

## Introducing the Newest Technology to Capital Markets: The Regulator's Perspective

Speakers: Oliver Harvey and Ilana Singer

### **Ilana Singer:**

Hello everyone, and welcome to our TC Podcast. I'm Ilana Singer, Chair of the Toronto Center Securities Advisory Board. Today, we will be discussing how Australia is leading the way in incorporating technology to innovate in an area as fundamental as how trades are settled and cleared. By now, everyone has likely heard of blockchain as it relates to Bitcoin, and other crypto assets. However, blockchain, or distributed ledger technology in general extends beyond cryptocurrencies. The Australian Securities Exchange is currently in the process of incorporating this technology to replace CHESSE, the exchange's settlement system, and electronic securities depository.

To get a senior regulator's perspective on this project, I'm thrilled to be joined today by Oliver Harvey, Chief Supervisory Officer at the Australian Securities and Investments Commission. As Chief Supervisory Officer, Oliver currently leads ASIC's close, and continuous monitoring program of Australia's major financial institutions. Prior to joining ASIC, Oliver worked at McKinsey and Company in its global corporate, and institutional banking practice. Oliver has more than 20 years of experience in financial services, and financial markets, and has seen firsthand the impact that technology can have on the industry, and on regulators, and supervisors, so a warm welcome to you Oliver.

### **Oliver Harvey:**

It's wonderful to be here Ilana, thank you for the invitation.

### **Ilana Singer:**

It's our absolute pleasure, and I'd like to start with this first question that's been on my mind since I first heard about this cutting edge initiative. Clearing and settlement infrastructure is often systemically important to an economy. What role does ASIC have in the ASX CHESSE replacement process?

### **Oliver Harvey:**

Let me tackle that question by painting for you a bit of a landscape of the Australian regulatory framework, and so, far as it relates to clearing and settlement facilities. Obviously, you have the Australian Securities Investments Commission, which I am a representative, and our essential purview is to oversee clearing and settlement facility operators to ensure that their services are provided in a fair, and effective way. We do that in very close conjunction with our colleagues at the Reserve Bank of Australia who have a very specific lens around ensuring that clearing and settlement facilities operate with a focus on the systemic risk management of the Australian Financial System.

In circumstances where we're dealing with infrastructure as significant as the CHES replacement, we also have a particular line of engagement with the competition regulator who naturally has an interest in ensuring that any change of this magnitude is undertaken, and delivered in a way that appropriately supports competitive tensions within the Australian Financial System.

**Ilana Singer:**

Thank you Oliver. It's clear that this is a multi-party, and multi-stakeholder type of initiative, and in that respect, it's interesting to see how ASIC is involved in the whole process, particularly, given the importance of clearing and settlement in the markets. Now, these types of facilities are required to meet certain regulatory, or supervisory requirements such as operating fairly, and effectively. To make sure that these goals are not compromised, I presume there needs to be adequate technological resources, and risk management arrangements. How does ASIC assess this in the context of such a large scale system change?

**Oliver Harvey:**

The first response I give to that question is clearly there's a consideration in the context of the scale of change that you've just referred to, but more broadly, the requirement to have adequate technological resourcing, and risk management arrangements is one that is front, and center for Australian regulators when they look at clearing and settlement facilities more broadly, and just to give you some context, and background for that, last year we completed an important piece of work with ASX where we had a good look at the extent to which they were effectively deploying their technology, governance and operational risk arrangements, and I would encourage any of your listeners to review that report. It's on our website, it's Report 592, and we published that in September last year.

And, that quite methodically goes through a range of really important features of ASIC's current arrangements, including its operational risk management frameworks, its technology governance, its enterprise architecture, its incident management, and looks very, very closely at ASX's current practices, and identifies a number of areas in which additional focus is very much encouraged, and the way in which we presented those findings is ideally in a way that's very accessible, not just to infrastructure providers, but to people across the market more broadly.

As I said, I'd really encourage any of your listeners who have an interest in this area to review our report. There're a number of recommendations, which go quite methodically through our analysis, and amounts to a number of important things that we think are relevant not just for market infrastructure providers, but for everyone involved in the Australian Financial Market, including participants as well.

**Ilana Singer:**

The expectations that you've described, and that are outlined in some detail in the report from September of last year, do those expectations of ASIC extend through to the wider industry implementation of the technology?

**Oliver Harvey:**

The short answer to that is very much so. A change of the scale that we are contemplating in which you are obviously very interested in, it needs to have a firm focus on the deployment taking place in a way that creates the minimum amount of disruption to the market, and in turn, returns the greatest amount of benefits. One of the things we're naturally very interested in, is the extent to which ASX is engaging the industry through the consultation process. That has been an extensive process, it continues to be an extensive process.

As you might expect in a process of this magnitude, a number of people feel that the consultation has been sufficiently extensive, a number quite naturally, are of the view that it hasn't been extensive enough, and are seeking more detail, and greater insight into the consequences of the change for their particular business model, but certainly consultation, and transparency are very, very fundamental to the change management associated with something of this magnitude. At least one of the outputs of that change process, in addition to a range of insights, and perspectives that have been flushed out as a consequence of all the meetings, and the discussions that have taken place is there has been a pushback in the proposed launch date, so that is now scheduled for March to April 2021, and that is in response to quite firm feedback from the industry that more time was needed to fully contemplate the consequences of this change for individual business models, and the way in which people would need to respond to them.

**Ilana Singer:**

It's clear from your description Oliver, that there has been a lot of consultation, and transparency throughout this process. Now, speaking of the wider industry, what has been the response of industry, and other stakeholders to the CHES replacement, and the use of DLT? Are they embracing it? You described some of the responses that ASX has now been responsive to, perhaps you could go into more detail into that?

**Oliver Harvey:**

Fair to say, I think along with the reaction in the international community, domestically, there's been a considerable response, and an interest in the CHES replacement, and clearly it's deploying elements of DLT technology as part of their proposed solution. I think you'd find a considerable level of interest quite aside from the DLT dimension of the CHES replacement. Clearly, where you have fundamental market infrastructure that's potentially being swapped out, and being swapped into something else, there's an

obvious question that everyone has about how that change will impact them, particularly, in circumstances where market infrastructure typically, is something that's organically developed over time in the case of CHES over the course of almost a quarter of a century.

And, individual users typically build up their own bespoke relationships with that existing technology, and swapping that out, and replacing that with something else naturally gives rise to quite considerable considerations that people have about how their own world may, or may not change with the new technology, and what's coming down the pipeline. If I were to characterize the specific areas of reaction, it would be fair to say I think that the first four additional detail has absolutely been a theme that's been driving the industry response. Yes, they recognize that it's a technology solution that is being proposed, but what does that actually mean for me? What are going to be the costs associated with the various ways in which I might access the new post trade infrastructure? How's it going to change my business model? Who is going to be responsible?

And, what are the governance arrangements for any data I might be sharing? And, more specifically, particularly with an industry like the Australian Securities Industry that is suffering, and experiencing some margin pressure, what does this mean potentially for my business more generally? The nature of post trade infrastructure too naturally gives rise not just to direct participants, being the clearing and settlement participants within the ASX community, but you can imagine issuers, investors, custodians, registries, and everyone associated with the ecosystem has gotten very, very firm interest in the nature of the changes, and what it means for them.

**Ilana Singer:**

Thank you Oliver. That was a very clear description of how so many different stakeholders have various interests, and opinions about the project moving forward, and I'm sure given the impact of this project there're many challenges with the adoption of this technology from ASIC's perspective. Does the presence of DLT and ASX's CHES replacement raise specific regulatory, or supervisory issues, or challenges for ASIC?

**Oliver Harvey:**

Again, I'd probably respond immediately to that question by saying let's not lose sight of the fact that all post trade infrastructure in developed marketplaces are predicated very, very heavily on the use of technology, and clearly the Australian Financial System is one that deploys technology in almost every element of its practice risk management, clearing and settlement processes, so as a starting position, one of the curious questions we had when we reflected on the use of elements of DLT in the replacement solution was, does this give rise to a different set of questions to those that had preceded circumstances? Were there other technology releases to support various technology initiatives, and change processes that infrastructure providers? Or, for that

matter, any important financial institution within our marketplace was using, and adopting?

The short answer is at the most fundamental level, having scoped through all our different set of expectations, and principles, we didn't see a set of rules, and expectations, which needed to be re-crafted to accommodate a DLT solution. Now, we keep that under vigilant watch, but that's our starting point, and we thought about that quite considerably. The next question for us then becomes, well, in circumstances where a DLT solution is being proposed, are those overarching principles, and expectations like for example, the need to have adequate risk management arrangements, or appropriate technology resources, is there an additional set of nuanced questions that what we might be asking to get to the bottom of the question of whether, or not that the DLT solution proposed in its form, as shared with us is one that's fit for purpose?

Again, perhaps by way of assisting your readers, you may have an interest in ASIC's Information Sheet 219, which we published in March 2017. These are all on ASIC's websites, but we quite methodically went through DLT, and evaluated the various different quirks, and features of DLT solutions, and tested ourselves against whether, or not they were an additional set of questions not about the different ways in which the regulatory obligations might apply, but more a different set of questions that we would need to be confident about, or that we might typically ask to, in order to get satisfaction that those obligations were in fact being met.

And so, again, I would encourage your listeners to go through that Information Sheet, but it tackles questions like, how will the DLT solution be used in a particular context? How will data be governed? How will the deployment of the DLT process be governed more? Or, specifically, and as I mentioned, there are a range of set of questions, which we've worked our way through, and have a level of comfort about the way in which the DLT solutions is being presented, and considered at this point in time. Probably, a couple of things just worth highlighting. When we talk about a DLT solution, there're obviously a range of different ways in which DLT is deployed, and you might have the traditional Bitcoin model in your head, but there are a number of features of what's proposed by ASX that differ quite fundamentally from your more traditional uses of DLT, like I said, potentially in the Bitcoin context.

For example, this is a private DLT solution, it's a permissioned ledger, only ASX will be able to write to the ledger. There's no consensus mechanism, so a number of the features that you might describe in the more exotic DLT solution model, or the more sort of traditional DLT solution model aren't present here, and have been quite considered, and have been thought through as not being appropriate for the kind of solution that's being proposed by ASX. We've come along on that journey, we continue to be vigilant, we continue to evaluate what's put before us, but hopefully that gives you a reasonable perspective on the way in which our starting position is first and foremost, that technology underpins every element of financial markets.

What is it that's different about this form of technology that might cause us to ask a different set of questions? I've hopefully explained some of those to you, and for your listeners, you might also be interested in as I mentioned, the Info Sheet 219, which is set out on our website, which highlights the range of questions we might ask about this DLT solution, and any DLT solution we might see in the FinTech context.

**Ilana Singer:**

Thank you, I can certainly say for myself that I will be looking up Info Sheet 219, because it sounds like that can be useful, not only in the context of this particular type of large scale system change, but really any use of DLT, and sort of thinking through from a regulatory perspective, what are the different questions that one needs to ask.

**Oliver Harvey:**

Thank you for picking up that point, because it was really designed for that very purpose. We could see a number of years ago, that DLT, and certainly the dialogue, and in some respects, possibly even the hyperbole, and the angst was a prominent feature of the discourse. We thought it was really important to the extent possible to get ahead of the curve, and not just to make clear that there are fundamental things that we needed answers to, but enable the industry to shape any DLT solution they might want to bring to the table, and give them a very clear set of signposts about the kind of things that we will be focused, and interested on.

That information sheet, which you've just referred to is our attempt to do that, and we feel that it has stood the test of time. Again, we continue to reassess it to determine its currency. We think it still is a valuable way in which industry ought to think about their DLT solutions, and get a good sense of the way in which ASIC as an agency is likely to explore the viability, and the acceptability of what they're putting forward.

**Ilana Singer:**

I also like Oliver the way that you sort of characterize how all, clearing and settlement, and many other aspects of the market have as their underpinning technology, and so, to think about technology in a different way, or to actually apply the same principles, but maybe have to ask different questions, I think is a very useful tool for regulators, and supervisors.

**Oliver Harvey:**

Absolutely.

**Ilana Singer:**

Thinking again, about challenges and opportunities that you, and your team have had in this process, what would you characterize as the biggest challenge for you, and your team?

**Oliver Harvey:**

Look, and without sounding glib, I think at its most fundamental, I'm going to say something which probably doesn't come as a surprise to anyone, this technology is relatively new, and the ideas that are being explored are often ideas that are raised, and considers with further work still to be done to bottom out their viability, and the question for us as regulators is, what's our point of insertion to evaluate thinking as it occurs, or to evaluate the end product? And, how much detail is an appropriate level of detail at various points along the journey?

Again, is it a DLT solution specific answer? Probably not. It's more of a FinTech new conundrum that I think regulators around the world consistently face, but how much level is an appropriate level of detail to get comfort, recognizing that the point at which you're typically asking questions, and are desiring more details, probably not a point that on every occasion there is that kind of detail to give you the sense of comfort that everything is moving in the right direction, where do you position yourself as a regulator along that evolutionary journey? I would say is absolutely the focus of us when we reflect on how best to tackle this kind of proposal, or any proposal of its magnitude or novelty.

**Ilana Singer:**

Speaking of challenges for you, and your team, I assume, given your background, that you are not all technologists. How have you educated yourselves on the technology? Its risks, challenges, and also, how all of that is related to ASX's deployment of the technology?

**Oliver Harvey:**

The first thing I'd say in response to you is we do have some technologies quite deliberately employed in the team, and that, again, is probably not just a specific DLT solution response, but a better, and deeper recognition, and I referenced earlier the piece of work that we've done on ASX, quite aside from any CHES replacement, but meeting, and recognizing the criticality of having a good understanding of some technical features of technology, but also, some really important associated features of things like governance, decision making, resourcing, enterprise, architecture, and all those things that go along with sound strong, highly effective, and strongly efficient technology systems.

In terms of educating ourselves about the specific nature of the risks, applying the skill sets that we do have, and giving a very strong insight, and communication line into think tanks, other agencies within the cohort of Australian government bodies that have a very firm, and cutting edge focus on technology developments, including DLT, like a group here called Data 61, which has been set up quite specifically to tackle the latest, and greatest technology initiatives, and their potential application. Having those kind of relationships, those strong information sharing avenues, and keeping up to date, to the extent at all possible with the latest thinking has been absolutely critical, and continues to be.

And, it's probably something that as we reflect on our future state, as an organization, and where the world's going you can imagine those kind of skills internally, but also, those avenues for information sharing are going to be even more critical as we tap into the centers of excellence not just domestically, but internationally as well.

**Ilana Singer:**

Thank you, Oliver. That was an area that I was personally very curious about as I'm also trying to educate myself on the technology, which is in part why I'm very interested in reading your paper, and in fact, also your paper on ASX, because it sounds like that also delves to some extent into the technology, and into some of the governance frameworks among other things.

Understanding that technology, and all of the terminology around it seems to be turning into a bigger part of regulators and supervisors roles these days. Now, there's no doubt that FinTech startups are successfully disrupting segments of the financial services industry. Do you think that the market infrastructure providers are at risk?

**Oliver Harvey:**

It's a really good question, and one that we consistently reflect on. You're absolutely right. I think it clearly goes without saying that FinTech startups are disrupting parts of the industry. One of the interesting features we reflect upon about market infrastructure is, unlike some other areas where you might think there is more ripe opportunity to introduce FinTech solutions, when you look at market infrastructure, there's obviously a highly established, highly embedded FinTech provider, if you like, someone operating at the intersection between finance and technology, who has for a long, long time, had a very established presence, and service provision across the industry, and the question then becomes, the extent to which they are actually open to and susceptible to FinTech attacks.

The question I think you probably would need to ask yourself is, is it slightly different? Because, you're really asking an entire industry, as ASX to some extent is even in, and of itself is the incumbent to change business models that have evolved along with the financial market infrastructure provider, and have those replaced by something completely different? Now, of course, there're also other features of market



infrastructure, which raise interesting questions like, for example, the centralized risk management function, and does that change, and now they're different risks that gets created by other part, or full solution providers. There is no I think, clear answer to any of this, but it is an interesting tension point between appropriate competition, and appropriate risk management. How does all that work?

No question, I think that market infrastructure providers are certainly more aware of competitive tensions in the Australian Financial Market, that's most certainly the case. A number of competitors, which have established themselves over more recent times to tackle part of the market infrastructure provider business. The question then becomes the extent to which others follow suit, and provide competitive alternatives, or whether there is sufficient competitive tension introduced for the incumbent market infrastructure provider to change their business model to respond to that competition, and provide improved services.

I'm not sure that there's necessarily one answer to that question, but it's a very, very interesting one, and one that we do think is possibly a little different to other parts of the market where you might have less established players, and perhaps even less finance, and technology driven solutions, which would inevitably make those parts of the market more ripe for opportunity, for attack.

**Ilana Singer:**

Thank you Oliver that gives our listeners certainly a lot to think about in terms of both the incumbents, and those who are disrupting this space. As we wrap up this podcast, what advice do you have for other regulators, and supervisors who may be confronted with large scale infrastructure change like this, and in particular, with cutting edge technology?

**Oliver Harvey:**

The first response I would have to that is, it is complex, and it is large scale, and I'm sure your listeners wouldn't underestimate the magnitude of the challenge, and the size of the change management process that needs to accompany any infrastructure change of the magnitude that ASX is proposing, and in terms of advice, particularly, around cutting edge technology changes, it would really be to be fearless in asking questions. A lot of the technology is new, not just to regulators, but to proponents of it, and there's always a good set of questions for regulators, even if they don't have the traditional technology skills, regulators will themselves typically bring to the table a good set of sensible thoughtful questions, which potentially go beyond the business model, and the commercial imperative that's being presented to you by the proponent of the technology change, questions about how those changes roll out? What are the risks? How they've been thought through? What are the governance processes? What are the timelines? What's the change management schedule?

All those things are really, really critical questions which regulators should be fearless about asking, and if you don't have the answer first time, it's in all likelihood, because some of those answers haven't been sufficiently formed to give you the level of comfort you need. I think that needs to be a critical focus, be brave, be fearless, get the answers you need, and the information you require to formulate the considered decisions you feel you need to make.

**Ilana Singer:**

Thank you, Oliver. I really wish we had more time to discuss today, but even in the short time we have spent together I'm taking away three things. First, this is a large scale system change. Change management is key. There are many stakeholders, transparency and consultation have been large parts of the process. Second, with respect to what you discussed earlier, from a regulatory and supervisory perspective, it sounds like ASIC has really taken a leading role in terms of asking questions, educating itself, putting out papers that will be useful, both to other regulators and supervisors in this space, and to industry in general.

Finally, I really took away your advice, to be brave, and to delve into the issues, especially, those that are the most difficult to tackle. Thank you again for taking the time out of your busy schedule to provide us with your valuable insights.

**Oliver Harvey:**

Ilana it's been an absolute pleasure. Thank you for having me on.

**Ilana Singer:**

I would also like to thank all the listeners of this podcast. Toronto Center is currently working on numerous podcasts regarding different initiatives in the capital markets space, so please check back on the Toronto Center website regularly.