, relatively standard way of connecting to that exchange and seeing market data nowadays. There is unlimited amount of all types, unlimited ways to connect to markets and to see market data and to trade on those things, and the speed is just gone through the roof. You know, it's unbelievable how quick this activity takes place, but there's no way that the regulator has kept pace with that. You know, we are completely reliant, really, on the firms to submit a lot of information to us in the form of transaction reports, for example, because we just don't have the budget we would need if you've only got to look at the budget that some of these firms have. So that technology, which is, you know, hundreds of millions of pounds a year, but there's no way that a regulator could justify that sort of cost. So you've got a market which is exploding in terms of its use of technology and the regulator, which is desperately trying to keep a grip on what's going on with really limited resources and the technology used that the regulator is, you know, in a different world to the technology used by the participants that are trading on these venues. So, to my mind, I think that you've got to be one or two things. You've got to say there's going to be a massive investment into the regulation to

get up to speed. And we've got to start using technology, which is equivalent to the technology of that used by market participants, which I think will be really difficult to justify that sort of cost. Otherwise, I think and what I would advocate is to say, well, how much of this is really needed? How much when we go back to the basics of what the financial markets are, therefore, why do we need nanosecond synchronization on clocks across different venues? Why do we need thousands of different order types? Isn't this just to facilitate a group of market participants, whether that's investment bank hedge funds or high frequency trading firms, if they don't actually add anything to the core use of the markets, you know, corporates and governments raising money and investors looking to invest capital for the long term. So, let's create a market which is a bit more straightforward and simpler. It doesn't operate quite, quite such high speeds, but where we can regulate it properly and we need to turn the clock back a little bit. Now, that's a challenging thing to do. But I think if we if we really want to get a grip, you know, you've only got one or two options. We've got to spend a huge amount of money getting up to speed or you've got to slow everything down as well as sort of Formula One, if you like. You can't just let the participants run it. Imagine what Formula One would be like if we never put the FIA that supervises Formula One, never put any restrictions in place. You know, you'd be having. Cars driving ridiculous speeds and people dying every week, I imagine. So, I guess that's my theory.

SPEAKER1 32:38 But I mean SMCR I mean, there is a quote, I think it was from one of the papers and maybe it was the machine learning survey, because you mentioned about the growth of artificial intelligence and machine learning algorithms as well, which are taking it to a completely different level, of course. Yes. And they said that "some support and I.T. units and E platform specialist states that conduct risk did not apply to them. This was particularly unsettling given our commentary, as well as heavy press coverage on the conduct of the machine and the ethics issues related to artificial intelligence or robot applications". And that was from the survey. Do you think that SMCR may already becoming out of date, even though, you know, it's been almost a decade trying to get there and because obviously, I mean, I don't know if you've read the book, I think it's Homo Deus by Yuval Noah Harari. It's one of those sort of airport bestsellers I have it. Very, very good. It's about the future of the human race. And he's sort of talking about how humans have really always, you know, in recent memory, at least since we became top of the food chain, we've been used to being the most intelligent beings in the room and we've been used to being in control of our destiny, blah, blah, blah. But actually, now that we've got the emergence of AI and superintelligence and things like that, you know, in the next 20 or 30 years, maybe longer, maybe shorter, we're going to see the proliferation of new technologies, which in some areas may mean that we're no longer the most intelligent people in the room because we cannot harvest the amount of data that a machine can and the amount of time that it can, you know, in the same way. And so, you know, is that is there a danger, actually, that this whole notion of human accountability,

which is what the whole regulatory system is based on, basically becomes completely obsolete or is that, you know, so farfetched and that that's just never going to happen?

SPEAKER2 34:50 Well, it's a good question. I mean, you're absolutely right. So, you know, the whole objective of this entire regime was to say to a certain extent that we don't care what activity you do, but we want people to be held accountable for that activity. And that will be, you know, humans. And so, when it came to algorithmic trading with lots of conversations about who is ultimately responsible for algorithmic trading, and my argument was, well, there's never one person that's responsible. You know, the one thing that's a common factor across all algorithmic trading is you've got in general a committee that might come up with sort of ideas about how to configure algos and how to design them. You've got a software development team that could be responsible for kind of coding those algorithms. You've got a trading team which generally sort of implement them into the market, and then you've got your risk and your compliance functions and then a layer of sort of senior management as well. And all of those people have a collective responsibility. It's not always possible to point the finger at one person and say that's who's responsible for this. It doesn't really work on algo trading. There's lots of different people on the line. But I guess what you're saying is that actually, you know, trying to pinpoint the different people is not actually necessarily the right way to go because, you know, we might get to this stage with people who are involved at all in that whole process. And I don't know. What we would do in that scenario, I think our kind of basic operating model has been there's always someone that's going to be held accountable and that's the way we're going to go. But I don't know, that's a fundamental flaw to the concept that you might be right.

SPEAKER1 36:41 It's quite interesting because I've been talking to some people as a part of this process who are you know, they're really into the behavioural science stuff you have. And they you know, there's become a whole sort of industry, really sub industry, which is based on this Bible science. And there was a book published recently by a guy called Roger Miles. You may have heard of him.

SPEAKER2 37:03 I have, yes.

SPEAKER1 37:05 And he is done. So, he did the first book, which was to conduct risk management. That was a few years ago now. And he's just done one culture audit. And, you know, it's all about sort of how to sort of nudge human behaviour and stuff into the right direction to make sure, you know, you avoid the mistakes of the past. And it's very critical with sort of traditional sort of black letter regulation things. And, you know, I am reading some of this stuff and, you know, I'm sort of thinking, well, technology, you know, what about technology? I mean, how much of this is going to continue to be relevant? Because obviously nudges and things are based in things like remuneration efforts, you know, things like using bonuses to incentivize good conduct and things like that. Well, if you've got a machine and

all the all the emotions taken out of it and really, you've got maybe a senior management group of people, maybe a couple of sorts of risk managers and things like that and a couple of surveillance people, you know, where do we go with all of this stuff? And is that being all this sort of behavioural science stuff almost again, or is it almost sort of over before even started with some forms of trading and things?

SPEAKER2 38:20 Yeah, I honestly, you're getting into sort of spaces where I'm kind of not an expert. I guess from my perspective. I think in the sort of trading world at the moment, I think increasingly there are strategies that are using that are using machine learning type techniques to optimize. But I don't think I think the sort of message construct kind of limits, the amount that you can actually kind of leave things to the strategy itself. I don't know about sort of outside of the trading world, but I think, for example, we're seeing a big evolution in the use of machine learning to talk, to try and work out how to place orders into the market. So, it's more of a kind of a research function where they're saying, well, this is historically over the last five years how we've placed those orders into the market. Can we use machine learning to think of ways that we can make that a little bit more efficient and minimize kind of our information leakage, for example? And then once they've done that research, they upgrade their algorithms and then implement the algos. But it's not kind of doing that on a real time basis, if you like. It's not making those decisions, but they use it to sort of inform how they're going to operate the systems going forward. And I think the reason why they've got that kind of separation at the moment is because, you know, regulation sort of mandate that that needs to be needs to be done. And I just don't know kind of when that line will get blurred a little bit more. I think we've taken some comfort, rightly or wrongly, that that we are not aware, at least of, you know, a fully artificial intelligence kind of algorithmic trading strategy, which is making its own investment decisions and implementing them completely on an automated basis as of yet, but maybe that's not too far away. I don't know.

SPEAKER1 40:30 And could you see, I mean, a lot was made with MiFID II, with the whole kill switch thing. That was that was something which got a lot of attention in the build-up to the term. And could you see a possible next step where the regulator almost has its own machinery, which almost stops what looked like to be abusive behaviour? Again, almost in real time? Or is that being that a little bit too minority report and something which, you know, for liability reasons, the regulator would be terrified of getting anywhere near?

SPEAKER2 41:06 Yeah, I think it is if I tell you what I can see. And there's so there's been a little bit more shift recently towards putting more responsibility on the exchanges. So, you know, historically, if we go back to when I started the exchanges were really the regulators and the stock exchange was the regulator of the UK equity market. And I think there's been a little bit of a push, you know, to say, well, you know, because what's happened really over the last 20 years or so is, you know. The

FCA or FSA or wherever it was, took on a lot of regulatory responsibility and exchanges became firms for profit, and I think perhaps. Lost a lot of it, a lot of their responsibilities along the way, you know, for operating a fair and orderly market. And so, what might be happening a little bit more is regulators to actually turn to exchanges and say, look, you know, you've got a responsibility if you're operating with failure to operate in a proper way. We want you to have kill switches in place. And if you see activity that you're not comfortable with, we want you to flip that kill switch. And if you don't do it, then obviously we'll take action against you. So, it might be more on a venue basis. But the challenge with that is, if I'm honest, you know, then you can only really see what's taking place on its own venue. So, it's not it's never going to be quite as good as a regulator because, you know, we get in theory at least the whole view. You know, we can get across on different exchanges and get some asset classes, whereas they can't. But I think it's a long way off before regulators got a kill switch for all those reasons that you kind of outlined, but not least of which is that the technology that we know we wouldn't I don't honestly believe would see it that quickly in time to be able to react to it.

- SPEAKER1 43:07 I mean, isn't one of the issues with the exchange on your side? I mean, the some of the asset classes, I mean, bonds and FX, a lot of that stuff is traded, OTC. I mean,
- SPEAKER2 43:19 yes, absolutely. So, I think that's going to change, if I'm honest. I think we'll see more bond market trading on venue, whether that's what to say on venue. I mean, that's either going to be a trade way up on Bloomberg or market access or a systematic internaliser which will be deemed to be equivalent to a venue kind of one way or another. So, you know, I think the sort of the line between on venue and OTC is going to get much more blurred in the markets, you know, in the near future. And, you know, and one of the drivers behind that would be to try and sort of provide that independent oversight, although you could argue it's not independent at all if it's a venue operator. Clearly, they're kind of incentivized to maximise that the trading on their particular venues,
- SPEAKER1 44:13 but also, a lot of the wrong spot. I mean, you take all the facts as an example, which in my experience, they are one of the firms that are using some form of algorithmic functionality that just given the obviously the how quickly that the price moves. And in that market, I mean, a lot of that isn't even a transaction report because it's not
- SPEAKER2 44:35 now and then. You know, there's a big gap in the in the FX world where, you know, it's not going to be a financial instrument. So, there's in the stock market in particular, you know, we don't get anything. And I don't know what the end game there would be.
- SPEAKER1 44:56 Where do you see responsibility, if any, of our vendors? Because obviously there's a big divide between firms. I mean, a lot of these sort of big buy side firm,

I don't know, like a Man Investments or something. Obviously, they've got something that they would invest very heavily with, with their own quants and stuff, and they would tend to develop a lot of their own kit and functionality. Whereas if you look at sort of traditional sell side broker, which may have been a floor broker 20 years ago and is now sort of involved in some of the trading, and they would tend to be very reliant on the sort of vendors like CQG, PATS, those types of people. I mean I mean, where does the regulator, given that they sit outside the perimeter? I mean, what's the sort of feeling I mean, is there any sort of sense that those vendors should be brought into the perimeter somehow?

SPEAKER2 45:49 So there's been lots of talk about that to be something that's been relatively well discussed and how that should be , because we've got this kind of whole team that not only related to trading , but looks at outsourcing and third party arrangements for all sorts of financial services and where that sort of sits and where the line should sit , I think it would depend on kind of the activities that they're undertaking . I think I think there might be appetite to try and move some of these firms into a sort of semi regulated space. And up until now, I think the pressure has tried to be to say to firms, you can't outsource your responsibilities. So, if you're using a third party to, for example, to develop an algorithmic trading strategy for you, the responsibility sits with you. And it's your responsibility to make sure that that third party does it in a compliant way as all the relevant checks and balances, you know, follows all the requirements, but I'm not sure that works that well in practice, so I think that there is a potential push to try and get some of these funds into a more regulated environment, whether that's kind of as a fully authorized firm or some sort of intermediate space. I think that might be something that they would look at.

SPEAKER1 47:13 Because one of the big problems that I faced certainly, you know, sitting on the other side of the fence was when we had sort of API. So, you know, obviously where we're giving an informed platform out to a client, that was a lot more straightforward, and I would say a lot lower risk. And I felt almost that MIFID II didn't really take a risk-based approach because MIFID II requires you to do an annual due diligence assessment on all of your clients. So even if it was a commercial sort of wheat trading client from Germany, you were supposed to sort of get a refresher on their due diligence for DEA trading, which encompasses all possible algorithmic trading. Yeah, but I felt that, you know, quite more often thought they were hedging. So, what's the point? But then you got more secondary access clients on API in China where you're facing a maybe a local SFC registered firm, but then that putting out trading code to their clients and then, you know, they may be sitting in their bedrooms somewhere and they're putting on the end of that. And that's. I just don't know how in that international type of market. Yeah, it's great that you can come and get the firm and say, yeah, the firm should have taken a bit more responsibility, but there's a limit what you can do because they want to share the information. They're not your clients and they're in another country.

SPEAKER2 48:42 And I think it's absolutely something we've been trying to bang the drum on for ages about this sort of some delegates, the like, where, you know, you've got to provide and then you've got maybe three or four firms kind of sitting further down the chain. And then ultimately, some guy, as you said in his book, your faith in God knows where, who's actually initiating all this activity. And realistically, how do you get a grip over that person? And I it's that's definitely one of those things that which I think is going to blow up, you know, another round of Hounslow type sort of thing, which will cause us to revisit all this. But I completely get that as a, you know, something we should be worried about.

SPEAKER1 49:28 But then what happens is that will just I mean, if you tell me what we often found, that if we might have two or three firms sitting out and Far East and we might say, look, account number X, Y, Z, you've got to stop them with their trading strategy, doesn't meet our risk appetite. And then what you'll find is they'll go to the other client you've got and stop that exact same activity that you can't prove. It's exactly the same person. You don't know their identity, but sort of tell from the way that trading the times are trading. It's the same person.

SPEAKER2 50:05 Yeah, I get it. It terrifies me if I'm honest, but no idea how you get a handle on that. Any ideas would be greatly received on that.

SPEAKER1 50:15 Yeah, that's something which I'm going to think about as a part of this process. What are your thoughts of what the regulators for some sort of attempts to self-regulate? Because if you look at people like the FMSB, yeah. They've been trying to sort of get in front of some of these things as an example and try and sort of lay down some sort of common almost like the global code, sort of some sort of common standards. I mean.

SPEAKER2 50:39 Yes.

SPEAKER1 50:41 Do they have any real mileage or is that sort of cynical sort of attempt really to sort of stave off further regulation? Do you think of some....?

SPEAKER2 50:50 I'm reasonably optimistic about that, if I'm honest. So, I on that limited interaction directly with the FMSB and so forth. Maybe. But when we published that report on our trading, they did reach out to us and say, look, you know. We still feel that in a number of markets that we represent are not really understanding what the requirements are and what the expectations, and we feel that the regulation has been written with kind of an equity market structure in place. And clearly that's just not relevant for much of this. How can we try and put this into a format which is more accessible for our members? And we did some work with them on the back of that. And they get published report and they've done lots of updates on that. So, and I was reasonably sort of enthusiastic about that. I think it seemed like, you know, a relatively good way to go about it. Regulators can't go into the minutia of different markets because, you know, we've already got far too much regulation as it is. And if we start doing a piece of regulation for one asset class and another for another, you will just get

ridiculous. So, what you do need is kind of industry bodies to sort of take that basic piece of regulation and apply it to that particular market structure. And ideally, it's the practitioners that will come up with the most. In a useful way of doing that, which kind of meets the regulatory intent, but also makes it practical for the participants as well. So, I'd like to sort of think that those sorts of initiatives should work really well. I do also think exactly as you said, there is a bit of a shift for them to try and get ahead of this so that they don't get clobbered with something further down the line. But in general, I'm supportive of those sorts of measures because, you know, they can come to us and say, look, this is why this piece of regulation just doesn't work for our members and for this particular market. However, if we to say this, this and this, you you'd still get kind of what we think is your regulatory intent. But actually, it will get delivered in a far more consistent way and it won't create a huge number of challenges for the firm. So, I'd like to think that that would be really good and useful kind of process to try and keep up to speed with how the markets are evolving.

SPEAKER1 53:31 Is the regulator looking at how other highly regulated sectors are looking to regulate algorithms and whether any lessons can be learned from that, because I've been looking at things, for example, from the Alan Turing Institutes that does quite a bit of work in a variety of different sectors? And this is quite interesting stuff from there about things like this concept of sort of ethical design in some of these sort of big , you know , big data sort of items like Google and Google Drive , all these types of people that sort of , you know , obviously that the classic algorithm is rules based and says , look , if I'm told to get to the airport in this car , get me there in the quickest time possible because I don't want to miss my plane . But in doing so, you might run over a couple of kids and drive alone or something. So then that what they're doing is that they're architects are trying to almost design an ethical logic in the code and things like that. And I was speaking to another guy who's a part of this process who said that he'd been looking at examples from the aerospace sector. So is that something which the regulators are looking at, thinking of or not really?

SPEAKER2 54:54 A little bit, yes. If I said I've attended a couple of FCA sort of forums that where they've been looking at in particular artificial intelligence and use cases and exactly right. So, we've encouraged people from other areas to come and talk about their experiences. And we've had people from I think from aerospace. We had a really interesting one from the National Health Service, where they're starting to use machine learning to help with some of their diagnostic work. And that was properly fascinating because they're you know; you're talking about life and death situations. And, you know, you had some really, really compelling kind of presentations with, you know, surgeons that kind of use this technology. And unfortunately, it's not worked out for them. And, you know, they've got real proper consequences that are very obvious, a very immediate. So absolutely. I think we are trying to sort of encompass as much of that as possible [REDACTED]
[REDACTED]

It's been underway for about a year. And one of the last calls I had before I left the FCA was to try and get an update on where that got to. And if I'm honest, I obviously I don't know if you know people opportunistically, but it didn't get anywhere. And I never really got to the bottom of why that was because when it was started, it was seen as the you know, this is a great piece of work. You know, it's going to really sort of revolutionize the way we think about things. And for some reason, it's sort of broken down and it looks like it's not going to go anywhere. And I don't know exactly why that is. I could speculate why is but what my feeling was that there was a strong. Emphasis from like to try and exaggerate the amount of artificial intelligence that's currently being used in the financial markets when there wasn't necessarily the evidence to demonstrate that I think that that became there was a bit of an issue there, but there was a will to try and do something. But it didn't materialize and never really got to the bottom of why that was. But I know that there's a big falling out over.

SPEAKER1 57:27 So interesting. Finally, what would your principal concerns for the future be?

SPEAKER2 57:34 Or so I think one of the things that I'm thinking about at the moment , which is so when I think about how the world is changing in a post Brexit process , post COVID, I think the markets and the participants that probably done better over the last year , 18 months have been firms that use technology so effectively and the firms that have struggled have been firms that still need to rely on , you know , more manual types of , you know , trading or managing portfolios or whatever . So, I think inevitably that's going to be a big push into technology that's going to result from this. And there will be remote working entrants. But I'm still not quite convinced that I go back to the very kind of start of our conversation that regulators have really got a grip on kind of how technology is used, what the how that's going to evolve and what that's going to mean for those financial markets going forward. So, I think this recent event can accelerate the shift towards that when we're not quite ready for what that really means in practice. And you're going to see lots of quite quick innovation happening. The regulator as a general mindset is going to be more open to things that perhaps it will be more cautious about historically because, you know, I'm talking about the UK regulator here in particular, because we want to seem to be promoting UK policy. So, someone comes to us and says, we've got this great new concept and how we can start trading bonds and things. It's going to be, and we'll probably go, yeah, it sounds reasonable. We think it's going to give us a good advantage over some of our other European markets. We won't get through. And then, you know, we'll find out the consequences of some of that. But it's not going to be published later at a later stage. The other thing that I'm sort of particularly focused on, some regulators in particular. So, you know, at the FCA, you've got. A huge amount of work that that's undertaken on things like retail mortgages, pensions and credit cards, that sort of stuff, and then you've got a huge amount of wholesale market stuff which tends to focus on, you know, institutional investments and primary

market activity. But what you don't have is people really understanding how retail investors interact with financial markets when they're looking to invest their own money and things like that. And what we've seen perhaps over the last 18 months is an explosion of kind of retail participation in financial markets, not necessarily in the U.K., but certainly in Europe and certainly in the US. And I can see a strong incentive for firms to try and capture that market and try to move into that space so they can start to see a lot more retail investment in stocks and shares, but also a much more sophisticated and complex products, because, you know, because of the way that the markets are going. And I think that there's a real challenge in getting to grips with that. And there's going to be some problems with the way that that's going to unfold, which will impact, you know, real people directly. So that's one thing that I'm kind of worried about.

SPEAKER1 01:01:15 So, the CEO of GameStop type stuff, correct?

SPEAKER2 01:01:19 Yeah. We've seen a really big shift in that space. And, you know, and technology is taking off and it's going in all sorts of different directions. And I just don't think we've got to grips of what that group is like. Me, except for I've got a horrible feeling, as always with these things that people that feel the real pain are the retail investors that they're going to get pulled from under them. Yeah. So, I think that that's a real challenge.

SPEAKER1 01:01:47 Interesting. Well, thanks very much for that, I'm just going to stop the recording now.