T+1 Webinar Episode 4 – Collateral & Margin

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Todd Crowther *(0:09)*
Welcome everyone. This is the Pirum podcast series on T+1. This is Episode 4 where we're going to cover specifically collateral and margin. Really pleased to have you today. My name is Todd Crowther. I work on collateral services at Pirum. And I'd like our esteemed guests to also introduce themselves. Thank you.

Roy Zimmerhansl *(0:37)*
Hi, I'm Roy Zimmerhansl. I head up the capital markets practice at WTS Hansuki where we focus on target operating models, business process engineering and I'm also fortunate to be the head of the T+1 accelerated settlement work stream for securities lending for the UK and I'm co-lead of the EU efforts on T+1 where we combined securities lending and repo into a single work stream.

Ed Corral *(1:12)*
Thank you, Roy. Ed Corral, VP Partner in collateral services here at Pirum. I've been with Pirum a little over seven months now. Prior to that, a combined 35 years of J.P. Morgan and Morgan Stanley primarily focused on collateral management with some clearance thrown in. And then other things going further back, was involved in the US here where I'm based in the T+1 efforts industry-wide. So happy, delighted to be part of this podcast today. Thank you, Todd.

Todd Crowther *(1:46)*
Yeah, welcome guys. So, look, we want to kick off and just think big picture for a moment as we dive in. And I think a question that comes up top of the house on most conversations is, look, we did accelerated settlement in North America, and it wasn't that big of a problem. Is it a good barometer for what's happening in the UK and Europe or not? And I think I'll just hand over to Roy on that one to kick it off.

Roy Zimmerhansl *(2:22)*
Yeah, thanks, Todd. So when we started the UK exercise and looking at T+1, we started very much with the idea of what can we learn from the US. And if you look at it objectively, what do you see? You see an extremely smooth transition. As you said, Todd, very successful. In fact, settlement rates marginally stayed the same. There's a little bit of deviation, but essentially it was completely seamless. I think affirmation rates went way up.

So I think that on the face of it, it's a great story. I think you peel back the layer, and you consider the context of it. You're talking about one CSD, right, one depository which provides great functionality to the market, but a single currency, lots of volume. So, it's kind of a pile them high and process them consistently kind of marketplace. So very successful. What we actually learned, I think, probably first of all was set a date and stick to it, number one. Number two, focus on getting information out as quickly as you can to as many people as you can.

But beyond that, I think where we saw kind of a little bit of a divergence was that it seems that the way that success was achieved was partly due to increasing headcount who were just kind of there to help smooth over any issues that came up. And what we see is post go-live about 18 months ago or so, we're seeing automation creep up in the market participants in the US. So it wasn't really very much a pre-event automation exercise, it was actually let's get through it, let's make it straightforward and then having learned that, let's automate now, whereas the approach that we've taken in the UK and a similar approach is being applied for the EU task force is that now we want people to be automating ahead of time because it's not like it's optional, right? In order to participate in this market successfully for that smooth transition, you've got to automate.

And part of the reason why you have to automate in the EU is you have a plethora of venues, you have 90 plus exchanges, you have 27 CSDs. You're talking about a completely different operating environment. In many ways the UK is like the US, single market, helpful depositories. Crest is making a number of changes to accommodate T+1. So very much aligned, but it's more straightforward than the complexities you see in Europe. So, the US has been interesting, but I think automate and set definitive deadlines are the two messages that we're changing in terms of the European, including the UK approach.

Todd Crowther *(5:29)*
Through North America and the transition having been at a custody bank, what was your perspective on that implementation?

Ed Corral *(5:38)*
I think Roy said it all there. I think there was as much trepidation in the US market prior to the implementation as it feels like there is across the UK and Europe. I quipped at one of the panels I was on as it was leading up, I've been around since T+10. So, each one of these changes seems daunting, and then when you get into it, hopefully they turn out to be a little more straightforward and a lot more doable than was originally imagined. Roy said a lot of key things there, but DTC, the whole DTC complex, as Roy said, one CSD.

But I'd add to that that they were really almost the catalyst, the leader in bringing this change to market, right. And little coordination was required because of the relative simplicity of the US market despite its size. It's very streamlined as Roy laid out there. So very different. Regulators, everybody was of one mind in terms of the approach to it. As a matter of fact, there was discussion certainly amongst leaders at DTC. I remember Murray Pozmanter in particular when we were going from T+3 to T+2, to why don't we just skip over T+2 and go right to T+1 at the time. It was a little too radical for the overall market at the time, but in some respects that probably would have worked had it been pulled off that way.

So, I'll just reiterate in conclusion Roy's points: automation is key and picking that date and just sticking with it. It can be done. It's been done multiple times as settlement times have continuously shrunk across all markets over time. It will happen. It's going to work, right? It's just a lot of work to be done to pull it off. But just stay focused and get it done.

Todd Crowther *(7:38)*
Yeah, thank you. And one of the key differences I notice is, and again we've just covered how big of a problem is it, how different is it. One of the things that I notice is fines are larger obviously under CSDR in Europe. And, so, when we think about a problem, we also need to think about the opportunity. So, in terms of the opportunity, I just want to reflect with you guys for a moment on this. I think there's a number of angles we can look at this. One thing that I thought was interesting recently is Firebrand Research announcement came out with a paper saying that the projected cost of CSDR fines per month was between 70 and 124 million EUR, which is about a billion to a billion-and-a-half-dollar industry problem in moving from the T+2 environment.

So only looking at fines and the ability to obviously smoothly go into that and make the markets more efficient and improve settlement efficiency, that is a big number. That is an opportunity unto itself, I think. There are other costs we'll talk about and challenges later on around funding, around credit risk, et cetera, which means that automation can improve those metrics as well potentially as an opportunity. And then furthermore, it's a chance for transformative change potentially in order to improve market processes, market infrastructure, et cetera. What in terms of the opportunity, Roy, do you see as the big wins potentially?

Roy Zimmerhansl *(9:24)*
I guess the way you've laid it out is a sensible approach, right? Because the best earning is not a loss, right? So, to the extent you can actually avoid paying a fine, just that is a win, right? And you've talked about the incredible scale of it. And of course, Ed, as you'll appreciate, right, the CSDR in my view was brought in Europe because of the zero-interest rate environment, right? If you get particularly in fixed income where you had effectively automatic claims for fails, it became a self-policing exercise. Change interest rates to zero or even perversely have a fail incentive if you have negative interest rates, you have a problem. So, regulators quite sensibly came up with the idea of, well, let's start fining people for fails. Unfortunately, it took a long time to implement, so by the time it was implemented, we were back to sort of normalish interest rates. Nevertheless, you've got this big bogey of fines that are going on.

So as a business manager, I'm looking at that and saying, well, the first thing I have to do is find a way to reduce those fines. And you would naturally be able to rely on securities lending activity to help avoid those fails. So, I see a lot of volume increase potential there. The reality is of course revenue doesn't equal profitability and so I can make a lot more loans, but if those loans are outstanding for one or two or three days and incur a lot of settlement charges for going there and back, it's hard for me to make a net profit out of that unless I have a really automated process, unless it is as smooth as silk where I can actually make those loans, get the returns all automated and have no fails along the way. All of a sudden it becomes potentially a profit generator, as well as a revenue generator.

So, I think at a headline level, that is the key differentiator, and it should gather the minds of market participants there to say right, how do I avoid fails, right. The objective of T+1 move is on day one that it should be completely invisible, that whatever the settlement rate was the day before, that should continue to be the settlement rate. Well, the truth is the only way that's even marginally possible will be if you build in securities lending to support activity over that transition. So that's the starting point. I think there's other ideas where we might come back to later.

Todd Crowther *(12:08)*
And Ed, any thoughts?

Ed Corral *(12:09)*
Yeah, I picked that up and I like everything Roy said, but I like the way you finished there around the automation, right. The fines to me are a necessary stick or the spectre of the fines needs to be there to incentivize the market to do what it needs to do. Clearly creates that securities lending opportunity. Yeah. But I want to take a step back a little bit too. In the whole notion, right, we're still talking about T+1, right. So, you're doing a trade today, right. That is a good trade therefore. The idea of having to settle it tomorrow, even in a complex market like Europe, really shouldn't be that far-fetched, right?

So, I just want to re-emphasize that we're not talking about some of the more radical changes that I think we're going to touch on later that are ideas that are out there. I think the winners are going to embrace this, use automation to their benefit and you'll be leaders in the market and take advantage of the opportunities this is going to present. This is a natural evolution of the markets. The things that need to be automated, if they're not automated already to meet this challenge should have been done already, right? They're not radical new inventions, right? They're tools that are out there in the marketplace, whether in-house or external, et cetera. And by leveraging those tools and implementing them properly, you're going to position yourselves to be winners in this change.

Roy Zimmerhansl *(13:49)*
And Ed, if I can just add to that because I think you make the critical point, we already have all kinds of transactions in securities lending and repo that are T+0 or T+1. I think the interesting angle though is that that's because we're making up for issues surrounding the business that actually cause what should in fact be normally a T+2 transaction. Lenders, agent lenders get instructions late from their clients. They have to turn it out late to their borrowers and everyone does their best to actually make the market function. So, we know that operationally we can make this stuff happen. The question is that's in a T+2 environment. What else needs to change to make it functional in a T+1 environment without that excess slack? That's the real challenge. But as you say, all this is not only can be done today, it is being done today.

Todd Crowther *(14:53)*
And I agree that we see this from a Pirum perspective as more of an adoption and an iteration of the current model because securities lending is on that shortened time frame anyway. As opposed to a transformative. Needless to say, there will be transformation. We'll get on to some of that.

I think the next section we'd like to just double click on the challenges and how people are addressing those challenges. So, I'm going to share a slide around the complexity and the fragmentation that we see in Europe, just so we could talk about that and just really kind of tease that out a bit. And Roy, I think you started this idea. Do you want to expand on the market structure in Europe and why it's so challenging from a fragmentation point of view?

Roy Zimmerhansl *(16:15)*
Yeah, thanks. And I think that chart sort of lays it out quite nicely. If you think about securities finance, what most people think about with T+1, like it's some kind of a post-trade only event. I think that the challenge is that in fact for securities lending and repo we need to be reactive during the trading day. So, it's a trading day issue because you're going to need to cover shorts or cover recalls. In the financing sense you need to know what your funding requirements are going to be, whether you're long, short and what you're actually going to do with that money. So, you need to be active during the trading day.

And if you look at those exchanges, we counted 90 different venues overall in the process and you find some of them trade until 6:00 PM, others trade till 8:00 PM, some trade till 10:00 PM, some go to midnight. So how do you set a cut-off time? Do you set a cut-off time per market so that each trader has a menu of saying, OK, well, if it's this market? Wednesday, of course that doesn't work. So, what we decided to do was have a cut-off time which will be standard across the EU and a separate one that was appropriate for the UK. And so, for the UK we tied it to when the LSE closes and half an hour before the LSE closes.

But for Europe it was much more challenging because we had this 6:00 PM cut off for the earliest exchanges and then we needed to dig deeper because of course if the market is still trading, beneficial owners and fund managers can continue trading. We're cutting it off at 4:00 in the UK. Well people can trade for another half hour and quite a lot of trades get done on close, right. So you have huge volumes spiking at the end and we had quite a lot of cooperation with the trading platforms and the CSDs in the EU where we were gathering up information on cut-off times and trading volumes during that period because we wanted to find a spot where people could have a cut-off time where the borrowers if they were required to would still have not only time when the exchanges are open, but also when there was sufficient liquidity for them to be able to cover an institutional sized order.

So just going through that process and gathering up the information was challenging and of course what we've ended up with in both the UK and the EU is a cut-off time that no one's happy with. So, to me that's a success story because borrowers said we want more time to be able to actually cover, so we want it to be earlier. And lenders are saying we want more time to wait for client instructions to come in. So, if everybody's unhappy, then maybe everyone should be happy, right.

So, but that's just one example when you peel down into other layers like hold and release functionality in CSDs when you look at the approach of Crest on partials where it's a standard part of the market where it's less common in really granular level details that are fundamentally important, particularly with respect to collateral.

Todd Crowther *(19:43)*
Thanks. Yeah. And we'll come to some of the solutions around this or how the approach of implementation. I think to double click quickly on the margin and collateral impacts of what we're looking at here is there's a number of trends that are going on which makes this challenging. OK, so you have a market that is much more prevalent non-cash collateral than cash collateral. Many times you're settling the margin or collateral on the transaction free of payment and the challenge is, is that in a fractured environment where there's so many margin venues, when you're accelerating that time frame, that becomes very challenging.

The other thing that's happening is, is that you're getting a push to central clearing. It has been derivatives for some time. It's going to continue to be SFTs in a push towards central clearing and that doesn't necessarily decrease the risk that we have. It actually bifurcates further the type of flows that are occurring.

And then on top of that, UMR is a perfect example. You had adoption where it's two-way margining, so it's more complicated. And then also you had more participants, so you went from hundreds to thousands including buy-side and that reverberates again on this agency or sponsor within the repo markets. So, more people, more places to margin and then a shorter window. And that window is not 24 hours in many cases given time zones and cut-offs that Roy is talking about, that window can be two to four hours. So, it does depend on the market and what's occurring. But that complexity even on the end of the chain on the margin and collateral side, it is going to be impacted because of all the other regulation that's coming in and the fractured nature of Europe. Ed, did you have any thoughts?

Ed Corral *(21:52)*
Yeah, you gave me the perfect segue there, the fractured nature of Europe, right. Because there's another dimension on this table that actually Roy called out the other day when we were talking. And I think it's another very important dimension. You've got many more regulators, there should be a line for the separate regulators in Europe versus the US, all the different national regulators and different national markets in

Europe. Multiple time zones in both areas, but the US historically has been geared around the Eastern, New York time zone, if you will, which again speaks to the simpler nature of the US market versus Europe.

But I think that regulator slash the nations involved dimension is a very important one off of this table here as well. Even the CSDs in the US we list two here but government securities settle on the Fed wire primarily BNY and then everything else settles at DTC. So even the CSDs are aligned because they focus on different assets or different products out there. So again, every way you look at it, the US speaks to the much more simple nature of the US market. And I'll leave it there because we're going to talk about a lot of other things going forward.

Todd Crowther *(23:26)*
Just to switch gears, so challenges, we've highlighted them in terms of addressing those challenges. There's a number of elements and I want Roy to talk a bit to start with, but there is regulation, there is market structure, there is process and how industry participants work together and obviously there's technology.

Roy, in terms of some of those anecdotal ideas around how the committee's addressing things and what you're looking at around hold and release, around fails, talk people through those practical considerations at the industry body level which are being discussed so that they understand what that looks like.

Roy Zimmerhansl *(24:19)*
Yeah. And it gets pretty granular. I would say because obviously the starting point is what we actually looked at was how much borrowing activity was going on in each of the markets and wherever possible what we tried to do is actually break it down to look at the market cap. So is this an issue where potentially you have a problem across the spectrum? Is it concentrated anywhere? Because at the end of the day we have, if we take a step back, the thing we're really concerned about is recalls, right.

That's the issue, but it's about recalls. So, what is a recall? A recall is when an investor who owns a security that's actually been on loan decides they want it back. They've sold it, they want to do a vote, whatever their reason is, they need it back. Now typically the overwhelming majority of these are covered by the agent lenders where they reallocate from another client. So, they've taken from client A who needs it back and they search for and they find clients B and C that have it and so the continuity of the loan continues, no market disruption.

So, when you get to the stage where that agent lender has looked at the security and they've determined that there are no other clients they have that can actually fulfil this transaction and they need to ask a borrower for that stock back. Wow, you've already got a tight name, right? By the time it's actually cleared the agent, you're talking about a difficult name. And, so, the odds of a difficult name being able to be covered elsewhere is also limited because it's in demand by definition.

So, it's really tied to what can people actually trade in the market because that's your worst-case scenario. So, we saw some interesting things for the UK very much focused on the smallest cap stocks, so that's probably not surprising. The interesting thing was across Europe though borrowing is much more diverse. So even if we look at the universe of securities that are actually being borrowed, it's very different market by market. So, you can't really hone in, but recalls is the critical issue.

So, if it's recalls, what do you need? Well, you need at the beginning faster communication from the selling fund manager. Now the challenge of course to the market is that the fund manager who might be managing money on behalf of the beneficial owner who's in the lending arrangement, they're not really part of the securities finance ecosystem, right? They're outside of it. They're just buying and selling assets on behalf of their clients. So frankly, they don't care about it because it's nothing to do with them. Yet they're the trigger, right. They're the ones that initiate that we've sold this, go figure out whether it's on loan or not. I don't care, but you probably do custodian.

So, since they're outside the work stream, it was really interesting. The FCA, we had a conversation with them recently where we were kind of reviewing progress. And they said, well, what are your areas of concern? So, we talked about some progress in a number of areas. But what we ended up with was that the one thing that's of concern is that fund managers that aren't part of the arrangement really aren't tied to any obligations. So, in their recent Dear Compliance Officer letter, they actually talked about and advised fund managers to be speaking to lending agents to really discuss this issue. So that was superb regulation from my point of view because it's anticipatory.

So, you look at that at the starting point then. Ed talked before about these solutions for automation already exist. Well, of course they do. That's a big part of what you guys do. So, the fact that many people don't have automated returns and recalls, we know why historically people haven't done it. I tried to do it on my platform in 2006, 2007 and borrowers wanted to automate returns and lenders wanted to automate recalls and nobody wanted to do both. Well, you've been able to keep opting out of doing that forever. You won't be able to under T+1. So that's one issue.

You then get into partials. Again, the UK is a partials market, so very efficient from that perspective. But there's a real challenge and a real breadth of view in terms of partials across the EU. Some cash market participants like that, some don't. Repo guys are saying, well, why isn't this mandatory for everyone? Borrowers want to actually have it and agent lenders is saying, well, no, I can't necessarily allocate a partial return to a given underlying client, so how am I actually going to know who that return is for? So, this kind of operation.

So, the outcome of all of that is it's recommended that partials be allowed in a market and so CSDs have to come up with appropriate functionality, but it's still an opt-out for those that don't want to or are unable to participate. I'd like to see that change in future, but there are genuine technology barriers there, but that also presents opportunities which I can come back to.

So you get into partials and then you get into the big one which is hold and release and you want to talk about collateral, it's kind of in many ways it's almost similar to a partial in the sense that if I've got a number of transactions out there or a single transaction and I've collateralized part of it, well, I should be able to get part of my securities back to actually start greasing the wheels of the settlement process. Because what we know if we're trying to reduce fails, the truth is mobilize a portion of the holding and it goes through the cycles, it's likely to actually solve the overall problem. We know that time and again, everyone that's been in the market that's experienced it can tell you anecdotes about how that works.

So again, the idea is every CSD should have the functionality there. Or as with all of these recommendations, you don't have to follow them. If you can find other solutions, there might be a CSD that has hold and release. There might be other providers that have hold and release, Todd.

But again, functionality that exists today and what we should be trying to do is say, why are we waiting until October 2027? Why aren't we making these changes now to make our own individual operating environments better. And that's the kind of discussion that we have with clients is why not start taking some of those tools that are there today, apply them and roll them out. And, in fact, that's what the FCA is asking us to monitor and that's what we report back on, what's the growth in automated relationships and we're doing that with the help of yourselves and Equilend, so that's very helpful.

Todd Crowther *(31:50)*
Thanks, Roy. And just a point of clarification and then I had some thoughts. There's a difference here between and you talked about it recently on a panel at Euroclear. Not all CSDs support some of these. You had some stats around that and I want to differentiate for people market infrastructure providers and their ability to support it versus technology providers and their ability to support some of these things. When you're talking about partials and talking about hold and release, you're talking specifically about what the CSDs can do, correct? And not all of them can support it, is that correct?

Roy Zimmerhansl *(32:28)*
Yeah, correct. Not all the CSDs can do hold and release and the same with partials. It isn't a fundamental baked-in feature because of course all of these markets have grown up with whatever their history is. And, so, if partials has never been a feature, why would they have that functionality?

The UK unfortunately they call it a dumping market but it's partials are part and parcel of doing business here in the securities finance space. So that's kind of assumed. Many of these CSDs are going to have to build that functionality and the same with hold and release because, again, not everyone appreciates the nuances of why that's even a function and what it actually does.

Todd Crowther *(33:14)*
And this is what's great because we talked about this before and I'll just reiterate. So, we see this as an evolution, not a transformation. We see that using our services, clients can get up to, and other matching services and automation services, not just Pirum, clients can get up to 99% efficiency in terms of STP, if you think about the life cycle. What you're trying to do is automate the transaction where you're matching and making sure that you're going to settle that transaction. You're matching SSIs, you're matching the details of the transaction, you're then life cycle managing it, you're marking to market on an automated basis, you're automating your returns and recalls on the transaction.

On the margin side, you're calculating that intraday. You're agreeing with your counterparts intraday. You're able to collateralize and match and instruct RQVs, for example, to tri-party agents intraday. And then on the collateral side, you know what collateral you have, you know what your exposure is, you're able to choose that collateral and automate the delivery of that collateral and so much of the automation around these things, things that you mentioned, recalls, partialing, it's very important to keep that automation and keep that settlement flowing. So, there are options out there for people to improve and further their automation again to meet these incoming deadlines, which we're going to talk about in a little while. Ed, what's your view on some of the stuff they said?

Ed Corral *(34:50)*
Yeah, a lot of things there. I want to pick up on something that Roy said there towards the end in terms of implementing some of these things, if not all of these things. Now when I was at Morgan Stanley, that was a standard practice there that when there was

an upcoming regulatory change that there was a high degree of certainty if not complete clarity that was going to be implemented, then the practice within the firm was let's adopt it now. Prove that we can do it, get the runway into the actual deadline date that by the time that date came along it was common practice, it was burnt into the operating processes of the firm et cetera. So certainly, just a great comment there by Roy, I wanted to emphasize.

We talk about collateral, you mentioned it there as well Todd. One of the things that was commonly said early on, early days in the US process. So, collateral's post-trade and largely if not completely unaffected by this and obviously as Roy should have said no, clearly not the case, right. I mean we're talking about securities. So, they're part of the continuum, right. They're part of the overall process. Everything is impacted. So, it comes down to as has been said now multiple times, the automation, leveraging the tools that exist out there already today. There's been incentives in the past for whatever reasons to not use them or not adopt them as thoroughly as they could have been. There's going to be no choice for that in this new environment. And that's a good thing for the market overall, right.

Efficiency, we're talking about timeliness here, right. What most likely will happen for the market as a whole as a result of this because of those efficiencies, there'll be obviously a higher velocity. There'll be more options for people to do things that were challenging if not impossible before, right.

So, I don't think the market, we're in the adjustment phase and the transition phase, I don't think the market has fully appreciated the upside of what changes like this bring and that's really exciting and, again, I think we'll get into some of that as we move forward here.

Todd Crowther *(37:07)*
And to talk about impacts and things people are trying to prevent, again, there's financial friction here. There's losses, there's penalties, there's clearly with rising interest rates, the cost of funding, the cost of fails will increase. There's a liquidity element to this and obviously under regulations there's financial resources that impact your balance sheet, capital, et cetera, so it reverberates and the benefit of automating things and reducing this is very clear from a financial point of view. It's also very clear I think from an operational and efficiency and scalability point of view.

Roy, I think you touched on this when we spoke. There's a client service element to this. There's a reputational element to this as well for service providers, for agent lenders and other participants in the market because operating efficiently means that you may be a provider of choice. Do you see it that way or?

Roy Zimmerhansl *(38:18)*
That's exactly the situation. So just like Ed described it from his time at Morgan Stanley, there is a cost to being in this business and if you are not willing to meet that cost, maybe a T+1 environment is the thing that sorts out providers because you're only as efficient as your least efficient counterparty and, so, you can have all of your processes as STP as possible internally, but then when you go to that market-facing counterparty, the truth is, is if they're not together on their side, it looks bad on you, right? All of your work on the efficiency side disappears, and you all of a sudden get that financial friction that you're talking about. Even if it's not a fine for you, it's about funding or it's about collateral movements where it's about that actual positioning.

And, so, what I expect to see is kind of an evolution where people start differentiating their counterparties. I won't trade with you because you know what? It's just too much hassle after we've done the trade. We love trading with you, but everything else is a pain and it's expensive and we don't want to do that.

I was speaking at a conference a couple weeks ago in New York and the representative from BlackRock was very clear. We have standards and expectations of our counterparties. We have 5 principles we operate on and all of our counterparties meet those requirements and if someone can't meet that requirement, well they won’t be a counterparty. So, what does that mean? Does that mean you’re going to leave everyone else. All the inefficient guys going to trade with each other? That will blow up.

We brought a few new banks to market over the past year and to each one of them, we've advised them to build a very strong core foundation filled with automation, not the bells and whistles, but the contract comparison, right, the fee billing, those RQVs, all of the minimum criteria to say, hey, I'm an attractive counterparty trade with me. So that's a business-oriented one. I can opt to do that or I can save the pennies and lose the pounds.

In T+1 you won't have that option. You'll have to find a solution. You don't have to use vendors. If you find your own solution and you can still meet the cut-off times, good for you. I don't know how you're going to do that, but maybe you can. So, I think that's what it's about. There will be a new minimum standard for being a direct participant in the game and of course then that means are there service opportunities for people that will deal with those other entities and they become some kind of an aggregator or a smoother-out, whatever that's a new business opportunity but it doesn't infect the smooth operation of the cash markets, because at the end of the day, that's what this is about. Cash, and I mean both cash execution and cash funding.

Todd Crowther *(41:36)*
Yeah, and a great example is, so you talked about hold and release at CSD level. Pirum offers a service and others have access to it from other providers called Loan Release. We monitor the settlement of the transaction whether it's bilateral or in tri-party. We match the RQV instruction and then we release the collateral either in tri-party or on a bilateral basis and again it reduces the risk and it's better service for underlying beneficial owners and the risk that these agent lenders carry. So, it's a maybe a practical example of where that automation can really help smooth the process and automate it and accelerate the cycle of settling.

Roy Zimmerhansl *(42:29)*
And of course, from a borrower's point of view that eliminates the need for a one-day prepay, which was the case for so many decades, right. And just that alone is a huge cost savings, let alone counterparty exposure management.

Todd Crowther *(42:47)*
And Ed just closing out on practical solutions that are there. Any other thoughts?

Ed Corral *(42:51)*
Yeah, I think Roy said something that made me think of some of the history, right. Yeah, this is clearly in the adoption of this, the implementation of this, fully automating your process end to end. You differentiate yourself as a good trading partner. We all have legendary stories of people getting put either getting put in the penalty box or putting someone in the penalty box because of their inability to hold up their end of the trade, right? In this game, the refs are calling a much tighter game, right? You're going to end up in the penalty box a lot quicker if you're not up to speed with how you have to operate in this environment, right.

And I think you don't want to differentiate yourselves as someone who has trouble doing that because your opportunities are going to be limited. I love the BlackRock 5 principles, right? That's the way everyone needs to operate, right? There is a standard that we all need to meet, right? That standard, the bar is being lifted. The challenge to the market is a little bit higher. It's not unreasonable. It's actually better for the market overall as we said before and you need to step up to that. And as we've said multiple times now, all of us, there are tools out there. If you don't have the tools yourselves, there's players like Pirum and others that have these tools well developed and already implemented and live in the market for years, right? So, this is not a mystery, right? The solutions are there.

Roy Zimmerhansl *(44:21)*
And it's also just that, if I can just add something Todd, Ed, the thing that you've said there is really important because it's not just that they're actually available right now, it's the fact that they're being used now, right. You have to look at this and say if I'm not using it, well, am I at a disadvantage to my competitor who actually is using that? Are they faster to deal with? Are they easier to deal with? Is it more efficient? And so, I think there already is an element of differentiation.

I know eight years ago, when I was at HSBC, a standard part of our quarterly reviews of borrowers was an assessment from our operations process in terms of what that counterparty was like in dealing with them. How were they with dividend claims, right? How were they with settlement efficiencies? How were they with corporate actions? All of that has already been embedded and I know I was differentiating my business volumes. I didn't exclude people, but there was definitely a target on those people that couldn't meet that standard.

And not only is it available to change today, it's going to be essential to do that. I literally do not see how anyone operates in T+1 without an incredible upgrade in the existing automation supporting their business because there just isn't time and if you can't get it done, you get fined and you get enough fines. People don't want to trade with you, let alone the cost to your firm. I don't think it's a lot more complicated than that.

Todd Crowther *(46:06)*
Yeah, it's not an option, it's a necessity and that's we see that loud and clear from participants in the market. So now just thinking about key responses and from the industry Roy, and I want to close out by talking about two things. First, in the near term, what people are focused on or should be focused on. And then we'll talk a little about longer term and transformational change that maybe we could see longer term.

But in terms of, Roy, the near term, can you talk about the deadlines and then work backwards and discuss maybe how the industry bodies and also the regulators, how they're thinking about it from a time frame point of view, how market practitioners should be thinking about from an implementation point of view and then how are bodies and regulators helping, the committee helping in terms of the recommendations. Can you just talk through that and maybe point to people where to access it and what the thinking is? Please.

Roy Zimmerhansl *(47:22)*
Sure. So, I guess we start with the UK. The final report came out in February of this year

and very shortly after the FCA was publicly out there saying, we endorse this, the government, the UK government specifically said this is going to happen. The FCA said, well, in February or March of this year, they said, hey, right now in early 2025, you should be reading about this, you should be budgeting for this and then after budgeting for it, you should take action on it.

Now a lot of people were saying, OK, well that's the UK and I don't know what the EU is going to do and I don't know what Switzerland's going to do. So when we got to the EU project, there was a very clear timeline saying we have to be done our recommendations by the end of June so that people for the 2026 budgeting cycle which starts in the summer of 2025 that they had time to understand and digest what the recommendations were going to be and what their budgeting requirements are going to be. So, we raced to that.

Now the impact of racing towards that is there's still some residuals hanging out there. Things like partials, things like gating events that are going to cover the repo market, SSIs somehow. SSIs are still controversial in the sense of construction and composition, but all of these things are still being worked through. So, we got that done. Hopefully it's been in people's budgeting cycles.

I'm not 100% convinced in my conversations that everyone's budgeting for that now because the idea was you can budget now, start the work in 2026. We've already started the work on the testing work streams for both the EU and the UK. So, testing meetings have already been going on. So, I think that again, Ed referred to what Morgan Stanley did and what market leaders do, and I think Ed, you described them as winners. I think that's a great way to describe those firms that are actually ahead of this will actually be the winners out of the process because they're going to actually be ready to do T+1 ahead of time and capture business.

I think there's already 5% of UK trades we found out get settled T+1. So, the question is why can't it be 100%? So those that position themselves might be able to capture business. So those are the timings. The work streams are still carrying on.

There's still work to do. There's still several outstanding items. Testing is going ahead. I think what I've had in my conversations with clients is what they're doing is identifying the work streams where they have concerns. I think this year has been about awareness of where those recommendations are going to cause problems. So when we're talking with customers, it's like can you help us with this work stream?

The interesting thing that I found is there's been a very much a difference in our conversations with repo participants and securities lending participants. Securities lending, it's about the nuances around, it's about the partials, it's about intraday where they have challenges. For the repo guys, it's much more about in the current environment they do the big-ticket trade and then they've got a couple days to sort out the problems. And, so, because they've always had time to sort out the problems and they've always been big enough numbers to merit attention, everything kind of works out. Put that down to T+1 and now you're reliant on your post-trade operational infrastructure. And there's no secret that the repo market hasn't invested in post-trade as much as securities lending.

So, I think where we get a lot of questions and a lot of incoming is about that post-trade repo environment. So, I think that'll be very much a focus for the repo community, and securities lending people will be very much focused on the automation aspects that we've talked relentlessly about here. So very much different.

But the idea is in January 2027, everyone should be ready to go for October, right? That's the truth. This can't be like UMR where everyone's scrambling around in the last three months of every wave to find a collateral provider, right?

Todd Crowther *(52:04)*
Yeah, absolutely. And you need to be, our view is you need to be up and running with a lot of this automation and improvement on processes well before the October 2027 deadline. So yeah, we're seeing that and again from a Pirum perspective we're moving more and more to push for and helping firms with their fixed income automation on the repo side that is definitely legacy systems and processes they're actively looking to do that. So, from a market sense we're seeing that movement.

It's also really interesting market compared to lending because it's less a wholesale market where you're getting a lot more buy-side involved. So similar to the UMR problem where you have many, many more firms doing it, you have agency sponsored peer-to-peer. So, all those firms are in many anyways, either outsourcing that solution to various providers or relying on building that automation themselves. So, it's essential to be doing that and it's a joint problem, right? It's both sides that need to work on it.

So, we see that direction of travel and Ed, your thoughts on timings and implementation.

Ed Corral *(53:26)*
Yeah, I think it's all been said there. I was thinking of the phrase I've heard, no one gets in trouble for showing up at their desk early in the morning, but there will be people who wonder why you're at your desk so late at night, right? And those people that wonder why you're at your desk so late at night aren't there in the morning to wonder why you got there so early, right? So, I think philosophically that's the way to look at it. And as was just said, being live January or October, I mean that should go without saying, right?

You don't want to leave this to the last minute. It's too complicated. There's too many moving pieces, et cetera. That UMR analogy was perfect, right? We all lived through that and it was a complete nightmare. I don't think I've ever seen a regulation implemented in such a haphazard. I mean, it wasn't a regulator as well. I mean, the industry adopted it in such a haphazard, devil-may-care approach. It was like the whole industry collectively lost their mind, right? So please make everyone in some respects, stop feeling like they're already late, right, and then just approach it with that sense of urgency.

Roy Zimmerhansl *(54:31)*
And Ed, I think you've just reminded me something that I meant to say earlier. The work that's been done to date would not have been possible without the intimate involvement of ISLA and ICMA. Tony from ISLA and Alex from ICMA have been incredible throughout this process in terms of facilitating and sharing information, really helping shepherd these discussions along.

Cut-off times, we had over 20 meetings, just about cut-off times, and that kind of central coordination and information gathering and distribution and prodding and continuing to push on these issues. They've done a phenomenal job. It's like SFTR wouldn't have been possible without their intimate involvement and T+1 is the same and will continue to be and so we've constantly prodded people to become more actively involved and there's still discussions going on. So, we still are wanting to get more and more firms involved through the trade associations.

Todd Crowther *(55:49)*
Yeah. And I think standardization, harmonization of the market is really important and these things will evolve very quickly. Roy, the recommendations are available on the different regulatory body websites. Also, the industry bodies I think will be coming out with some best practice information as well, yeah.

Roy Zimmerhansl *(56:17)*
Yeah, in many cases, the best practices have already been updated. The information, because again, we're saying you can do this today, so why wouldn't you update it for today? And the best practice is to automate the processes, right? So, surprise, surprise. But yeah, I think Todd, we might be able to include links, so we'll include links to the UK Accelerated Settlement Task Force website and the equivalent for the EU function as well. And that's a great source for information, updates, what's happening, any of the papers that are released, but importantly also FAQs we've been developing on an

ongoing basis FAQs as people have requested information. How are you going to deal with this? How are you going to deal with that? And so many of the questions people might have probably have already been answered and if they haven't been, then they can raise them and they'll be added to the FAQ.

Todd Crowther *(56:58)*
Great. And I know we're running out of time, guys, but do we want to touch on future state and speaking of iteration and transformative change? Any thoughts on that?

Roy Zimmerhansl *(57:30)*
Well, just a quick initial thing, right. So even at launch, I think an agent lender that says we can do partials becomes super attractive. And if I'm a borrower, I might want to sign up for that. So those that invest will be able to actually reap the rewards from that, I think. I think the bigger challenge is when you get past T+1 and get to T+0. I think that throws up a whole host of issues in terms of legacy systems, which is really the bugbear of underlying all of this is not what technology vendors such as yourselves can provide. It's actually what can the underlying legacy systems interact with and make the most of. So, I think that will be an ongoing challenge.

I think the way that we look at it is people have been talking about digital assets and we're planning for that and great, plan for your digital assets. What I'm trying to do is plan for the next one, two, three years and how customers get through that. But I think that's where we actually see the digital applications coming in to help with today's issues, but really embedding themselves so that as digital assets grow, we go from a bifurcated hybrid market into a single market. And, so, you're making investments for the future. I think that's tough though, because those are enterprise decisions and not always in the interest of individual business lines to become the leading player internally. But the reality is, from a market point of view, users don't care whether you've got digital solutions or traditional solutions. What people need is solutions, right? They'll go wherever their problem gets solved. What do you think about that?

Ed Corral *(59:31)*
Yeah, that's absolutely spot on. Thank you. And I think we'll give it on time. There's probably a future podcast in terms of T+0 and all, but that's exactly right. People want solutions. If a DLT solution can provide it seamlessly and they get the economics and the outcome, the results that they're looking for, great. If it's traditional finance, that's fine too. When we talk about T+0, right, there is already a lot of activity that's T+0. So TradFi certainly can accommodate that.

Atomic settlement and everything that digital brings to the table is extremely interesting at this stage. I like what Roy just said moments ago. I feel as an industry we've been talking about DLT, blockchain, tokenization for 10 plus years and not that there hasn't been progress, there's certainly live things that are happening out there, but to me they still feel like edge cases, right? And they're sometimes a solution in search of a problem kind of thing. I'm not saying they're not the future. I think they will be. Not sure how it's going to play out obviously just yet. But I think we can devote a whole other hour to that at some future point in time.

Todd Crowther *(1:00:54)*
And look, just like you're working on specific things around partials, et cetera, I see and we also at Pirum see it as an iteration. You want to be forward compatible. There'll be some very good use cases around digital assets being used as collateral coming up. You'll also see some use cases in the near future where you're mixing TradFi with DeFi and you're moving things through a DLT ledger across traditional custody agents to facilitate better settlement, but ultimately that's just being compatible between the two. So, we see it as even though it's transformative, it will be iterative. So OK, listen, thanks for everybody's time. It was great to catch up and cover some of this from a margin and collateral and broad perspective. Roy, we really appreciate it. And I'd like to close it if you guys have nothing else to say.

Roy Zimmerhansl *(1:01:51)*
I just want to say thanks for the opportunity and great talking with you guys. So, I think it's exciting times. I've referred to it as a renaissance time in securities finance. I'm really excited about the next couple of years.

Todd Crowther *(1:01:57)*
Absolutely.

Ed Corral *(1:02:06)*
Perfect close. Thanks very much, everybody.

Todd Crowther *(1:02:08)*
Thank you.

Roy Zimmerhansl *(1:02:16)*
Thanks, Ed.
