

### ***Interview with a senior manager #13***

SPEAKER1 00:05 The recording is about to start...

SPEAKER2 00:12 Transcription didn't happen, actually, yeah, just I have to switch the transcription off now.

SPEAKER1 00:22 So that's a transcription isn't it?

SPEAKER1 00:25 Yes, right. OK, so just to start off with you describe what your experience is an investment in the future of what products or firms you've been involved in.

SPEAKER2 00:41 Okay, so I've been in the business for 35 years. Is the only career I ever had from the moment I left university. I started. It's always been investment firms. I started in the front office on a dead-end floor for seven years. And as I sat next to the tape recorder that recorded all the calls coming in shows my age. It was assumed I'd know how the machine worked, which is probably true today. Whenever anybody sits next to anything and therefore got involved in listening to calls that started to pick up on mistakes and complaints. And that's how I got into compliance. So, to that extent, I have an unusual back with a different background because I've come from the front office and it was, I fell into compliance, which probably isn't that unusual compared to a lot of other people who've been in compliance some time. And then I, I moved to a firm called [REDACTED] which at the time wasn't that big, but is a bit of a Goliath and start to enjoy more understanding of the international complexities of investment business, both from the different laws and regulations and more particularly the different types of customers you get in different jurisdictions and how they behave and what their expectations are. But this was all very retail for the first 10, 15 years of my career. And then I moved again on to a firm called [REDACTED], which was ironically in a bit of trouble with the regulator. And the irony was that the person who recruited me at [REDACTED] was a guy called [REDACTED] And Hector was this was late 90s. He would become the CEO of the FSA. But he told me one or two things about sort of politics and management. But at this time, [REDACTED] was an online broker. So, it's putting together a product offering that really meant it was a technology company that happened to have a financial product. This was the first time I'd seen a company. If you look to the headcount, whenever you look at the headcount, there was more I.T. people in it than any other skill set. And from this point on, which was further after the so the Internet boom happened, then while the first Internet boom happened and then crashed, I then moved in about 2002 from retail and I sort of transitioned into, what with those wholesale and really then didn't touch retail customers again. So, the reason this is probably common, but it's good for the skill set is that retail standards are very high because they have to be. So, when you then come into the wholesale market, you have quite a high benchmark of what's good and what's not so bad, but what's not so good. But then it's easier to lead if you know the direction you're going in for compliance and regulatory change and

even to a certain extent, system change. So, the main products that I start to deal with from sort of 2000 onwards were very much more derivative driven, not necessarily CFD, but they were the instrument, they were derivatives of the underlying instrument. And the type of customer that I dealt with ranged from, I would say, typical institutional investor because there is an institutional investor. But where they were institutional investors or the shells and BP of this world who produced a product. And as a result of producing that product and selling that product, they had a need to invest and well, not so much investment hedge and. Pride on their underlying in the underly markets, the derivatives, whatever they produced in bulk , which is where you get the commodities and the joys of how can you be such a big player in the marketplace but not be regulated . So that was the sort of my career transition from retail. Food to food for more institutional and very much from traditional equities through to derivatives at the same time

SPEAKER1      05:47      And in the wholesale market, in particular markets like the LME and foreign exchange. What sort of transition have you seen a more sort of out of it?

SPEAKER2      06:10      Well, it was almost customer led for much of it in the sense that they wanted access to the online statement views online banking, online trading to a certain extent. So, it's it was it was led that way to begin with. And that's partly because all the firms had their own computer systems and they just didn't want to do stuff by telephone, as it were, as fax anymore. And then it became apparent that computers you were dealing online, it's on a computer itself. You were put in orders. So even from my [REDACTED] days, there was a thing called shield, which is where people could go to bank branches and sell their privatized shares. And it was very clunky by modern standards, but it was Whiz-Bang at the time. And people could see people in the industry could take advantage of the number of trades you could execute; how efficient it was because the trade was already inputted into our system. So, a lot of the original drivers were a say commercial, but they were just common sense, improving the processes shares used to trade and settle on a on a two-week period. And then you could go 20 plus and then three plus five and two plus three. You could bring that that risk down by diminishing the gap between the settlement, the trade and the settlement date. So, there are lots of advantages that automation brought, but it wasn't necessarily absolute in the trading strategy. It was just in efficiency. And then it then followed that you could then get the computers to keep an eye on limits, could place certain types of orders, which we now call iceberg orders. And it developed from there, but it didn't obviously develop across all the markets at the same pace, there were some exchanges that have appeared, not say from nowhere, but they've obviously overtaken. So Eurex and the CME have come up with their product lines and their technology and simply overtaken virtually all the traditional competition. And it's taken the traditional competition some time to then revert back and get their act together. And probably the LME is the prime example of being the last one to change because of its legacy as a legacy of who

its members are and who it's designed to serve as in the physical community where the same CME is probably thinking. We're just here to make money as an exchange, and as a result, they found a lot of opportunities in how they set up to expand and grow so rapidly.

SPEAKER1 09:47 How receptive do you think I mean, looking at the other media as examples of how receptive you think commercial people are going to be giving out there?

SPEAKER2 10:05 I think this is the turkeys at Christmas question almost. They're asking people who trade on the floor about what they think of any computerized trade. And you're going to get the reaction when the floor is a lot better. And I think the exchange was very similar in that it was led by lots of people who were happy with sort of the status quo. And it then is self-fulfilling, other exchanges came along, so I don't think they were that receptive to. I don't think they were that open to change to a certain extent. That's also a result of not just who they had, but people would only move from one member firm to another member. They didn't really sort of cross pollination with many other investment industries. You didn't. It's not it's not unusual in energy, definitely. And just generally in foreign exchange that people will jump from one type of firm to another. But the LME firms have kept themselves to themselves for a long time. So, they've almost although done the dinosaur, they've kept themselves to themselves and they've not really understood what's going on in the rest of the marketplace until they've been forced to change, because the volumes, both for the members and therefore for the exchange, are not what they need to be taken to stay a commercial business.

SPEAKER1 11:49 I mean, one of the things that you often hear, or you read in some of the trade press is that date structures and the fact that it is a forward market, rather the futures market is that this will be less attractive to algo participants. Is that you think that really, it's that true?

SPEAKER2 12:15 I don't. Clearly a forward market you have to get your head around. If you just worked in the futures market and understand in the forward market is effectively the point is very much more important. And if you then try and close it, as you would do in the futures market, well, actually you're going to have another trade and you've got both open until that day. It's the certain things that are difficult to get your head around. But I don't believe that the I think some of the issues, along with how the market trade traded it, regardless of whether the forward or futures and they were so aligned to the physical needs of one customer base only that they you could say, you know, the theory was a forward a pure forward market. If it was purely forward, I don't think the issue is just forward. I think it was the receptiveness to change.

SPEAKER1 13:30 And I mean, in comparison to, you know, if he worked on the foreign exchange side, how do you think it compares in terms of employment in the U.S. markets? I mean, obviously, the markets are quite diverse because you've got rolling stock

less traded, traded forwards and OPEC for what? I mean, what what's the sort of variety of deployment you think?

SPEAKER2 13:56 Well, I think the actually the FX markets are I mean, partly because it's monstrous as in its size. I mean, I think I've seen the exchanges, the attorneys say particularly ICE and the CME, where they've really gone after algorithmic traders, maybe not in public terms by just saying, you know, we just want algorithmic traders. But actually, their systems and servers are so set up to support our algorithmic traders and quite complex algorithms. The FX market is still quite a broad band of participants in the marketplace, but clearly there's increasing use of algorithms, but I wouldn't put the market at the forefront, but I definitely wouldn't put the LME anywhere near the forefront either. I just I think basically the market's got somewhere to go. But some of this is because you see in the market, it's difficult to have. You can't keep everybody happy all of the time. So, you can only have so much spectrum or so much scope or so much breadth of market. Product limitations in the sense of the you can't service the smallest customers and the largest customers, I don't think if you're very high end with the technology, I don't think you can also keep all the sort of not the place trades by fax, but you can always keep the one-off traders happy. So, there is, I think, the market so broad, yet you're almost there. Well, for MTF and where does trade on exchange, it is going to get very algorithmic. But where you've got the more OTC one off trade, particularly if it's a commercial client is trying to do forward to match their expected expenditure, that's always going to be a fairly clunky type of trade. So, I think that's always going to exist.

SPEAKER1 16:36 And I mean, MiFID, to when it came in, it introduced quite wide-ranging requirements for algos. And I mean, one of the things that I've come across is that, you know, obviously the degree in which firms have been able to meet those expectations is actually the degree to which they believe they have to say that those requirements apply to them a very quiet law. What's been your experience and how those requirements that you see and implemented within the firm?

SPEAKER2 17:15 I was familiar with I'd certainly say that the understanding of what an algorithm is and therefore what was in the scope of the rules was what was very mixed in the sense of actually the firms have been working with algorithms, whether the limit orders or whether they're full or partial or all or none that actually been working with algorithms without realizing. So, a lot of traditional employees were thinking, "actually, we don't touch algorithms", I think you do. And then then the sharper end where there was black boxes or grey boxes involved or even the trading systems of TT and CQG alike, they I think a lot of firms wanted the system providers and the exchanges to come up with the solutions, they were happy to adapt, but not do the legwork themselves. But where you had someone write a genuine algorithm within an investment bank or a large firm, which in my case I did see at [REDACTED], it was a lot of pain to go through the process. And there wasn't an easy answer is like, "actually, you need to have

these. You need to go through the processes of making sure you understand what the algorithm does, how it can be stopped, where do they were the human intervention come in." But it was, as I say, the first option of the firms I was familiar with was can the exchange's order system, the main system providers provide the solution. And we just follow, as it were. The firm did go through the legwork themselves. So that not only was it painful, but they owed they picked and chose what they wanted from the algorithm, which was normally built around actually servicing the customer and making sure the firm's book was kept flat, not necessarily on a pure trading strategy just to make money.

- SPEAKER1 19:47 And who were the stakeholders in that process? I mean, was it sort of left to what they expected, what people were afraid of back-office functions or lack of involvement from the front?
- SPEAKER2 19:59 Well, in my case, it was it was much more. I've been the front office like what was going on. But it was. Look, the back office, the skills didn't necessarily exist within the firm in any particular department. They had to be created and educated. But the main driver actually was a front office person who knew what they wanted and had a commercial case to deliver, sorry to commit to the expenditure of all the legwork involved. But it was then left to both its people and back office and middle office people. But I'd say if you actually took in I.T. people in this particular case, it was the classic middle ground IT person who understood the business, who happened to be an I.T. person
- SPEAKER2 21:03 with a more quanti type people. They more sort of
- SPEAKER2 21:08 another definitely wants very good with math and numbers and understanding risk. But they understood the product. They understood how the exchange worked. They understood the feeds. They understood the what the regulatory requirements were. They weren't classic in my in my vernacular, they weren't classic I.T. people. So, as I say, their skill was more like, well, they were businesspeople who understood the product, who happen to work in I.T.
- SPEAKER1 21:47 Right, and conduct risk, I mean, I'm not supposed to instil in the algos exactly what it was, but the FCA put a paper out, it was earlier, it might have been earlier this year was maybe if fact that they said that they were surprised, given how it was becoming more and more important, how little sort of some of these people that are involved in the process reconsidering their deployment . Yeah.
- SPEAKER2 22:33 Yeah. So, from my point of view, what I would say is people trying to understand what the rule requirements were or are, as in how they sign off process for an algorithm, making sure you know who wrote it and how work. But the absolute sort of power of conduct with first is algorithmic trading was dealt with in a particular sort of handhold focused way. It wasn't a key line of thought. It was more "Well, I hope it's an outcome that we're not that there's no particular conduct who's going to jump out from how we're doing things", which is not clearly perfect. And therefore, I suspect the FCA is right in that conduct risk is not

embedded into the process, into a lot of actually it processes because it's built around sort of so many systems. If it's just well, it might be just it's assumed. Oh, it's the system, it's an IP. It's going it's obviously going to be built. Right. And actually, that's not entirely true at all because we all know there's some very basic algorithms, especially on. Oh, well, I can say actually the LME, but you could say the London Stock Exchange is unfair. Fair to say the LME that you can you if certain orders get placed, which aren't real, they clearly distort what could go on with real trades. And real pricing is not that difficult to create an offence for an or an algorithm that is doing something that they shouldn't do. But the way I saw it being built was that algorithms would not be allowed to do that type of trade and just put on almost spoof or put on a very large order somewhere away from the price or something as simple as that. But actually, this is probably where you did get the divide. The person writing the algorithm had to know the rules. And that was an interesting skill set.

SPEAKER1      24:57      Because it's not a case of sort of actually embedding standards, the rules of with something, you know.

SPEAKER2      25:08      Well, there's two bits. There were these are the rules of the venue. So, this is what you can and can't do. But this was where if you get someone that it might be a rarity you get actually someone who knows exactly what they can and can't do. And they're their ethical antennae is set the right direction. The problem, I can imagine, but I didn't see it because it wasn't prevalent in the firms. I was there where you get a lot of people trying to like algorithms and then competitive pressures would encourage them to take the language we've been using the commercial view on a particular type of trading strategy, and you'd say actually it's sailing too close to the wind and that's where conduct risk would come in in the sense of it. Yeah, the people are just trying to make money no matter what. So, yeah, where I saw someone who knew what they were doing and maybe being in the industry some time, I thought I had a kind of experience of legacy, of what's right and what's wrong and maybe seeing what happened with the endorsement of Barclays and Citigroup and the like. And I had also seen some of the equity exchanges being the first movers when closing prices could be manipulated and so forth by computer systems, that they were pretty good. But I think that maybe the moral compass of the masses couldn't be set to that standard. It would be unrealistic to say it's going to be set to that standard because you just wouldn't have the knowledge base. So, I, I think, yeah, it is it's an honest problem that where you don't have integrity and conduct just naturally built in people because they've lived through it. They may just be now writing programs based on their interpretation of the rules. And because the compliance people or the second line of defence, and I don't know if they'll be good enough to catch the algorithms can do because most compliance people don't come from an algorithmic trading background. So, they're only going to go what they're told by the programmer, not really an independent sort of second line of defence check there.

SPEAKER1	28:00	So how would you bridge that sort of knowledge gap? Is that an education thing? Is that from academic or certain...?
SPEAKER2	28:14	Clearly a bit of education, which would help but the basics of actually getting compliance people, all the auditors or the second line of defence or third line of defence from the trading floor, because clearly not everybody would make it on the trading floor. But it doesn't mean to say they're not very good at understanding what was going on. Maybe it wasn't for them. So, I think the almost the best sort of monitors would be from people who have done the done the underlying program and or done the underlying trading. I but we all know that actually the almost the example that where you've got someone maybe using a Nasdaq smart market marketplace monitoring system, they're much better if they've been a trader, they know what they are looking at and they know what's a genuine mistake vs. actually that's just been built into the program. It's been an intentional mistake; a trick of a trader and you've been caught. So, my natural inclination would be to sort these people from the trading floors or the programming floors. In other words, almost like a career path.
SPEAKER1	29:47	Looking at alluding to the retail regulation mentioned is tougher. Could you see any scenario where the regulator mandates that people in for instance, or maybe even senior management will need to take maybe certain qualifications that could be of something mandatory? I think in a similar way that some of the investment advice, retail sales, that you have to have taken certain courses to do that.
SPEAKER2	30:26	I would say that my personal view is I don't know if the regulator would do that because they were trying to push back on those. They're very slow at doing that. But I do believe that maybe actually if you go wider to more like mass in Singapore, a US regulator, I can see them doing that first before our regulator. But I'd agree that's a very quick way to bring people up to speed to put them through some educational qualifications. But they're clearly bespoke to the industry for the very, very specific. And I as a person who's got quite a few exams, I've always felt that's a very quick way to understand what's required and then having a CPD requirement relevant to those skills. And actually, probably the speed requirement tends to be equally important once the freshness and the memory banks of the exam course have dissipated a bit. So, yes, I would be very keen to see exams come in pertinent to algorithmic trading and being able to monitor and stay on top of what's going on. So, I don't think that skill set exists in very many areas at all. Probably the best places generally tend to be on the monitoring desks of the exchanges themselves. But it shows how skilled that is, because actually, if you're going to get an exchange, how firm supposed to do it when they go on multiple exchanges.

SPEAKER1 32:22 Do you think I mean, looking at the barriers and the like. I mean, in your estimation, in how well-equipped, as I understand it, to be new forms of trading? I mean, are they in a good position to identify issues and if not, argue about it?

SPEAKER2 32:45 I think regulators are different parts, different stages of this life cycle of learning on such advanced trading. Probably as I work at such a high level of volume of trading. The FCA, ironically, is probably quite well placed because of the way it's funded, but it just doesn't seem to be able to attract people for the industry. Now, some of that is because the industry people are obviously well, very well paid by other regulators that are more ahead of the game. And this is maybe because other regulators don't have to be all things to all people. Whereas the UK regulator is a bit of a monster in the fact it covers consumer credit on cars and insurance like food for the most sophisticated structured products for investment firms selling to each other. So, it's a difficult place to be for a regulator to cover such a constituent of products and market participants. But I think the regulator will probably the UK regulator will just have to put its foot down and go for two things, one of which is, as you mentioned, the exams and the educational direction. And the other thing is to say we probably need to well, we definitely need to recruit from the outside because we can't find this from within. And maybe just go back to what the London Stock Exchange had years and years ago, even before I was there, where if the second people from member firms. Does it go that route and that was a very well recognized career move, in a sense, if you're still being employed by your original employer, but actually it was a very sort of big blue-chip mark on your CV to say the London Stock Exchange chose me to sit with them for 12 months. Maybe that's the cross-fertilisation that the FCA made.

SPEAKER1 35:12 Would there be I mean, obviously in the in the 90s, you had different regulators, organizations, albeit with some statutory basis. I mean, did you see any arguments and maybe try to break the regulator up [like the] more specialised in America where you've got the CFTC and the SEC and so forth and all this kind of stuff?

SPEAKER2 35:47 Yeah, I think I probably always agree the grass is greener on the other side argument because it goes a sort of pendulum swings. Let's have one centralized regulator. Let's break it down. So, whether they like it, the regulator was broken down into more industry product focused sectors. I don't think it would make that much difference. I don't have my issue tends to the FCA is in action and the fact that people or the government politicians keep throwing things at them with all the regulators, the FCA will regulate that. And it's like, well, you need to recognize it is a different skill set. So, it could still be under one umbrella. But they can't just suddenly. I don't think the FCA is looking after credit card providers. Well, that's not quite the same as looking after the consumer credit that is on white goods or cars. It's not the same skillset. I don't know what's involved, but I know it's a jump. So, I'm happy with the regulatory environment we have in the sense of is one big regulator. I just think it needs to make sure it



has the skills within it and not just assume everything can be merged. And I work towards. Leveraging skills within the industry to get them into the regulator,

- SPEAKER1 37:34 The LME and the foreign exchange markets have got quite a rich history of conduct incidents. So, you know, for example, on the LME, you've had a Hamanaka incident that you've got, you know, various other sort of alleged assailants. And also, on the side of things, you've got things like the drinking and involved in things outside, which maybe are not as great as you seem to. And then, of course, in the foreign exchange market, you got some of the fines that are being pushed out for the poor execution, which you do the proliferation of algorithms in these sectors, does it conduct risks or is it really just amplified by changing the system? And actually, does it possibly eliminate some kind risk as well?
- SPEAKER2 38:43 I think it started the question at the end. I think, yes, it will eliminate a lot of the behavioural conduct risks around just general bad behaviour of drinking and inappropriate behaviour around boys being boys and banter going too far. And I think it is probably easier to monitor because it's on systems, which I recorded. I think the new the probably the risks that I see are difficult to tackle. One is you've got one group of very highly skilled people writing the algorithms. Have you got enough skills keeping an eye on what's going on, which we've already covered, but that's a different type of conduct, risk or market risk, let's say. And then the image. Of algorithmic traders, if were what value do they bring to the world as it were? Because when you quite often trade in and you can see on the CME versus the LME, the open interest that you could get an awful lot of trading going on. The CME, we should buy, sell, buy, sell, buy, sell. But the actual end of day open interest because everybody wants to flatboat no one's taken a view is pretty much the same level as what it started the day with the LMA tends to have more where you've got physical players in there, you've got people who have taken a view on what's going to happen to the market. The open interest is quite a big percentage of the overall trading on the LME, whereas on the same day it's not so much and you're exercising. So, I think the value algorithmic traders have to society is always going to be questioned and therefore it's not going to help the industry because it's not so much a trusted industry as it was. When you say the credit crisis or I'm trying to think there's so many issues of public trust being broken, whether it's peepo just general dotcom boom behaviour when not investment firms were flogging off stuff that they made a fortune on everybody else lost on. And so, I think there's generally speaking, a lot of outside market conduct, behaviour will be improved on by algorithmic traders coming in. But that does create some new issues. But not I'm much happier with those new issues than the legacy issues of traditional brokers.
- SPEAKER1 41:53 But that outside market, and that's quite an interesting point, because now you've got no direct market access in a way that, you know, in the 90s you certainly didn't have on the LME and FX was probably a lot more manual as well, but now you're sort of allowing some kids in their bedroom, potentially in the Far

East, different culture, maybe not so much strong knowledge of the way you do things on the market. I mean, are we losing something from that disintermediation? Is there to say that they actually have a record in conduct over the past year? Is that something that has always been that problem? Because, you know, [REDACTED] was able to direct participants in the marketplace.

SPEAKER2 42:47 Well, I think this is you can't keep everybody happy all the time. So clearly with brokers, they can tend to as in people, they can tend to see certain behaviours which are abusive, and they can either report it to the exchange straight away or just they probably know someone at the other firm. But as you say, Hamanaka, Brandeis the things that have always gone on in some way, in some guise or another. So, I tend to be of the view that actually because of the record online systematic trading creates, it does tend to be a little bit easier to place. So, and I don't think if you kind of mix and match the old and the new, you can't have such a wide spectrum. It's really difficult is the same with the pressures it's under for, well, the closing price. It's going to be a formulated by electronic light. And the price you're in the middle of the day for physical players will be priced through the well. It's difficult to keep everybody happy all of the time. And I think the exchange is clearly wanting to be a commercial organization that makes money from the trade and that takes place on the exchange. And that tends to be well chase volume. So, I see that go more electronic all the time. And I think that will be the point you raise about brokers in real time placement is valid. But I think overall it's got more to gain by going in the electronic direction from a conduct point of view.

SPEAKER1 44:55 What can brokers do about that? This is sort of almost like secondary zemi access there in that that, you know, you're constantly popping up maybe from one you might say, oh, look, there's activity on this side of the currency, which we're not aware of, such as the here. And it's almost like academic writing articles really do it, because in a study you do see the CME and the CFTC, they're very active. They're actually going after the end users. But it seems like that's not right.

SPEAKER1 45:41 Yeah, I mean, some of this is like the big brother of how far the details take to any order. Do you see it increased actually with payments? The amount of information on a swift payment is huge. And yes, we're seeing it with the transaction reporting requirements for and fear that suddenly you're putting people's names or identifiers into a transaction report on every trade. I think that's just going to clearly continue and expand. It's going to be uncomfortable because it's a pain. But it's going to happen. I think, again, like the London Stock Exchange had what they called a mutual reference service, where if you had a customer who actually hadn't settled with another firm and they were trying to move to a new firm, you would be interested in that sort of colloquialism of the time, blackball them and not open an account for them. So, I think that's probably going to happen. There needs to be a better mechanism for not open an account for four previous individuals identified as not following the exchange rules, and maybe that's a question of making sure the systems which provide

DMA are policed, but not maybe a question that definitely placed and structured in a way which is much more restrictive than a member firm's system. Now, I don't really appreciate as a bit of a kind of halfway house, because clearly a member firm may then say, well, I'm going to employ someone, but I'm not really going to employ them. I'm still going to be the end user in some sort of arcade. But I think there should be different levels of what a system can do and how it's provided to.

SPEAKER1 47:48 And I mean, do firms struggle over this sort of data protection and confidentiality requirement? Because I think there's been discussion on the in the AML circles about maybe freeing up funds to be able to talk to each other to identify is there one that run off of what's going on? And that's a big problem because this is interfering with their own separate transactions. Yeah. And I mean, is there an argument to say, well, actually, firms should share information amongst themselves? The problem is that it there is a commercial restraint so that is not necessarily going to happen.

SPEAKER2 48:34 I think that there needs to be you like with the amount wealth, there's a few products that are being developed where you're sending in a name to a database to make sure they're not a customer. Another firm is closed for whatever. We don't know the reason why the phone goes to exactly, but it's not a good reason. But there has to be something. It's almost like, well, you can't if they share information, but you have some central database, you're running against it. It's kind of a broader, more widely used version than the sanction list. But I think that's the idea that's got milage. I don't think it's also partly why I said why the exchange monitoring people are probably the best place to do something about that on top of what's going on in the marketplace, because they can see the whole picture. Very difficult to do at the firm level because you can only see what you can see and obviously people who are trying to manipulate markets or abuse take advantage of the situation. No firm is limited by what it can say. So, but I think the central pot of data, if it can be firms, can run their data against it. But you're not absolutely sharing a name with other you're not going out to saying these are the 10 people I wouldn't touch, but you've provided you've got your names, you're running against a central database, but then you do have to provide that central database. When you get a bad in AML terms like a high-risk line, it just seems to be laundering money. If you get a market, a trader who seems to be constantly. Placing orders, spoofing, you've got to provide that name to that central database, but I think that's the way to do it, you are semi sharing information, but you're not going the whole hog.

SPEAKER1 50:41 It's interesting because, again, the Americans have been quite active, and you do see a lot of enforcement cases. Whereas the U.K. authorities receive a lot of data and to my memory, the only major place that I can think of involving commodities, in particular, and algorithmic misbehaviour was the Coscia case

That's the case. It's about five, six, seven years ago. And that was very much piggybacking off a U.S. action.

SPEAKER2 51:22 He wasn't the guy in Hounslow, no?

SPEAKER1 51:27 The hound of Hounslow was the guy that was Sarao. Yeah. Yeah. He was involved in the flash crash. Yeah. With Panther energy trading. The allegations were around sort of I think it was around layering and spoofing allegations. Yeah. And he brought a case and then, you know, the guy at Princeton you said, well looking like was because first that just entrenched views about what trading should look like. There's a prejudice against innovation. And that of course, he said he had some UK dealings that I just really, I can't I'm not aware of any cases, but you can only hope people know.

SPEAKER1 52:21 No, maybe it's too well, it's it two things is a very difficult to prosecute and time consuming. And, we know the regulator likes to go well, we don't have much choice because they can't trace everything, but they want enforcement cases that actually will be used as an example to change behaviour in that sector. And maybe they're thinking it's not it's not one where they're going to get much enough bang, bang, bang for their buck.

SPEAKER2 52:51 Yeah, it's interesting. I mean, I'm not quite sure what it is. I mean, you know, the sun may say that our market is more affected or something like that is interesting because

SPEAKER1 53:05 people are trying to think of something. I mean, if there are any enforcement cases, it tends to be at the exchange level and it tends to be for a technicality of a breach, as in the algorithm trades. Well, what was the firm that when they had an algorithm, I put it was a test one they turned it on and talk about. It was the flash crash, one that caused or caused the flash crash. But they got fined for having not followed the procedure as opposed to, strictly speaking, what the algorithm did.

SPEAKER2 53:46 I'm not sure I know the firm's name. I know there was like. So, guy. Yeah, yeah, yeah.

SPEAKER1 53:55 But I mean, I'm just thinking the exchanges, if they do take action against that an algorithm, it tends to because it's placing too many orders or they someone tested an algorithm in life, that type of issue, as opposed to a genuine for six months we saw this complete abuse.

SPEAKER1 54:21 I mean, we're into a lot of families and they did bring in this sort of positions around sort to take care and the people that involved design and deployment process, they have to go for certification exams, I suppose a different person on the front desk dealing with all kinds of delays. Do you think that's got any more legitimate? Because, you know, if you read some of the more out there books, I mean, I don't know if you know about the serious safety issues and the sort of historian, you know, a historian. And if you come across those bestsellers and he

says that the whole human society is based on this premise that a human being has to be responsible, liable. And that's because of the food chain actually saying that our rules are becoming so sophisticated that may not only one human being to be reasonably aware of what they are doing or how they're going to tell their intentions. To say that the FCA as an institution is already flawed because it was born out of a financial crisis. That was a very human driven fact where we're going in a different direction now.

- SPEAKER2 55:46 Yeah, I mean, yeah, it's definitely a case for that because it's as you say, it was born out of the credit crisis and the fact that there were clearly some individuals who should have been personally culpable, and it was very difficult to take them anywhere down an enforcement path. But they are we trying to accomplish too much by saying actually the SMCR is basically trying to say the people at the top need to make sure the systems control within their firms are effective and if to try and get programmers and developers within the scope of the same rules, a really tough ask. So I think if you're ever going to get an SMCR enforcement case against an algorithmic firm who's got an algorithm, an abusive algorithm, you're probably going to say the individual who programmed the algorithm is will be in scope of market abuse rules with or without the SMCR and the question is, do you bring the senior person in now because the SMCR exists to say actually they didn't set up the right systems controls within their firm. And so, from that point of view, the SMCR I think will capture the well stands a better chance of capturing the senior individual, but not necessarily makes any difference at all with the individual algorithm, that algorithmic trader or the algorithmic programmer. I think that would still be, if you could, the Market Abuse Regulation.
- SPEAKER1 57:44 And in terms of sort of a composition, the same sort of traditional elements, one firms and maybe some houses, have you noticed a difference, the difference in hiring, trying to make it at the front desk as a result?
- SPEAKER2 58:07 Yeah, actually, I know we talked about it before, but actually much to, for example, the math. Well, at the moment of math, an undergraduate, but she wouldn't have her personality is not like the traditional front office trader. She's very quiet. She's very articulate. She's very thoughtful, diligent. And she definitely would like to think those like for long and actually has some values. The reason she went to [REDACTED] was very much based on the ESG program, a program as an internship program. And yes, so they yes, I've definitely seen changes in hiring and I'm actually seeing changes in the type of person coming in the sense of not so beyond the skill set, just their ethics, just what they think is right and wrong, what values they hold. They're from a different generation.
- SPEAKER1 59:26 And is that being that sort of the big banks are in the public eye and they have to sort of because it seems the right thing, is that also the case, do you think, of some of the more traditional?

SPEAKER2 59:43 I don't think it's there for CAT1. Clearly, the big banks are at the forefront of change because they have to be, I think, the cat ones, it's their idea of diversity, maybe 50 percent men, 50 percent women in the firm on average across all employees, whereas diversity obviously means an awful lot more than that. And so, I don't I haven't it's going to filter through. But this will go back to the point that if the member for the CAT1 family still likes the ring is going to be slow to change because they haven't, they've almost been protected from change. What being an enemy member. So, I definitely think it needs to happen. And actually that may be one of the things the drivers of the change when firms start to recruit people who have different value sets as well as different skills, and B, and if people have different value sets used to challenge and challenge is a good idea rather than upset the applecart, as it were, rocking the boat, then I can see them. Firms that take on a new generation of staff will probably be open to more change simply because of the quality and the type of people they get let in through their own door.

SPEAKER1 01:01:15 All those sort of mid-sized brokerage firms in your experience? They do. They tend to buy from vendors or are they building their own sort of surveillance?

SPEAKER2 01:01:25 And most, I would say, buy from vendors. I don't they obviously depends on the staff is in them, but the surveillance kit tends to get purchased from vendors and then they may choose their own contents. Of which particular areas of abuse do they focus on? Because obviously it depends on their own trade and store within the house about what you're trying to monitor.

SPEAKER1 01:02:00 And how would you rate their ability to sort of match up with the sort of algorithms that might be deployed?

SPEAKER2 01:02:11 I mean, it used to be you spend lots of money on a monitoring system and you think, yeah, I'll tick that box. And it's like, actually, that's not really implemented an effective monitoring system. You've got to know how your system works and how to tweak the parameters. Which takes time and skills, so I don't think it's I think at the moment probably to tick boxes still within, well, not just middle-sized firms, but larger firms as well. It's still got further to go. But I think they've got the right tools is how they use them.

SPEAKER1 01:03:01 Could you ever see a situation where the regulator deploys more sort of real time type tools, I mean, maybe a little bit minority report, if you like, but that they could see an algorithm that's starting to malfunction or starting to behave in a bizarre way and it actually just not out. I mean, OK, you've got similar things, the exchange level with a certain degree, a certain price quality and things are doing that or else I can't.

SPEAKER2 01:03:33 I could see the exchange doing it with the circuit breakers, which I know. Yeah, that would be lots of reasons for the market to move. But one of the reasons for the market to move could be an algorithm firing incorrectly. But I can't see the regulator doing it partly because they'd have to do it fairly across the board of all

exchanges. And secondly, just the resources to do it and the skills to do it doesn't jump out at me. The regulator's got those skills. I could see it just being enforced at an exchange level, also enforced a requirement, an exchange level being pushed further than it already is, that the exchanges clearly don't want algorithms firing away inappropriately. So, it's in their interest to prevent it. Well, either intentionally or unintentionally misfire in algorithms from running on trading platforms. But if it's not subject to the regulator doing

SPEAKER1 01:04:39 What would happen where, you know, the market of is decentralised. Right. So, you don't have to perform that role in many cases.

SPEAKER2 01:04:49 No, but I suppose this is one of the advantages, if you can put it this way, of algorithmic trading, because they pick up price from so many different markets and platforms and only see, well, let's say they naturally move if a price is out of line, if something's going wrong in one place, they would naturally bring everything back in line. So, it's near enough, the same price on all exchanges also or exchanges or platforms or price feeds, whereas previously that could easily be a break between different players offering prices. Now, I think that's much more difficult to do for good or not for good or for bad, but for unintentionally or intentionally. I think prices are now a lot more transparent.

SPEAKER1 01:05:47 Coming to the final few questions to be in our consciousness, we've got to be able to be released in terms of sort of sector wide collaboration. I mean, in the sort of traditional animation or, you know, some of the sort of mid-sized ethics brokers, if you like. How much sort of collaboration do you think there is? And I mean, a lot of these things like my own and I mean, are they really suitable for this kind of discussion? Maybe if you'd like to contribute and gain from that.

SPEAKER2 01:06:30 Great. I mean, at a personal level, yes, I think the forums are valuable, but really, they tend to be brought together by not the front offices, but they tend to be brought together either by compliance departments are quite happy to talk. User groups tend to be happy to talk, but it would be on the functionality that they'd normally want developed in the systems rather than trying to stop and understand abuse. But I think there has to be some formal acceptance that this this kind of, we could call it data sharing, this could a collaboration isn't going to cause any get people in trouble, but actually it needs to be actively encouraged by the by the regulator. So, I do think there's quite a lot of mileage in it because it's something that is already happening, if you like, more unofficially the cogs of this world. But certain areas of businesses have always been happier to talk to their counterparts, other firms, because they want to make sure they're going in the right direction, amongst other reasons. Perhaps if it could just be made a little bit more formal is the word I'm thinking of. But to make sure that actually maybe encouraged is the word I'm looking for.

SPEAKER1 01:07:59 Do you think that these are topics that are concerning people or is this something which is not on my radar?

SPEAKER2 01:08:07 I think it's concerning people. Because a lot of people don't understand how these algorithms work and how to keep on top of them and how the implications for the market and particularly the LME. There will be a ton of people who have no real knowledge of almost what Select can do currently, let alone what can be plugged into it. And these tend to be quite senior people, so I think there's an awful lot of learning to be gained. People want to learn. People want to understand how they're the platforms on their marketplace work. But it's almost admitted is the most embarrassing question about some people on the open to asking about how does this work and what does it mean for me and what does it mean for us, the firm, whatever the means of the industry, I think it is going to be a lot more open.

SPEAKER1 01:09:07 How much reliance are there on so obviously [inaudible] understand what's going on, because obviously they have to go through components of various reasons. You know, at the moment, they say outside the regulatory perimeter.

SPEAKER2 01:09:27 So, I can see them. Well, yes, because they are as I mentioned at the beginning, a lot of firms are now really technology firms who have a right, who have a financial product. But whether you want to bring in the IT company into the or the vendor into regulation or whether you want to do it through most of the way it's happening at the moment, which is the firms have to conform. So therefore, they make sure any vendor does become big because trying to issue like, where do you draw the line, what, who, you regulate. So, I'm not necessarily a fan of trying to just continue to expand the scope of those within regulation. I think you've got to draw a line at the gatekeepers in this case because they're the gatekeepers of the firms. Not as in the investment firms, the exchange members, the exchanges, not necessarily to go one step further out and start, because then you'll then you'll say, well, who are the IT companies behind the vendors? And, oh, they outsource to other data or some other large I.T. company you like. Where do you stop? And therefore, you have a problem with accountability because everybody would always pass the buck. And I think at the moment you if you could draw the line and stop the exchanges or the member firms, the investment firms.

SPEAKER1 01:11:15 In terms of the merits of industry versus regulatory solutions, which I think is the solution, is really a top-down regulation. And there is there something else?

SPEAKER2 01:11:37 I don't think it is. I don't I think for him or the firms themselves in the same way that if you have any type of strategy that is being followed and you're just it doesn't matter what industry, what business, if you're told to do something, you're a little bit less likely to follow the intent of that instruction compared to if you were involved in that decision in the first place and the strategy in the first place. So, I think it needs to be industry led and partly to this sort of compromise. So, it's fudged. But just so it's got buy-in.



- SPEAKER2 01:12:28 Is there any other sort of highly regulated sectors? Because obviously algorithmic deployments to financial services, we've talked about medical sector where sort of Rosseau deep divisions over that, driving cars as part of the aviation industry obviously are highly regulated. You think there's any business component, to your knowledge, from some of those other sectors?
- SPEAKER2 01:13:00 Well, you know, absolutely. They can learn a huge amount, partly because there isn't such it might be the financial sector, maybe aviation, it may be autonomous car driving. There's probably an awful lot of commonalities. So, yes, I do believe they can learn a huge amount, whether it's how regulation is enforced or what rules actually deliver, the right results, the right outcomes. What type of people do you get involved in forming the regulations in the first place? Is it the same people as the industry or is it completely different? Say, yes, I believe in that in there's a huge amount to be gained by sharing best practice.
- SPEAKER1 01:13:56 And is that really happening in your view or not?
- SPEAKER2 01:14:01 Well, I think finance is keeping itself to finance because you see it quite often, even when someone from HR joined who's an HR specialist, they're not from a financial investment firm or financial background. This is not what they're used to. I think it would be good to see a much more cross pollination of skills and therefore being open to what you can see, it being pushed in the diversity initiative of the regulator. They want to get people from different backgrounds, different industries into the financial sector and vice versa. But it's not...probably a bit like the LME is the bigger picture of the LME, the LME CAT1 members didn't really want to vote for anything other than keep everything on the floor and keep the CAT1 members happy. The industry itself is trying to probably push back on change, but it needs to change because otherwise you'll get the **Revoluts** of this world. And I noticed that financial burden is really very different from the predecessors. You'll get new entrants come in and just change how things are done so that the choice of the existing players is either open to more change and they include who we hire from and where we source our est practice ideas from or if they don't, I think it is just an industry that won't do itself any favours.
- SPEAKER1 01:15:48 Finally, what would be your primary concern for the future on this sort of project in this area?
- SPEAKER2 01:15:59 I think if you're going to change it, you're not going to be able to change without some pain for certain existing participants is just very difficult to have such a wide spectrum of customers, market participants, exchanges, regulators and have change and then expect everything to carry on as it as it did. And I think you just got to have an open attitude of actually , if it's four , there's a phrase and I heard it on American football and it's about the idea of better shouldn't get in the way of perfect , which in other words , you may just because it's not a perfect solution doesn't mean to say you shouldn't do it because you know , it's better . And it was a lot to do with the American football of the capsule, which is

horrible, and they try to it's like, well, they've improved it, but it's not perfect, but it's much better than it was. And I think we have to accept that's the way the algorithmic trading and the use of it in general, it's better. It's not perfect, but it's better than it was.

SPEAKER1 01:17:29 Seems a bit like the discussions that we've had in about the game.

SPEAKER2 01:17:36 Yeah, yeah. It's not easy. It's not easy because it's not perfect. It's almost saying it's going to settle down and you just got to accept it. There still be issues about how. What you want to go towards perfection with the offside rule and the answer probably is, as we've seen, we don't want to go to perfect because it spoils the natural flow of the game.

SPEAKER1 01:18:00 Exactly. Exactly. Thank you very much for your time.

SPEAKER2 01:18:06 That's OK.