

Interview with an expert in metals trading and risk management

- SPEAKER1 00:02 OK, so we should get a notice coming up now that it's started. Yeah, OK, great. So first off, could you just explain what your role is in the industry?
- SPEAKER2 00:18 Certainly, I'm part of a group of consultants and we work with metals industry, largely end users, but literally it's producers, smelters, refineries, fabricators, processors, transformers, if you will, allow consumers to actually build or improve price risk management programs for the metals that they've got running for their stream and obviously other ancillary things like foreign exchange, et cetera. And our service is a complete service in its soup to nuts. It starts with understanding and getting an inventory of risks and giving them a risk model and an impact model, helping them understand what those risks are, how they enter into their system, and then working to create controls and reporting to basically make their exposures visible. And then increasingly, you know, as you go along, help them understand hedging and had you counterparties and getting all those sorts of things in place where that's necessary, helping them on their commercial activities, understand what their degrees of freedom are and where they're being messy, helping them with the financial reporting and the risk reporting and helping accounting adapt to hedging environments, helping others with systems and bringing in systems and helping them effectively with implementation and orientation. And so, in essence, we are kind of plumbers for risk and price risk management for metals. And whereas a lot of people just kind of think that you just blindly go out and hedge unless you really know what you've got as a risk and what risk is and why it's there and whether you want it and all those sorts of things, you really shouldn't be doing it. And that is actually the heart of the reason why many programs fail.
- SPEAKER1 02:29 Most of your firms that you look after, this sort of group of customers that you look after, they are that primarily hedgers, right? So, you don't really look after any speculative type firms or anything like that?
- SPEAKER2 02:41 Primarily hedgers. Yes, but not necessarily hedgers. No, we don't work with speculative firms very often. That is correct. Our core group are people who really want to run as effectively utility. They want to be able to manage their profitability and not effectively manage a casino. So that is what it is. Whether they hedge or not, it's a different story. We certainly have dealt with a few big clients that literally whose raison d'être is not to hedge, and they have multibillion dollar medal flows and that is literally what they do.
- SPEAKER1 03:25 What would be your perception of the interaction between hedges and speculators in the in the LME, so the base metals markets?
- SPEAKER2 03:41 Certainly, they're very different interests. One is opportunistic and is in there to effectively take advantage of the price movement in a sense that in a way that they walk away with a profit. The other is literally into risk mitigation. That's what a hedge does and has very different interests. Sometimes their

buys and sells will be aligned, sometimes they're not. But I would say that overall, the purpose of having speculators in the market is to create liquidity. And it is not the primary purpose. But it is not the purpose of the hedge or the hedges. They're literally kind of run a business. But the primary purpose, I should say, of a speculator is to create liquidity. And, you know, they're absolutely important to have no question.

- SPEAKER1 04:53 And because I read quite a good paper, it was before Christmas. And the author of that paper was sort of describing how the LME had developed over time from being a sort of more producer like market. And more recently, you've seen firms like Jump trading become members of the LME and things like this. And they're saying that maybe the power balance is sort of shifting somewhat in the more that kind of direction.
- SPEAKER1 05:23 And how do you think the power balance is going back to the users, the end users, or...
- SPEAKER1 05:30 There's a sort of maybe a general trend towards more sort of financialization, more or less sort of regulation. How do you think that's perceived by the traditional uses of the market?
- SPEAKER2 05:46 Well, you know, you got a whole gamut of users. I mean, you can't lump end users of the market, the traditional and use of the market in one basket any more than you can the speculators. As you know, there are many different types of speculators. You probably know that better than I do. But you've got, you know, the great big traditional users like the huge merchants, certainly the highly sophisticated treasury run operation, metals businesses that just view it as kind of another step in the development of the market. And then you've got many, many more small users who are, I think to some extent, increasingly being disenfranchised from the market by virtue of, you know, the greater volatility created by the speculators, the greater uncertainty that gets reflected in US spreads and maybe the frontrunning that some of these algos do so making effectively the LME a less or more costly alternative to managing risk, a greater or a growing inability to get a reasonable counterparty that they can lay off risk with...the you know, I've watched in the 20, 30 years I've been doing this business, it's just become so much harder to bring aboard a broker. And certainly, getting credit even for what is a reasonable business is virtually we're not impossible, but a meaningful credit to virtually impossible. Minor credit is possible. But as that goes away, the things that used to be core or prime benefits of using an LME market versus a CME market are getting more and more distant.
- SPEAKER1 07:59 And those algos that you mentioned today, is it primarily the speculators that are using algorithms are or are the traditional uses of the market also developing their own algorithms in response to that?
- SPEAKER2 08:14 Well, I've never run into somebody developing their own algorithm, which is not to say that traditional users aren't. I mean, I could very much believe that

a big merchant may decide, especially a privately financed merchant, might decide to run a book using algos or something of that nature. But certainly, in terms of guys looking primarily to mitigate risk, I'd never run into...

- SPEAKER1 08:43 That's interesting, because in the UK we've got this interesting definition between algos and there's a sort of there's a split. So, there's algorithms which is viewed to be sort of execution enhancement tools. So, you get see huge or patterns. And they've come of some built in sort of things like auto spreaders and stuff like this. And they are designed to sort of increase execution efficiency. And then on the other hand, we've got these sort of more proprietary tools and we see quite a lot of these from China, from Chinese market participants, where they might take they want to direct feed of their own potentially, and they want more lower latency type access and they're more interested in developing their own functionality and away from the control of the broker. Do you have much involvement at all in how platforms are so calibrated and sets up, or is that more something they look after themselves?
- SPEAKER2 09:42 if we just take a step back and you talk about the Chinese that are doing this? First off, I'm going to admit that our involvement with the Chinese markets isn't that high. Frankly, it's not one we're that comfortable operating with. And the culture of the Chinese market is very different from the cultures of, you know, the vast majority of the customers. We work with people who are looking to not create risk, not Texas hedge, not enhance profitability through its use of derivatives. These are people who are literally trying to create stability in their financial and their financial revenue streams. And that's so, you know, if there's a limitation that I have, that's it. You know, we do help with systems. Absolutely. But, you know, they tend to be CTRM ype systems where we're working in the space that we're working as we're trying to marry up. A company's physical business, its commercial activities, the implications of what it does, with logistics or even production and tie it into its use of derivatives and the derivative markets to offset price risk that the other operations create. So, when we're dealing with systems, we absolutely aren't looking to enhance, you know, a computerized algorithmic style of trading. We are looking to kind of lay out a roadmap and create a roadmap for the company of what risk or exposures they've created, what offsets to those exposures they have, how successful those offsets are and how they're performing against measures that they have created for them and effectively create a culture of visibility right up to the board, but right down the front line where people can make decisions around the policy that the boards have given them around mitigating risk. Now, that said, there are two types of risk, right? It's very easy when you're dealing with the transactional type of risk. That's a discrete risk related say directly to, you know, a discrete event and is going to have an offset down the road at some point. Where it's harder is a more strategic style risk where, you know, you're projected to either produce at a certain price or your catalogue's or whatever it is require you have to buy

at a certain price and you need to use those markets to effectively manage a future margin, guarantee a degree of future margin. And that is a much different decision style. That's probably where you would see that kind of applicability fit better, where you can pre-program so that somebody doesn't have watch the screen all the time, you know, in the execution of a certain type to say options, trade or, you know, potentially the rolling of a spread on, say, a permanent inventory or something of that nature. That's where you might be able to use it. But we haven't really run into it that not that often because, again, our clients are most often wrestling with these concepts to start with. And you're talking about then putting rocket science on top of it. And I'm going to be, you know, admit that I have not seen that many companies in in the metals industry that are fully prepared for that rocket science other than some of the really big traitor's one of which I was a of for a while.

SPEAKER1 14:14 And just in terms of how that rocket science, one of the big things at the moment in the U.K. and probably also in the states as well, that regulatory authorities are grappling with, is how that rocket science is changing markets and how that could undermine the fairness of those markets.

SPEAKER2 14:35 Yeah , absolutely .

SPEAKER1 14:37 And the time for that that's being used is this conduct risk in terms of, you know, maybe manipulation or adverse execution outcomes, or it could be people trying to feed misleading information to the market or something like that. What do you think the physical markets understanding of that type of risk is and do they come to you to try and understand that and where they could how to navigate some of that, or is that not really at the forefront of their minds?

SPEAKER2 15:18 One of the things or services we perform is training. And certainly, when we do a multiday or a big engagement that is trying to give a company a view of how markets behave, we certainly look at other participants in the markets beyond just the physical community generally. I'll admit right off the bat that the majority, the vast majority of market users, you know, the physical market users tend to be uncomfortable with the concept of having speculators in there at all. So then when you start talking about a computer aided manipulation, you can just kind of imagine that these people are kind of just on the edge of understanding how to use the market, get even more uncomfortable with the idea that that the prices that are effectively being derived from that market and discovered in that market are speculatively derived. And actually, great concern is that less and less those prices are actually related to the supply and demand that actually exists in the market. And just as much to do with what's happening in the stock market and what's happening in oil. And perhaps, you know, something that they would view as equally uninteresting, you know, and not the metal that they're trying to work with and understand. So, you know, what they don't want to have

happen is ending up having price risk on something like a gold, which is pretty hard to predict. I mean, it's a currency. It's not a metal. Silver as well. It's probably the most schizophrenic metal you got out there. Some days it can be an industrial metal, and other days it's a precious metal. You don't know which day that's going to be, you know. And so, you know, the more speculatively driven these markets become, the greater the chance on hitching what is an obvious thread between or the fundamentals of the metal and what the price is going to do. It drives up volatility on top of that, which they desperately don't like. That's really why they talk to us. It's not whether the prices it's worth. The volatility is. And, you know, it has happened in the past, you know, in the 60s and early 70s, you know, hold industries kind of did walk away from some of these exchange based prices and went back to producer pricing, where the producer was a bit like a fox in the henhouse, you know, the determinant of what the market should be. Now, obviously, that lasted only so long. Whether you go back to that would be another question, whether producers would even want to have that happen because of the legal risks involved in that. So, you know, I'm not sure if I answer your question or not. They're not comfortable, let's put it that way.

- SPEAKER1 18:40 Do you think they are vulnerable because of that sort of arms race where there is a feeling that they could be taken advantage of by these?
- SPEAKER2 18:51 Well, absolutely. Absolutely. They desperately hate the algos just for the spreads they take out of them. And just about anybody, anytime you talk to a physical operation that's running a derivative book, they hate having that dollar taken away from them. It's just one little bit more inefficiency that is in there. And, you know, so if you're if you've got that and then you're adding on top of that, you know, piling in, making it easier for more and more speculators to come in and effectively run the market, then, yeah, they just do not like that.
- SPEAKER1 19:42 And how do you feel? What do you think that this side of the market, the physical market should do in response to that? Is there anything they can do, do you think, to make themselves may be more familiar with, you know, this type of activity and maybe prepare themselves better to respond?
- SPEAKER2 20:06 Yeah, you know, there are a couple of ways they can manage with this thing. And clearly, education is always important no matter what happens. And there's not a lot of that. I mean, the LME doesn't go and teach this. There's no where you can learn it unless you're sitting at your broker's desk, and he could show you how it's happening. You know, people like us come through and give you some education on what is happening out there with your trade, what kind of what kind of CS your trade lives in and gets executed. And I mean, the other alternative for them, frankly, is that they find that these things are just less and less related to the physical activity. They just stop hedging. They literally stop hedging. Why work with something? It's just not worth it, you know? And actually, I was interviewed by Fast Market this week.

It's just it's in Fast Markets now. You have the access Andrea Hotter article got interviewed by her like my team, about just this sort of thing. And, you know, in any physical business, there's a certain amount of discretion that you apply through your commercial process or your production process or even your logistical processes. That effectively translates to price exposure. And, you know, as long as you're willing to be able to hedge it and do it effectively and prove that it's good, that's great. But if hedging becomes more expensive and less effective, you're not able to execute on time. You're having more and more trouble doing it than you can exercise the discretion in other parts of the process just to stop it from...

- SPEAKER1 21:53 And how do you think these things are playing into the whole currently furious debate about the future of the LME?
- SPEAKER2 22:04 Oh, absolutely. I mean, that's a great question. I don't have a problem with the LME asking the questions, and I think they should. You know, it's great to continually bring it up, especially when you've got a distant management. And on top of that, a management that's turning over the chairman or what have you and the whole board, the Shanghai Futures Exchange loss of Charles. They need it. They need to know that. And that's good. This is what I have an issue really with, though, is that there seem to be foregone conclusions made in this paper on data that is wildly disagreed with by the broker community. And they haven't really sussed out the data and gotten any agreement first. So, they've thrown up this data that looks spurious, then throw out conclusions based on that data. And unfortunately, I think it's made the LME look bad because it also looks like they may not quite understand how the Ring actually operates. And I think that's hard, especially when you're a Chinese owner, because this is saving face, and this is face. And right now, they've lost a lot of it. And that's been a big problem, you know, and how a Chinese or owner now is sitting there all red faced or just mad at their management and saying this, this and this and how could you do this? And then, of course, they've also galvanized the speculative part of their user base to are saying, you see, it's obvious both time it's, oh, now you've got polarization of their users. This has been a really destructive process because they just didn't implement it right. Not because they did it. Just an implementation problem is what it is. That's how I see it.
- SPEAKER1 24:06 If they went ahead with these proposals. Do you think there's a danger that because the LME is a funny type of organization, because it's part business, part regulator, it's trying to and so there's a sort of strange balance there. Do you think there's a danger that they could lose control of? The ability to regulate the market if these changes go through, or do you think that if that were already quite removed from that, it's you know, because obviously on the floor you got a guy standing there. They're all shouting at each other. You've got the surveillance people a few meters from them. You take that away, everything's on the screen. It's a lot more difficult for a human being to see what's going on. So, is there a danger they could just become swamped

by it all? And actually today, for a short period of time at least, the sort of new type of participant predominates...

- SPEAKER2 25:08 I mean, I haven't been in that back room watching it in the old days. Things did happen slower. And you were able to get that data with increasing efficiency and make those decisions relatively well. And certainly, the work they've done around the Ring and in office and all that other stuff, you know, there has been a lot of work on there. So, my opinion would be that unless they've got instant access to just what happened. Yeah, sure. There's a danger. Absolutely there's a danger. You know, but part of the complaint that's being made here by the physical market and the brokers is that the LME is pushing the system that's not fit for purpose. So, you know, they're effectively trying to move the market on to Select, which is good at a generic three month trade and not good at anything else, and then they're going to make it difficult and expensive to do anything else, which is effectively what the system is. So long run if they go ahead with these changes, as discussed and as I suggested here, they end up in a purgatory where their physical community is a lot less happy. Certainly, it's OK for the speculative community while speculators want to speculate and then the markets go bad and they go to party and speculators get out because they do, they are in there consistently the way the traders and then they've ended up with something that isn't any good anymore. And the other thing is, once you start doing these things, which is what they're suggesting in this paper, what's the point of keeping a date system? I really don't get it. I mean, they say, you know, got out of the date system. But then if you don't give any of the things that make the system work, what's the point of keeping it? And then where does that leave the LME? What special thing does it have? An international warehousing? How much?
- SPEAKER1 27:12 Yeah, it's an interesting the logic behind it is certainly an interesting trying to fathom what the approach is, because for me it almost looks like it's just going to become another almost trying to be like Ice Futures.
- SPEAKER2 27:30 Yeah. You know that's a structure. I think that that's what they look at and that's what they.... But the thing is, it's a different business model. This is unique business model. And it all it does is metals and metals, frankly, except with the exception of aluminium, possibly copper. They're small markets, they're small. And so, you've got probably the most precise flexible system operating right now, even though it's on a manual basis. You know, why would you want to give away your raison d'être effectively? You're your one advantage to move to something that you've got no special advantage in. And you know, what they really need to do is they need to kind of redo Select. They need to look at the sad part is it won't be off the shelf. It's going to have to be proprietary because nobody else done this.
- SPEAKER1 28:24 Mm hmm. And do you think in terms of the ability of the industry to sort of spot abuse, maybe because the market has been evolving so much, and the

way in which you can abuse a market has also evolved over time. It's not the way it was 20 years ago. The things that you could call it have totally changed. Do you think is that are you seeing any signs that that the physical side of the market is responding to that and is also trying to maybe develop their own controls to understand where that could be? They could be the victims of abuse or maybe that some of their own people engaging in activities which....

SPEAKER2 29:21 Oh, absolutely. Certainly, the latter. Absolutely. You know, the big producers, the big companies out there are absolutely scared, being accused of abusing a market, being caught, you know, fixing a price or whatever. They're moving away from doing any obvious price signalling. They're very concerned that they are not worked on in any way, its abuses of the market and then face the obvious, you know, financial and regulatory penalties that go with it. So, I can speak to the big guys out there totally, totally worried about it. How much time they're spending on how they could be abused is a better question. I, I can't really give you an answer to that. You know, typically, in my experience anyway, the big users of a market, maybe with the exception, again, of the really top merchants, you know, they look at the market as a supply demand entity. And so, their work is done around supply, demand, how things go in, how things go, how likely there they are to be wrong about their forecast in terms of production or even demand. But I've never seen one that starts to talk about the influence of speculative activity and how they might likely have to respond to that, because suddenly oil went nuts and then a whole basket of commodities, you know, basically got into the same boat and basket busting took the price up to ten thousand dollars for copper. I know. I haven't seen that ever.

SPEAKER1 31:07 Do you know of any producer firms that are sort of deploying sort of maybe surveillance tools to sort of get an understanding of what their people are doing on their behalf independently of the people that are doing it? So, again, most of the speculative firms and also the brokerage firms, they have sort of surveillance tools and surveillance staff that actually look at what that people are doing to just make sure that they stay on side. Do you see any of the producing...?

SPEAKER2 31:42 Well, yeah, I can certainly tell you internal audits become and having run the big hedge functions, internal audit has become very important. And, you know, you have to go through, and you have to prove your trades and you have to prove the offsets and prove that you're working to meet the goals that you've had set by policy, the fact you're staying within tolerances that you've been given for risk. So, yeah, absolutely. That's become an issue for human.

SPEAKER2 32:17 It's very human led still?

SPEAKER2 32:19 Very, very much very human. I have not seen again in the metals industry anything and any of the, you know, the of the PC is watching you looking at

the keystrokes and stuff. But no, I haven't seen that, not that it doesn't exist. I just haven't seen it in the in the sort of brokerage area.

- SPEAKER1 32:40 And I think also there's a couple of forums on this. There are things like the FIA, they have sort of working groups which look at algorithmic trading and they try to sort of come up with sort of industry standards or, you know, codes of acceptable practice, you've got things like these. ██████ in I know I was at a he was the CEO of ██████ He I think he's on something called the FSB. The FICC Market Standards Board. And quite a few chief executives are on this type of thing, which is all in the public domain. And they're trying to work out like a code, and they sort of almost self-governing, self-driving, good behaviour in the sector. Do you see anything like that on the physical side or is that is it more of a perception of all that's all to just to do with the broker and the broker is the gatekeeper, and so therefore that's for them to deal with in, you know?
- SPEAKER2 33:54 Well, I haven't seen, I certainly haven't seen it in terms of the use of tools for hedging. I haven't seen it at all. Where I see it is much more through industry associations that are worried about sustainability and sustainable, you know, and conflict free action, those sorts of things. That's where they're spending their time and sustainability in terms of carbon neutrality. That's where they're spending their time right now.
- SPEAKER1 34:28 And they're quite willing to say we'll cooperate. There's no sort of secretive sort of people are worried to discuss things or is it they're quite willing to work together and potentially in these types of forums on those things?
- SPEAKER2 34:41 Yes, because this is about an industry, you know, industry survival, but also, you know, the world's pollution, global warming, that sort of stuff. It's all and its basically ethics that they have no problem meeting on ethics where they have a problem is meeting around prices or anything to do with prices or anything to do with how you sell to a customer and what terms you give. They will not discuss that. Oh, that's just the competition laws are drilled into them, you know, left, right and centre.
- SPEAKER1 35:26 Do you think that they to try and find solutions to issues around, say, market fairness and market conduct type things? Do you think that this is better led from the top down, from the legislature, from the legislators and the regulators, or do you think it's better coming from the industry?
- SPEAKER2 35:45 Well, you know, I personally I think it's better from within the bit of the industry that understands it. From what I've seen guys in the process involved in the process of making sausages, of making those regulations, it's pretty frightening. One friend of mine who was in a very senior committee in Europe that was that went through and developed some of the regulations that everyone's living with now, said that at one point in the in the discussion, the majority of the group was convinced that they should no longer allow short selling, short selling of commodities. Now, as you know, that is ludicrous. That

is just absolutely stupid. And but it illustrates the degree of understanding that some of these legislative bodies and legislatures bring to this, which is, you know, nothing. And so, you've got, you know, decades of experience before they can actually come up with a reasonable opinion, something that I think has been lost. And over time, you know, and we're going now to hard limits things like position limits and those sorts of things, which we know don't work particularly well, whatever is the word reasonable. And one of the things I always would complement the LME four years ago was inserting that word in important places and then allowing courts, the jurors in various jurisdictions to interpret what reasonable was. And that word is something I think people are kind of walking away from. And it's probably driven by the Americans don't get that concept. You know, in a way, lending guidance is a reasonability test. And what they do is based on what they consider reasonable and what. But there's nothing inscribed in black and white that says this is. And I think because we're getting more and more regulated than they want to see stuff in black and white, we're actually getting less efficient. There was a point at which regulation actually distracts. And I'll give you a great example of it, frankly, and that is with the European Reach programmes, which were ridiculous, you know, having to do, you know, a million substances all at once and report on things using tests that hadn't even been invented yet. Just absolutely stupid. You know, they've lost and wasted billions of dollars for, you know, net negative returns. Just an absolute asinine kind of thing. If they had applied, again, reasonability to it, I think it could have hurt. It's just mountains and mountains of processing and paper. And I have yet to see, you know, very much return on it.

SPEAKER1 39:09 There's certainly a difference between the sort of civil law approach and the common law approach, which as common law traditionally being the sort of British Anglo-Saxon Commonwealth type approach to doing things. And I'm certain that we found that in Europe with Brexit and all the rest of it, there's been quite a big debate about that. And on that, I mean, have you had you had much exposure to sort of MIFID, this big giant regulation that came out four years ago?

SPEAKER2 39:39 Where I run into MIFID II its influence on what counterparties are available for clients to interact with and what those counterparts are able to do for them to do is raise the hurdle on internal liquidity and made it very difficult for sought capital adequacy, made it very difficult for customers to get credit, which was really, really important at a time, and it's basically forced banks out of the system. And nonbanks, you know, it's in effect creating kind of an oligopoly. You know, the biggest guy survives and making an environment that is, you know, less and less fluid for businesses that use these markets. It is an important component of why it's become much more difficult to work in these markets these days.

SPEAKER1 40:56 Because of MIFID II, had actually introduced for the first time was quite a big section on algorithmic trading. Yeah. And one of the things which they said

was, is if you were a commodities trading firm and you trade on your own accounts and despite certain limits where if you deploy your capital, so that's the main part of your business is sort of physical hedging and all the rest of it, you can submit a notification to the regulator or regulatory bodies and then you can exclude yourself from being regulated. However, if you're using your capital to speculate on the markets, it's much more difficult to do that. And actually, for the first time, firms which were not really financial firms in the true sense that were they were more sort of prop shops, own account trading firms. They came into the scope of the European regulations. What do you think to that approach? Was that a sensible thing to do? Or do you think that's just something which really people would just say, OK, well, we'll just move offshore and therefore we don't have to follow the European regulations and we will weaken ourselves?

- SPEAKER2 42:22 The answer to that is yes, that is what happens. People move offshore, Singapore and Dubai. I've been there, so we lose my job. Well, you know, unless you do it globally, you know, you just can't do it on a little island. It doesn't work. So, and then, you know, the other bit of stupidity in this is using derivative as a prop, as effectively a proprietary trade, any different than using a metal premium as a proprietary trade that, you know, doesn't it? It isn't, except that one is visible, and one isn't. You know, you aren't controlling speculating. You're only a little bit of it. So, you know, again, it gets back to the fact that the regulators, as they're doing this one size fits all. They don't understand really what they're doing. You they really don't. It might work for the stock market, or it might work for another commodity. But my guess is it probably doesn't work particularly well there either. And it's probably a bit of well, they just really haven't brought in experts to do the stuff.
- SPEAKER1 43:47 Is it any better in the States?
- SPEAKER2 43:53 I know it is. I mean, a lot of the you know, the CFTC loves to be [trigger] happy. You know, it is you know, if you're going to be doing this thing, you particularly want to keep your paper out of the U.S. But increasingly, you want to keep it out of Europe, too, for sure.
- SPEAKER1 44:12 Have there been any sort of significant incidents within the sector which have come from algorithmic type trading, which you are aware of recently?
- SPEAKER2 44:30 No, no, I'm not going to say there are. I mean, certainly there I'd suggest that some of the volatility we've been seeing is partly a function of algo, you know, the way the nickel market moves, getting even more volatile and it's something that's impossible. It probably is a matter of time. It'll hit the delta hedgers and that'll hit the regular hedgers and just that sort of thing. But at the moment, I'd say that no, it hasn't. What the algos have been is just kind of like used the term in my paper barnacles on the bottom of a boat. And that's what they are at the moment. But they could get worse.

SPEAKER1 45:25 What would be your principal concerns for the future?

SPEAKER2 45:36 Well, these markets are growing, the LME is supporting an aluminium market that's getting bigger and copper market that looks like it could get very much bigger, a nickel market, depending on what happens, it could get quite a bit bigger. Plus, I'd love to say that the LME is going to help them get there, but it's but I'd suggest that it'll provide a pricing tool, but you won't necessarily see commensurate growth in derivatives trading with it. You know, there's a lot that's changed now. You know, the whole concept of strategic hedging going out and locking in a forward price on the next five years, it's just gone. Can't do it. Now, that's partly because analysts don't like it in the market, although I'd argue that probably analysts not understand it also because of the credit issues that's involved. And now that you're you know, there is no credit and you're running a mark-to-market type of margin system and can't afford to be on the wrong side of a big, short position or long position. So, what it's turned the whole of strategic trading into is a series of small decisions on revenue optimization, and that's causing and costing a lot of volume and certainly costing a lot of volume on the forward curve. So those curves are getting less and less liquid and more and more volatile and it's a more dangerous place to be. And frankly, that is being helped by transparency, too, because the more transparent you are and the farther up in the curve you are, the bigger a target you have on your back. And so, I don't agree with the LME statement that, you know, the objective of all this is to create greater transparency because it is a small market. You need a degree of transparency for it to work and you are responsible. Hedger's job is not to move the market. So, I've got a big position to take. I've got to do it in a way that doesn't influence prices. The best example of it, in my opinion, of maybe the worst in trade that was done to be totally transparent, absolutely blew the market away was when Gordon Brown sold the UK's gold, and he did it in an obvious, totally transparent way and got the absolute bottom of the market of all time

SPEAKER2 48:14 apart from was it Black Monday or whatever it was today,

SPEAKER2 48:19 he just totally blew it. So, you know, it was it's an illustration of why you can't make things too transparent, what you do need to do is you need to have the right reporting in there to make sure that what is happening, however, is going to source. That isn't making it public, but it's understanding what's actually happening and then able to take care of you. And that's how the LME used to be. But if you're trying to publish transparency numbers and just trying to make it, it's not going to work.

SPEAKER1 48:58 Excellent. Well, that concludes the interview.