

**PROCEEDINGS AT HEARING  
OF  
NOVEMBER 24, 2020**

**COMMISSIONER AUSTIN F. CULLEN**

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**November 24, 2020**

**(Via Videoconference)**

**(PROCEEDINGS COMMENCED AT 9:30 A.M.)**

THE REGISTRAR: Good morning. The hearing is now resumed. Mr. Commissioner.

THE COMMISSIONER: Thank you, Madam Registrar. Yes, Mr. Martland.

MR. MARTLAND: Thank you, Mr. Commissioner, Ms. Rose has conduct of today's evidence.

THE COMMISSIONER: Thank you, Ms. Rose.

MS. ROSE: Mr. Commissioner, there are two witnesses that we anticipate hearing from today, Mr. Jesse Spiro and Mr. Ian Place, and both work for Chainalysis Inc., a virtual assets tracing company. Madam Registrar, both witnesses have stated they will affirm.

THE REGISTRAR: Witnesses, would you please unmute yourselves. Would each of you please state your full name and spell your first name and last name for the record.

THE WITNESS: (JS) My full name is Jesse Benjamin Spiro. J-e-s-s-e. Last name Spiro, S-p-i-r-o.

THE REGISTRAR: Thank you. Mr. Place.

THE WITNESS: (IP) Ian Michael Place. I-a-n P-l-a-c-e.

1 **JESSE SPIRO, a witness**  
2 **called for the**  
3 **commission, affirmed.**  
4 **IAN PLACE, a witness**  
5 **called for the**  
6 **commission, affirmed.**

7 MS. ROSE: Mr. Commissioner, as with the evidence  
8 yesterday, with the documents for today's panels  
9 we have no qualms about them being shared on the  
10 webcast. My expectation is that as we go  
11 forward we can display both of these on the Zoom  
12 and through the live stream.

13 THE COMMISSIONER: Thank you, Ms. Rose.

14 MS. ROSE: I also wish to alert to you the fact that  
15 we are assisted today by Mr. Place with a  
16 demonstration of the Chainalysis software. So I  
17 would first propose to spend some time walking  
18 through the witnesses' background, to mark their  
19 CVs, and then to ask some preliminary questions  
20 about Chainalysis's work before then turning to  
21 the demonstration. I expect that I will have  
22 some questions for Mr. Spiro following that  
23 demonstration.

24 THE COMMISSIONER: Thank you.

25



1           A     (JS) That is correct.

2           Q     And you are also an instructor for the  
3                 Association of Certified Anti-Money Laundering  
4                 Specialists?

5           A     (JS) That is correct.

6           Q     You have published on various typologies of  
7                 illicit activity connected with virtual assets  
8                 such as crypto grey markets and hacking as well  
9                 as publishing on regulatory developments?

10          A     (JS) That is correct.

11          Q     And Chainalysis is a company based in the United  
12                 States?

13          A     (JS) Yes.

14          Q     And you are joining us today from the  
15                 Washington, DC area?

16          A     (JS) That is correct.

17          MS. ROSE: Okay. Madam Registrar, I'd ask that  
18                 Mr. Spiro's CV be presented on the screen.

19          Q     Mr. Spiro, do you recognize this document to be  
20                 your CV?

21          A     (JS) I do.

22          MS. ROSE: Mr. Commissioner, I would ask that this be  
23                 marked as the next exhibit, which I believe is  
24                 exhibit 256.

25          THE REGISTRAR: 255.

1 MS. ROSE: 255, my apologies.

2 THE COMMISSIONER: That will be marked as 255.

3 THE REGISTRAR: Exhibit 255.

4 **EXHIBIT 255: Curriculum Vitae of Jesse Spiro**

5 MS. ROSE: Thank you, Mr. Commissioner. Madam

6 Registrar, I'm finished with this CV. Thank

7 you. Sorry, Madam Registrar, I just ask that

8 you stop screensharing. Thanks.

9 Q Mr. Place, you began working for Chainalysis in  
10 May of 2019 as a customer service or Customer  
11 Success Manager?

12 A (IP) Correct.

13 Q And your role at that time was to assist clients  
14 with technical integrations and provide  
15 technical support?

16 A (IP) Correct.

17 Q And you now work as Director of Solutions  
18 Architecture, a position you've held since  
19 December of 2019?

20 A (IP) Yeah, correct.

21 Q And your role now includes technical integration  
22 as it did before but now also includes work flow  
23 guides, guidance on best practices in using the  
24 Chainalysis software and development of  
25 curriculum for Chainalysis training?

1           A     Yeah, that's correct.

2           Q     And prior to joining Chainalysis you worked in  
3                 the anti-money laundering, fraud and risk  
4                 analysis area for an array of financial  
5                 technology companies?

6           A     Correct.

7           Q     And through your work at Chainalysis you are  
8                 adept at using the Chainalysis software to trace  
9                 virtual asset transactions?

10          A     Correct.

11          MS. ROSE: Madam Registrar, could we please have  
12                 Mr. Place's CV be presented on the screen.

13          Q     Mr. Place, do you recognize this document as  
14                 your CV?

15          A     I do.

16          MS. ROSE: Thank you, Madam Registrar.

17                 Mr. Commissioner, I would ask in this the CV be  
18                 marked as the next exhibit.

19          THE COMMISSIONER: 256.

20          THE REGISTRAR: Exhibit 256.

21                         **EXHIBIT 256: Curriculum Vitae of Ian Place**

22          MS. ROSE:

23          Q     Thank you. Mr. Spiro, could you describe what  
24                 drew you to the virtual assets space?

25          A     (JS) Yeah, so in my previous positions when I



1                   was with both Thomson Reuters and Refinitiv when  
2                   I oversaw threat finance and emerging risks, one  
3                   of spaces that we began to look into was the  
4                   emergence of digital payments and specifically  
5                   cryptocurrencies and the potential risks posed  
6                   as it pertained to anti-money laundering and  
7                   countering the financing of terrorism. As I  
8                   continued to develop my knowledge and capacity  
9                   around that technology in the space, I also  
10                  became familiar with some of the providers  
11                  within the space that were providing forensic  
12                  services and capabilities, and that is how I  
13                  became aware of Chainalysis. As I learned more  
14                  about the capabilities of their products and  
15                  what they could do in relation to following the  
16                  flow of illicit funds, it became very attractive  
17                  to me because I saw a market change in relation  
18                  to what I saw in relation to traditional  
19                  financial services. I can -- please.

20                  Q     Sorry. Could you describe what Chainalysis's  
21                  products are?

22                  A     (JS) Yes. So Chainalysis provides blockchain  
23                  forensics and investigative services. In  
24                  relation to the products we provide, and we will  
25                  demo on all three, we provide Reactor, which is

1 an investigative tool allowing investigators to  
2 investigate and follow the transaction history  
3 and lifecycle in relation to cryptocurrency  
4 payments. We have a product that is primarily  
5 geared towards compliance purposes which is  
6 called KYT for Know Your Transaction wherein our  
7 clients from the private sector can integrate  
8 with their EAPI and screen their transactions in  
9 realtime to identify potential risks in relation  
10 to exposure and the transaction history  
11 connected to those transactions. And then we  
12 have a product called Kryptos which provides  
13 market intelligence and specific information in  
14 relation to entities that are within the  
15 cryptocurrency ecosystem. Those are the  
16 products. We also provide services as well.

17 Q I understand that Chainalysis also publishes  
18 certain publications. Could you tell me a  
19 little bit about those.

20 A (JS) Yes. So we regularly publish different  
21 kinds of publications. We put out a cryptocrime  
22 report annually where we review all of the on  
23 chain data and the information that we've  
24 collected to develop and generate new insights  
25 that we share with the broader community in

1 relation to trends and other kinds of activity.  
2 Recently we provided a geography report which  
3 identified and mapped out the cryptocurrency  
4 related activity around the globe and some of  
5 the trends that we'd seen there. Sometimes we  
6 publish specific case studies in relation to  
7 certain kind of illicit activity and how we were  
8 able to investigate them, different kinds of  
9 information we were able to generate. We also  
10 produce thought leadership in relation to  
11 regulatory developments and how that regulation  
12 aligns with different products and services  
13 within the ecosystem as well.

14 MS. ROSE: Madam Registrar, could I please have  
15 appendix A, a 2020 cryptocrime report on the  
16 screen.

17 Q Mr. Spiro, is this one of the cryptocrime  
18 reports that you were just discussing?

19 A (JS) It is.

20 Q And are you involved in consulting or authoring  
21 on this report?

22 A (JS) I am not the author. I have provided  
23 feedback on the report and some feedback in  
24 relation to regulation and potential impact it  
25 has had in relation to some of the specific

1 insights that we have derived.

2 Q And at a very general level where does the data  
3 in these reports come from?

4 A (JS) So in relation to the attributions and the  
5 information that we were able to identify we've  
6 also been able to identify the jurisdictions in  
7 which entities exist, right, and so by way of  
8 following the flow of funds we are able to  
9 identify where the money is potentially going  
10 geographically -- where the money is going, I  
11 should say, geographically. So from there we're  
12 able to kind of build out and develop insights  
13 in relation to strategically what we're seeing  
14 in relation to growth and other particulars  
15 within different jurisdictions.

16 MS. ROSE: Mr. Commissioner, I would ask that this  
17 document be marked as our next exhibit, which if  
18 I'm counting correctly we are at 257.

19 THE COMMISSIONER: I think that's right. It will be  
20 marked as 257.

21 THE REGISTRAR: Exhibit 257.

22 **EXHIBIT 257: Chainalysis - The 2020 State of**  
23 **Crypto Crime report - January 2020**

24 MS. ROSE: Thank you. And, Madam Registrar, could we  
25 have the appendix B "2020 Geography of Crypto

1 Report" be put on the screen next.

2 Q Mr. Spiro, do you recognize this document as  
3 being the geography of cryptocurrency report you  
4 were just discussing?

5 A (JS) I do, yes. I believe I may have made a  
6 mistake. I should reference in the cryptocrime  
7 report I do also provide feedback in relation to  
8 the cryptocrime and the regulatory impact  
9 potentially on that, but what I was referencing  
10 in relation to the geographic particulars  
11 pertains to this report.

12 Q So perhaps I could just ask you to go back and  
13 answer my previous question with respect to the  
14 cryptocrime report. At a general level where  
15 does the data in the cryptocrime report come  
16 from?

17 A (JS) Yes. The data in the cryptocrime report  
18 also is sourced in relation to what we find on  
19 chain in relation to the illicit activity that  
20 we were arable to identify and follow. So per  
21 the illicit activity that we are able to  
22 identify and then the blockchain monitoring and  
23 tracing that we are able to conduct, we are able  
24 to identify specific volumes and build out other  
25 particulars in relation to those kinds of crime

1 typologies and then we share that information  
2 accordingly.

3 Q And with this report that's on the screen, the  
4 Geography of Cryptocurrency Report, it's  
5 primarily from the data that Chainalysis sees in  
6 terms of the starting and end point of  
7 transactions; is that right?

8 A (JS) Yes. So in relation to the flow of funds  
9 and the transaction flow, that's how we are able  
10 to identify specific information in metrics in  
11 relation to the geographies. Now, I should add  
12 that this isn't all encompassing and that what  
13 we're following is in relation to entities. So  
14 transactions that occur between exchanges and  
15 entities within the cryptocurrency ecosystem.  
16 In some jurisdictions there is also robust peer  
17 to peer activity which potentially is direct  
18 activity and interaction between users which  
19 would not be accounted for necessarily in some  
20 of the geography content that we produce.

21 Q So in both reports you are not purporting to  
22 summarize the entire blockchain ledger?

23 A (JS) Yes. I think that that's accurate. What  
24 we summarize is in relation to the activity that  
25 we see within what one could call the controlled

1 ecosystem.

2 THE COMMISSIONER: I'm sorry, I missed that last  
3 phrase.

4 THE WITNESS: Within the controlled ecosystem.

5 THE COMMISSIONER: Thank you.

6 MS. ROSE:

7 Q And as you said, the controlled ecosystem you're  
8 referring to is entities like exchanges and  
9 would that also include bitcoin ATMs?

10 A (JS) It would include ATMs. We prefer to call  
11 them kiosks because in functionality, you know,  
12 ATMs actually have additional controls in place  
13 that sync and link to bank accounts, right,  
14 whereas these kiosks do not, so it is an  
15 important distinction I would make.

16 MS. ROSE: Thank you for clarifying.

17 Mr. Commissioner, could we have "The 2020  
18 Geography of Cryptocurrency Report" be marked as  
19 the next exhibit.

20 THE COMMISSIONER: 258.

21 THE REGISTRAR: Exhibit 258.

22 **EXHIBIT 258: Chainalysis - The 2020 Geography**  
23 **of Cryptocurrency Report - September 2020**

24 MS. ROSE: Thank you, Madam Registrar. I'm done with  
25 that document on the screen now.

1           Q     Mr. Spiro, could you tell the Commissioner about  
2                   Chainalysis's professional services team?

3           A     (JS) Yes. So Chainalysis also provides  
4                   investigative support directly. We have a  
5                   professional services team which is a team of  
6                   investigators from a diverse array of  
7                   backgrounds. Some of them are former government  
8                   investigators, some of them are investigators  
9                   that have just been within the cryptocurrency  
10                  space for a long time so they have deep subject  
11                  matter expertise and knowledge. And this team  
12                  can be utilized by our clients for specific  
13                  investigative support on a case-by-case basis.

14          Q     We heard evidence yesterday from our RCMP panel  
15                  members that the RCMP and other law enforcement  
16                  members are trained to use the Chainalysis  
17                  software and other software providers by  
18                  themselves. Could you elaborate on what skills  
19                  or experience the Chainalysis professional  
20                  services team have that differs from what law  
21                  enforcement might have.

22          A     (JS) I think the primary differentiator right  
23                  now would just be the experience that they have  
24                  in relation to investigative, so the deep  
25                  investigative experience that they have. We



1                   have built out a robust training program and it  
2                   is in I think everyone's best interest that we  
3                   make the users themselves become what we would  
4                   call power users. We've seen the best successes  
5                   in growth as investigators themselves become  
6                   savvy and capable with the products. But in  
7                   some cases either because they are extremely  
8                   complex or if there's a very tight turnaround  
9                   and there's a lack of resources for the  
10                  investigators that are involved in their  
11                  abilities to execute the investigation in the  
12                  timetable or time frame that they need to, they  
13                  could employ our professional services team to  
14                  support.

15                Q     And, Mr. Spiro, is it fair to say that you  
16                  yourself do not actively provide these on the  
17                  ground expert level investigation services as a  
18                  member of the professional services team?

19                A     (JS) it is fair to say that I'm not a member of  
20                  the professional services team. I, in a former  
21                  life, was an analyst and investigator, but  
22                  these days that is not my remit.

23                Q     But nonetheless could you speak to when it might  
24                  be appropriate for law enforcement to engage or,  
25                  you know, not limiting it to law enforcement but

1                   also the private sector where it might be  
2                   appropriate to engage the professional services  
3                   team.

4           A       (JS) Sure. I think one of the issues that we  
5                   have potentially with the cryptocurrency  
6                   ecosystem more broadly is you have frictionless  
7                   payments, right, and the speed and velocity with  
8                   which these transactions can occur is very  
9                   different than in traditional financial  
10                  services. So sometimes when we speak about  
11                  urgency, right, in relation to things like a  
12                  hack or theft or other kinds of illicit  
13                  activity, law enforcement might need to act  
14                  urgently and quickly to be able to recoup those  
15                  funds, to freeze those funds, et cetera, wherein  
16                  they might utilize our professional services  
17                  team to assist them in doing that within the  
18                  proposed time frame.

19          Q       And turning now to the Chainalysis Reactor  
20                  software that you previously described, could  
21                  you speak to the type of proficiency needed to  
22                  operate that software?

23          A       (JS) Yes, so I would say that the software is  
24                  fairly user friendly. Those that are  
25                  investigators we have found are able to become

1                   proficient with our software. We do provide  
2                   training that comes with the procurement and  
3                   usage of Reactor software so we do provide that  
4                   as well initially. I mentioned that we also  
5                   have a more substantial training program that  
6                   can be utilized if investigators want to  
7                   continue to enhance their capabilities. But it  
8                   is something that you know, we have seen by and  
9                   large success from the investigators in law  
10                  enforcement that we work with.

11                Q     But nonetheless it does require some skill  
12                  building or some knowledge in order to use the  
13                  software. It's not quite so user friendly as  
14                  something like a Google search engine?

15                A     (JS) That is correct. Yes. It requires some  
16                  training. I would say for certain.

17                Q     And users would need to be able to direct their  
18                  tracing or direct their searches within the  
19                  software. The software will not direct them  
20                  exactly where to go; they will need to exercise  
21                  a certain level of judgment in how to proceed?

22                A     (JS) Yes. So to be clear, we provide data,  
23                  right, and we provide the information. But it  
24                  is up to the users to then effectively conduct  
25                  these investigations and make their own

1                   determinations.

2           Q     Okay. I think that now might be an appropriate  
3                   time for us to proceed to the demonstration  
4                   portion of the hearing today and that will be  
5                   conducted predominantly by Mr. Place. I'll just  
6                   check to make sure that our hearing team is  
7                   ready to go ahead with that and then I  
8                   understand that the direction is for Mr. Place  
9                   to share his screen, but please correct me if  
10                  I'm wrong.

11           SUPPORT TECHNICIAN: We are ready.

12           MS. ROSE: Great.

13           Q     Mr. Place if you could proceed. Thank you?

14           A     (IP) Sure. Absolutely. Give me just one  
15                   moment. All right. Can everyone see my screen  
16                   okay?

17           Q     Yes?

18           A     (IP) Okay. Great. So again today I'm going to  
19                   walk through our three core products, the first  
20                   being Kryptos, which is really our benchmarking  
21                   and profiling product for the different  
22                   cryptocurrency businesses within the space. I  
23                   will then walk through KYT, or Know Your  
24                   Transaction, which is our transaction monitoring  
25                   solution providing realtime alerts and other

1 restoring attributions. And then finally I'll  
2 walk through Reactor, which is again is our  
3 graphing, mapping and investigative tool to  
4 follow the flow of funds visually and for  
5 certain situations to perform enhanced due  
6 diligence.

7 And so this first screen we are looking at  
8 here is Kryptos and so when you log into Kryptos  
9 you get this initial view where if you want to  
10 search by a given service you can type in the  
11 name here. When you see categories, essentially  
12 again what we do here at Chainalysis is that all  
13 of the alphanumeric strings and information on  
14 the public blockchain and on the ledger we tie  
15 those addresses to real world entities and  
16 services and those entities and services  
17 ultimately fall under different categories. So,  
18 for instance, if I look at our different  
19 categories that includes things such as hosted  
20 wallets, mining pools, exchanges, scams, stolen  
21 funds, these are the sort of types of categories  
22 that we are able to identify, services in which  
23 they fall under. And --

24 Q Mr. Place, sorry, just if I could interrupt you  
25 for just a moment.

1           A     (IP) Sure.

2           Q     You are going to walk us through this software  
3                   but are you involved in determining which  
4                   entities fall within these categories?

5           A     (IP) I am not. We have a data operations team  
6                   that handles that.

7           Q     Okay. Thank you. Could you please continue  
8                   telling us about the Kryptos software.

9           A     (IP) Sure, absolutely. So, again, what you are  
10                  able to do is you are able to create your own  
11                  custom watch list where if there's maybe a  
12                  particular set of businesses that you would like  
13                  to monitor or benchmark or profile you can add  
14                  them to a custom watch list. Below that we also  
15                  have all the top 50 exchanges by volume. You  
16                  can sort by the different risk categories. We  
17                  can look at their country of headquarters. We  
18                  can look at some of the different fiat pairs  
19                  they have within their platform. But what's  
20                  really helpful is -- for example, I'm click on  
21                  Gemini. We can see a really robust profile for  
22                  the respective businesses, and so again, to sort  
23                  of add or remove things from that watch list we  
24                  have an easy feature here. But what's really  
25                  helpful is this information on the left-hand

1 side. Again, this is going to be a Chainalysis  
2 risk rating.

3 Q And, Mr. Place, are you -- sorry again. Are you  
4 involved in categorizing these entities as being  
5 low or high risk? Are you involved in  
6 populating the risk ratings that we see on the  
7 left-hand side of the screen here?

8 A (IP) I am not. Sorry, go ahead, Jesse.

9 (JS) I can field that question, Kelsey. So  
10 I am involved in how we have developed our risk  
11 rating. Essentially we have taken a number of  
12 indicators coupled with specifics that have come  
13 from data, for example, in relation to the red  
14 flags and typologies and we've coupled that  
15 information in relation to how we score risk, if  
16 you will, in relation to entity.

17 Q Right. But, Mr. Place, that's not your area of  
18 expertise, is it?

19 A (IP) Correct. I don't work in the risk ratings  
20 of the different profiles and services within  
21 Kryptos.

22 Q Thank you.

23 A (IP) No problem.

24 Q Please continue.

25 A (IP) Sure. No problem. So, again, below that

1                   we have some information including the legal  
2                   names. We have some headquarters information.  
3                   We have the country of incorporation, place of  
4                   incorporation, again the fiat pairs. We also  
5                   see all the different assets that are traded or  
6                   accepted on the platform. If you want to expand  
7                   that list you can easily to do so there. And  
8                   then additionally we see if there's any stable  
9                   coins offered, privacy coins and rating fares.  
10                  We additionally also have information on the  
11                  most recent news associated to these given  
12                  platforms or potential negative news or adverse  
13                  media or just general information about the  
14                  business in the space. Below that we have  
15                  alerting functionality which you can see sort of  
16                  the conditions for which that is set over here,  
17                  so, for instance, we can see that on the week of  
18                  September 20 to October 5th there was increased  
19                  exposures to high risk exchanges and some other  
20                  categories. If you'd like to further drill down  
21                  to the specific transactions that led to those  
22                  spikes in activity you can very easily click on  
23                  here and identify the specific transactions.

24                                What is really helpful as well is we are  
25                                able to then also identify the varying volumes



1 of transactions to the different categories and  
2 services that the business interacts with. So,  
3 for instance, you can look at all the different  
4 types of activity. You can look at the  
5 non-risky activity; look at the risky activity.  
6 You have custom date ranges which you can select  
7 if you want a particular date range you'd like  
8 to examine. But again, just a really helpful  
9 way to identify any spikes in activities. So,  
10 for instance, on the week of March 9th to  
11 March 15th there was over \$466 million being  
12 transferred between exchanges and then, you  
13 know, some other categories that we also have  
14 identified there.

15 Additionally we can benchmark this service  
16 against other services and see kind of where  
17 everyone stands within, you know, relative to  
18 one another. So, for instance, when we're  
19 looking at the different volumes we can see for  
20 instance that, you know, comparing the week of  
21 March 2nd to March 8th this platform was well  
22 below the volumes of the top 50 exchanges in  
23 some of the high risk exchanges. Below that we  
24 also have the top counterparties for this  
25 particular service so, we can see for instance

1                   Coinbase and OKEx and Bitstamp were some of the  
2                   largest counterparties to this particular  
3                   platform that we are looking at for an example.  
4                   Below that we can also see the total number of  
5                   counterparties. And so, for instance, we can  
6                   see a spike here on the week of November 16th,  
7                   so just recently, a total of 6,891  
8                   counterparties, and again, if you want to change  
9                   by the different assets you can click here and  
10                  view those accordingly.

11                  So for the most part -- also click on the  
12                  alerts tab to show this functionality. This is  
13                  going to be sort of a comprehensive list of all  
14                  of the different services you've added to your  
15                  watch list and all the respective alerts that  
16                  they've generated. If you want to filter by  
17                  particular alert types or by particular  
18                  categories from which those alerts generate, you  
19                  can do so easily here. And for the most  
20                  part that's kind of Kryptos in a nutshell, and I  
21                  think that kind of provides a nice sort of level  
22                  of insight into what this product does and some  
23                  of the features behind it.

24                  Q     Well, thank you. Maybe we could -- sorry, did I  
25                  interrupt you there? Did you --

1           A     (IP) No, no, no. Go right ahead.

2           Q     I was saying if that's it for Kryptos maybe we  
3                    could move on to the KYT, Know Your Transaction  
4                    software.

5           A     (IP) Sure. So here within the KYT solution  
6                    again this is really the heart of our  
7                    transaction monitoring solution for our clients.  
8                    What we have here is the initial dashboard view  
9                    when you log in. So this is a really great  
10                   organizational snapshot of the activity on the  
11                   given platform and the transactions being  
12                   screened. So this is going to provide a lot of  
13                   sort of macrolevel insights so when we see  
14                   "alerts overview" these are essentially the  
15                   transactions that have been flagged for review  
16                   based on the parameters that you set within our  
17                   alerts, which I'll be sure to go over in more  
18                   detail as we walk through alerts. You see this  
19                   user overview. This is essentially the user  
20                   risk segments on the profile because essentially  
21                   the way it worked -- on the platform, excuse me.  
22                   The way it works is that ultimately  
23                   transactions, you know, an individual client on  
24                   a platform may have more than one transaction.  
25                   We can then based on those different

1 transactions assign a risk score based on their  
2 overall activity. So if you want to drill down  
3 to the specific subset of users from here you  
4 can do so easily there. Additionally we see  
5 information on the latest alerts generated, the  
6 different categories from which they were  
7 generated, the amounts of which those  
8 transactions occurred. And then to the right of  
9 that we have again that transfer volume per  
10 category chart, and for this example I just  
11 selected just the risky activity and what we can  
12 do is, for instance, see that on the week of  
13 August 10th to August 16th there was a large  
14 spike in gambling activity, about \$1.6 million.  
15 If you want to look at both received and sent  
16 transactions you can do so easily there. And  
17 just to clarify, a received transaction is a  
18 deposit to a platform and a sent transaction is  
19 a withdrawal from a platform. So currently we  
20 are looking at both deposits and withdrawals to  
21 get this sort of figure, but again, you can  
22 select by either-or accordingly or potentially  
23 respective category of interest.

24 Q Just to interrupt briefly, Mr. Spiro, and sorry  
25 Mr. Place if you could just scroll up slightly.

1           A     (IP) Sure.

2           Q     Thank you. Mr. Spiro, under the latest alerts  
3                    on the left-hand side we see that there's  
4                    darknet market flags. Could you perhaps  
5                    describe what type of activity would lead to  
6                    that type of a flag?

7           A     (JS) If I understand the question, you mean in  
8                    relation to the connection to darknet markets,  
9                    you're not asking about darknet markets and the  
10                   kind of activity they support themselves. Is  
11                   that correct?

12          Q     I'm just only asking what would lead would lead  
13                   to this type of flag in this KYT software?

14          A     (JS) We've been able to identify transactions in  
15                   and out of darknet markets. Darknet markets are  
16                   inherently high risk because of the kind of  
17                   activity that they support. So identifying that  
18                   kind of exposure and interaction with a darknet  
19                   market would lead to these kinds of alerts.

20          Q     So would it be fair to say that this flag would  
21                   not necessarily mean that, you know, someone had  
22                   purchased Fentanyl, it would simply mean that a  
23                   purchase was made in a darknet market?

24          A     (JS) Yes, there was some kind of transaction  
25                   associated with the darknet markets. Darknet

1 markets aren't only connected to illicit  
2 narcotics. They have a number of different  
3 kinds of products and services that are provided  
4 on them.

5 Q Thank you. Sorry for interrupting there,  
6 Mr. Place. If could you please continue to  
7 describe the rest of the software.

8 A (IP) No, absolutely. What I'll do that I think  
9 will provide some more context is that I can  
10 show the different parameters for which we set  
11 this and how these alerts are generated. I  
12 think that will help provide some additional  
13 context as well. But below that we have an  
14 exposure wheel and this particular data visual  
15 is very common throughout our products. You'll  
16 also see this as we walk through Reactor. And  
17 the way it works is that you'll this outer ring.  
18 That's going to represent the direct exposures  
19 to various services that fall under those  
20 perspective categories, and what that means is  
21 that it is a direct counterparty in a  
22 transaction. So if we, for instance, look at  
23 the direct receiving exposure from exchanges  
24 then we see that the majority of that is coming  
25 from Coinbase, that means that Coinbase is a

1                   direct counterparty sending to this platform  
2                   that we're looking at this example data for.  
3                   And so when we look at on the contrary the inner  
4                   ring -- so, for instance, let's look at the  
5                   inner ring of indirect sending exposure to  
6                   gambling, what this means is that funds are  
7                   going indirectly from the platform to  
8                   intermediary addresses, to an intermediary  
9                   address or numerous intermediary addresses  
10                  before reaching that next known service, and the  
11                  reason that occurs is that a very sort of common  
12                  and inherent aspect of the cryptocurrency space  
13                  is the idea of a personal onposted wall. So a  
14                  wall that is not hosted by a platform, you  
15                  yourself have the private keys and you are  
16                  managing the funds yourself. And so when funds  
17                  are being sent to or from there they're not  
18                  coming directly from a service and subsequently  
19                  they will then have what we call indirect  
20                  exposure. And indirect exposure is definitely  
21                  an important concept that I'll walk through  
22                  within Reactor to kind of show you what that  
23                  looks like and how that can kind of be examined,  
24                  because really the key point with indirect  
25                  exposure that we are trying to identify

1 potential change of ownership or to see if there  
2 was someone else who may have come across those  
3 funds or if the person in question is in fact  
4 the one who conducted those transactions  
5 indirectly. Below that we have a topic named  
6 counterparties which again is just kind of  
7 showing you who you are transacting with the  
8 most. So you want to sort by the total number  
9 of transactions, total number of deposits, some  
10 of these other parameters us you can do so here  
11 and -- sorry, go ahead.

12 Q Sorry, I want to understand that when you say  
13 they are counterpart to a transaction can you --  
14 and I'm not sure if this is a question for  
15 Mr. Spiro, so please jump in, Mr. Spiro, if it's  
16 for you, but could you describe what you mean by  
17 being a counterpart [sic] to a transaction and  
18 is that something that's being recorded from the  
19 blockchain ledger or what does that mean?

20 A (IP) So essentially what this is saying is that  
21 this platform is a counterparty. So, like, what  
22 we are looking at within KYT we are assuming --  
23 we will just assume we're a fake platform. So  
24 this is platform X exchange X. And --

25 Q It would be typically used by private sector



1                   entities to review the transactions of their  
2                   clients on their own exchange?

3           A       (IP) Correct. And so what we are looking at  
4                   essentially is saying which other platform has  
5                   been sending us funds or which other platform  
6                   have we been sending funds to, and those can be  
7                   both direct counterparties and indirect  
8                   counterparties. So right now we are looking at  
9                   both direct and indirect counterparties. But if  
10                  I want to say sort by just the direct  
11                  counterparties, I could click direct only and  
12                  now I'll look at the results for people that we  
13                  are interacting with directly. Does that help  
14                  clarify?

15          Q       It does. And so basically if I'm understanding  
16                  this correctly, and you know, I'm going to put  
17                  it to you and please if there's anything that  
18                  I've captured incorrectly please let me know.  
19                  But basically this is if you have a client on an  
20                  exchange and they are depositing bitcoin or  
21                  another virtual asset in their account within  
22                  the exchange or they are receiving money from  
23                  outside the exchange, it's being deposited into  
24                  their exchange account, and then this would be  
25                  shown in the counterparties here, it would be

1 showing where those transactions originate?

2 A (IP) Correct. Yeah, these are for external  
3 sources of funds. So it there is a  
4 cryptocurrency deposit, so someone is funding  
5 their account with cryptocurrency, not from that  
6 platform, that would be like an external  
7 deposit. And then on the contrary, if someone  
8 is sending funds elsewhere that would be a  
9 withdrawal that they are sending funds  
10 externally from that platform to another  
11 platform.

12 Q Would this be limited to virtual asset  
13 transactions or would it also include fiat  
14 transactions?

15 A (IP) This is just virtual asset transactions.

16 Q Thank you.

17 A (IP) Sure. And so what I'll do is I'll quickly  
18 touch on users and transfers. Alerts is  
19 probably the most exciting piece of this all  
20 where really sort of the core functionality  
21 within this solution lives, but I'll quickly  
22 touch on users and transfers. And so what  
23 you're able to do is here is in the users  
24 tab you can again sort by the different risk  
25 scores. So maybe I want to look at just my high

1 risk users. Let's say opened or closed cases  
2 because we do have some case management  
3 functionality in here for our clients to better  
4 work and handle the different alerts and  
5 information that they receive from us. So, for  
6 instance, if I wanted to say look at all my high  
7 risk clients with open or active cases I could  
8 simply sort of segment those users here. If I'd  
9 like to export this information to CSB and work  
10 elsewhere I would be able to do so easily.

11 Then when we look at the transfers view it's  
12 actually kind of similar in that again we can  
13 filter by particular date ranges. Maybe there's  
14 like an audit for a business or they're getting  
15 requested transactions over a given date range,  
16 they can kind of easily sort that here. Again  
17 if they want to filter by the different  
18 categories and then the different services  
19 within those categories they can also do so  
20 there. And what you do see here is with some of  
21 these transactions there is a little indicator  
22 saying that this transaction did have an alert  
23 associated to it, and so for instance here we  
24 can see that this particular transaction  
25 generated a high risk alert because there's more

1                   than \$100 received directly from a darknet  
2                   market. And as we are kind of talking about how  
3                   these alerts are generated I think it would make  
4                   the most sense to go into the alerts tab and  
5                   show you how you are able to adjust these  
6                   parameters. And so now that we are in this  
7                   alerts view we are first going to see all of the  
8                   alerts that have been on review because, again,  
9                   as you work through these alerts we have  
10                  different alerts statuses for you to help manage  
11                  and sort of move those alerts along the  
12                  different statuses. And so what happens is if I  
13                  click on rules here, I can then see all of the  
14                  different parameters for which these alerts  
15                  generate. This is fully customizable in the  
16                  sense that if I wanted to change these risk  
17                  severities or dollar amounts accordingly based  
18                  on the varying categories, I can do so here. To  
19                  the left you see -- sorry, go ahead.

20                Q     Sorry, when you say customizable, I take it that  
21                  the exchange is able to set their own risk  
22                  tolerance and items that might be concerning for  
23                  the users of their exchange and not concerning  
24                  and they are able to adjust this software to  
25                  reflect their own risk assessments?

1           A     (IP) Exactly. Yeah, this allows them. And as  
2                   we were talking about the concept of direct and  
3                   indirect exposure, you'll have the ability to  
4                   adjust the parameters for both of that and then  
5                   subsequently assign the severity that you  
6                   believe those different conditions align with.  
7                   Then you can change the dollar amount as well.  
8                   So really entire customization of these alerts  
9                   and how you are able to sort of configure and  
10                  align them to your respective risk appetite and  
11                  regulatory requirements.

12          Q     And so you know, an exchange could in theory  
13                  hypothetically be operating in a situation in  
14                  which they have no concerns about darknet  
15                  transactions, for example, and they might see  
16                  that there is an alert in the software but they  
17                  can be free to disregard it if they so choose?

18          A     (IP) Correct.

19          Q     And, sorry, I see Mr. Spiro is trying to chime  
20                  in here. Mr. Spiro, perhaps I direct that  
21                  question to you.

22          A     (JS) Yes, so hypothetically that is something  
23                  that could happen. But what I would posit and  
24                  add is that if an exchange were using this  
25                  product, for example, we would probably be

1 acting under the guise that they fell under  
2 regulation to be doing so. And so if they are  
3 regulated, right, and if they have are under  
4 regulatory supervision, if they are going to  
5 dismiss alerts, right, and it is within their  
6 risk appetite depending upon the organization.  
7 If they were to do that they need to be able to  
8 justify to the regulators based on an  
9 examination or audit why they made that  
10 determination and why they dismissed those  
11 alerts versus escalating them.

12 Q Right but they don't need to make that  
13 justification to Chainalysis. They would need  
14 to make that with the regulator?

15 A (JS) Yes, correct.

16 Q Thank you.

17 A (IP) Sure. I was going to say one minor  
18 distinction that is important, too, is that  
19 again with direct exposure we know definitively  
20 that that's the counterparty, so at that point  
21 we know that is clear-cut, we know that is  
22 definitely who they received or sent from. But  
23 with indirect, that is where often times you  
24 might need to go into Reactor and determine if  
25 there was a change of ownership along those

1                   indirect flow of funds and I've a particular  
2                   example I'll show that's a real world scenario  
3                   of a client who received an alert or indirect  
4                   exposure to something illicit. I'll kind of  
5                   walk you through how they are able to make that  
6                   assessment to determine if the person on their  
7                   platform is in fact the one to conduct a bad  
8                   activity after they move the funds. And so I'll  
9                   be sure to walk through that and help provide  
10                  some more clarity on kind of what that looks  
11                  like as well.

12                                   And so again to your point.

13                  Q    We'll turn it back over to you, Mr. Place.

14                  A    (IP) Sure. So for the most part, again, like  
15                   when you go back to the alerts view, I want to  
16                   look at these respective alerts, I can click on  
17                   them here. This is a randomly -- this is like  
18                   an anonymized user ID. This is just so that our  
19                   clients are able to pair client on their  
20                   platform to users in our system. This is  
21                   something that we have a lot of people --

22                  Q    Sorry. Mr. Place, I'm having a little bit of  
23                   difficulty seeing. I am not sure if others are  
24                   experiencing the same thing, but I was wondering  
25                   if you could zoom in a little bit.

1           A     (IP) Yeah.

2           Q     Perhaps it's just owing to the size of my  
3                    screen. That's much better. Thank you very  
4                    much.

5           A     (IP) No problem. So this user ID is just a way  
6                    for the clients of our solution to identify and  
7                    pair one to one which client on their platform  
8                    is associated to the given transactions and  
9                    alerts. And so this is something where just to  
10                  be kind of explicitly clear we don't allow any  
11                  PII or anything sensitive. We just want it to  
12                  be something anonymized where they can say okay,  
13                  I know that's whoever on my platform. So you'll  
14                  see this user ID here. For instance we can see  
15                  that this user generated this alert which is  
16                  again a medium risk alert for an indirect send  
17                  to a darknet market, and we can see here the  
18                  condition for which that alert was triggered by.  
19                  And the way it really works is that from here  
20                  clients again are able to move these alerts into  
21                  different statuses and to kind of move along the  
22                  work flow. And then additionally kind of the  
23                  next step from here, particularly again with  
24                  indirect exposure, is they could then map that  
25                  out within Reactor. So we have a lot of



1                    functionality where it's very easy to go into a  
2                    profile. You can tick the transaction if  
3                    there's an alert on. You can open that in  
4                    Reactor and begin your graphing and  
5                    investigative piece there.

6                                       And so now that we've kind of touched on KYT  
7                    a bit I'll now move into Reactor and show you a  
8                    real world example on how this was employed.

9                    Q                    And just to remind -- just to be clear, the  
10                    Reactor software is where you can actually trace  
11                    virtual asset transactions?

12                    A                    (IP) Correct. Yep, this is our visualization  
13                    tool that's going to help you follow those flow  
14                    of funds and visually identify that. And so --

15                    Q                    And so is this -- oh, so sorry. Is this the  
16                    tool that would be predominantly used by law  
17                    enforcement as compared to the KYT which would  
18                    be predominantly used by private virtual asset  
19                    service providers?

20                    A                    (IP) Yeah, that's absolutely correct.

21                    Q                    Thank you.

22                    A                    (IP) Yeah, no problem. Sorry for cutting you  
23                    off there.

24                    Q                    Not at all.

25                    A                    (IP) Great. So when we come into the Reactor

1 product I already have an example graph pulled  
2 up, but there's a way where you can have all of  
3 your graphs and work that you've been collecting  
4 in this My Graph section, but the way it works  
5 is that again you can either copy and paste and  
6 address or transaction directly into the search  
7 bar or directly on to the graph and that  
8 information will paste accordingly. But to kind  
9 of provide some more context and rather than  
10 starting from scratch I think it's helpful to  
11 show a real world example. So this right here,  
12 this hexagon that you see, this is one of our  
13 clients and this is their platform that uses  
14 KYT. And they essentially received an alert  
15 saying you have indirect sending exposure to  
16 sanctions, and so --

17 Q Mr. Place, again I'm sorry to interrupt. I'm  
18 again having a feeling that I need to pull out  
19 my glasses. So I was just wondering if you  
20 could zoom in a bit.

21 A (IP) Yeah. Is that any better? Is that better?

22 Q It's a little better. Yeah.

23 A I don't know if I can zoom in much more than  
24 that because it gets a little skewed. But is  
25 that okay?

1 Q I think that's okay for now, but thank you.

2 That's much improved, yes. Thank you.

3 A (IP) Yeah, yeah, no problem. Sorry about that.

4 So again, what we're looking at here is a real

5 world example where a client of ours received an

6 alert saying you have indirect sending exposure

7 to sanctions and so what's interesting here is

8 that again this is the concept of indirect

9 exposure. So just for purpose of example let's

10 say that the platform was this one that I've

11 labelled "case 1" and they sent out to the

12 sanctioned entity, that would be direct

13 exposure. This is the direct counterparty of

14 this cluster. And when I use the word

15 "cluster" -- sorry, go ahead, Kelsey.

16 Q Sorry, I'm just wondering you use the word

17 "sanctioned entity." What does that mean? And

18 perhaps, again, if this is a question for

19 Mr. Spiro perhaps he can jump in.

20 A (JS) I can. Thank you. So when we're

21 referencing sanctioned entity it doesn't mean no

22 cryptocurrency wallet itself is sanctioned.

23 However, there are cryptocurrency wallet

24 addresses that have been included in a number of

25 sanctions designations. So as it pertains to

1 sanctions that's how it is flagged and  
2 identified. But there are not sanctions on the  
3 wallet itself. However --

4 Q And when -- sorry, please continue.

5 A (JS) Interaction with that with those wallets  
6 potentially triggers reporting requirements and  
7 identification to the Office of Foreign Asset  
8 Control in the United States.

9 Q And you said that there are sanctions lists that  
10 are prepared or designated. Is that designation  
11 performed by Chainalysis or where does that --  
12 who prepares that sanctions list?

13 A (JS) The office of [connection disruption] --  
14 which is part of the US Department of Treasury  
15 produces the sanction sets, what's known as  
16 sanctions packages for a number of different  
17 kinds of current sanctions that exist in the US.  
18 As it pertains to virtual assets you've seen  
19 sanctions applied in relation to cybercrime,  
20 what's known as the cyber IO designations.  
21 You've also seen them applied in relation to  
22 what's known as kingpin designations connected  
23 to illicit narcotic activity as well.

24 Q Sorry, I'm not sure if it was just me, but it  
25 cut out the very start of your answer there. I

1                   was just wondering the name of the office within  
2                   the US Treasury Department is what?

3           A       (JS) The Office of Foreign Asset Control, known  
4                   as OFAC.

5           Q       Thank you. Mr. Place, back to you.

6           A       (IP) sure. Sorry about any misconception there  
7                   or apologies for that. So again, essentially  
8                   this is a client who received an alert for  
9                   indirect sending exposure to this wallet in  
10                  question, and so what's really great, though, is  
11                  that this tool will enable them or investigators  
12                  to make the determination is the person who sent  
13                  from here to here the same person that sent from  
14                  here to the illicit activity in question. And  
15                  so there's kind of a few ways that we can make  
16                  that assessment quickly and that we can kind of  
17                  feel confident in the conclusion we are coming  
18                  to. And so the first is we can look at the  
19                  actual timing of the transactions, and so for  
20                  instance, this transaction, the first one was  
21                  facilitated on the January 21st at 8:30 a.m. and  
22                  you see these external sources that I've pulled  
23                  up here because the reason why I did is  
24                  essentially we can see that the funds from the  
25                  platform were sent here and then a larger amount

1                   was sent on to the illicit activity. What we  
2                   can do is we can then take a look at some of the  
3                   other external funding sources to get a better  
4                   picture of the activity in question. And so  
5                   when we start to look at the time of the  
6                   transactions to again 11:04 a.m. the same day,  
7                   12:19 the same day, 12:19, 9:30 a.m., 10:30 a.m.  
8                   and 12:19 p.m. we then look at the amount of the  
9                   transactions heading up to this 1.97. We can  
10                  also look at this transaction here and see that  
11                  this occurred at 12:44 p.m. So all of this  
12                  activity prior to happened before this  
13                  transaction was sent on, so to me it's pretty  
14                  clear that it indicates there was a  
15                  consolidation of funds from numerous different  
16                  platforms and services to which they wanted to  
17                  sort of consolidate these funds and then move  
18                  them on to this address in question.

19                         And what's really great, though, is that the  
20                         kind of next piece in determining this is that  
21                         so we see the amounts adding up to the same. We  
22                         see the times indicating that the funds were  
23                         consolidated and then moved on. What we'll then  
24                         want to do is click on this cluster. I should  
25                         just kind of clarify what I mean by cluster is



1 meaning that this is someone's wallet or wallets  
2 that are not on a given platform. It's maybe on  
3 their thumb drive. It's on their cellphone.  
4 It's on their desktop. It's a wallet that they  
5 own the private keys for and it's not a platform  
6 or a service that holds those funds. And when  
7 you take that into consideration that pretty  
8 definitively means for us that it's very likely  
9 that this person here also operates this wallet  
10 and so when we take in all the factors of the  
11 timing of the transactions, the amounts in which  
12 it adds up to and that the intermediary is very  
13 likely to be a personal unhosted wallet, you can  
14 feel quite confident in saying that the person  
15 who sent from here to here is in fact the same  
16 person who sent from here to the OFAC designated  
17 national. So that's kind of in a nutshell how  
18 this product can be used to identify potential  
19 changes of ownership or non-potential changes of  
20 ownership within transactions and again really  
21 helpful when we're talking about indirect  
22 exposures. Do you have any questions for me on  
23 what you are seeing here?

24 Q Yeah, I just wonder if you could build on these  
25 little nodes and connections and just describe



1                   for us, you know, for example the blue lines  
2                   that are emanating between two nodes, can you  
3                   explain to me what those represent.

4           A       (IP) Sure. So this intermediary address right  
5                   here what I was able to do is I go here to the  
6                   counterparties tab and we're adding in the  
7                   different funding sources for which this wallet  
8                   had received funds. So I added the ones of most  
9                   interest and I can add the other additional two  
10                  here. And so now we're looking at every  
11                  potential funding source for this wallet. So  
12                  again, like when we see these lines it's just me  
13                  highlighting them, but you can again see all of  
14                  the different activity coming in and out of this  
15                  cluster in question. So again, this cluster is  
16                  made up of seven addresses or you can think of  
17                  it as different wallets and we are able to again  
18                  look at all of the differential funding sources  
19                  from those.

20                         So some of those are again going to be more  
21                         personal unhosted wallets. Some of them are  
22                         services like the platform that's a client of  
23                         ours. And then additionally we see, like, a  
24                         scam. So you'll see a lot of different funding  
25                         sources. And what I would mention is that this

1 kind of concept of sending to personal unhosted  
2 wallets and then to illicit or risky services is  
3 kind of like a very common but easy to identify  
4 obfuscation technique where in the sense that  
5 bad actors and others are potentially aware that  
6 you shouldn't be -- some of the sort of ins and  
7 outs of what's advantageous for them or not and  
8 because of this it's definitely something where,  
9 you know, you can really kind of easily identify  
10 this and even if there was additional layers of  
11 obfuscation you can continue to map that out and  
12 identify that with this particular product.

13 Q When you say "funding sources," is this all  
14 information that is being recorded in the  
15 virtual assets blockchain?

16 A (IP) Yes. These are all transactions on the  
17 public blockchain.

18 Q And so is it fair to say that these transactions  
19 do not involve -- these transactions all involve  
20 coins that have a public ledger like bitcoin?

21 A (IP) Correct. And one thing I should mention is  
22 this graph is just for bitcoin. We don't  
23 currently have the ability to look at multiple  
24 tokens within one graph. So right now you can  
25 see up here as notated by the BTC icon we are

1                   just looking at bitcoin transactions.

2                   Q     And could you explain to me. I understand that  
3                   Chainalysis Reactor software is intended to  
4                   essentially make the blockchain ledgers user  
5                   friendly such that you don't require a good deal  
6                   of sophistication to be able to read the actual  
7                   blockchain itself, that, you know, the average  
8                   user can understand what they are looking at.  
9                   And I wonder how could -- would it be possible  
10                  for a user to review these transactions without  
11                  the Chainalysis software if they had the  
12                  requisite sophistication to review the  
13                  blockchain ledger themselves?

14                  A     (IP) No, because the key here -- sorry. Go  
15                  ahead Jesse.

16                                 (JS) So essentially there are open source  
17                                 kinds of software like a block explorer that an  
18                                 individual could try and use to conduct an  
19                                 investigation, but due to the complexities, you  
20                                 know, you have this series of alphanumeric  
21                                 hashes that encompass a wallet and what you will  
22                                 find consistently is that if you tried to use a  
23                                 block explorer comparatively, the determinations  
24                                 and attributions that you would make, especially  
25                                 in relation to transaction that has a relatively

1 light degree of complexity, meaning multiple  
2 transactions occur and then consolidations  
3 et cetera, the attributions would not be  
4 accurate. You cannot account using an open  
5 source block explorer for some of the kinds of  
6 activity that occur.

7 (IP) correct.

8 Q If I were wishing to look at -- just let's for  
9 example see there's a transaction here with I  
10 think it's 14HCPH4. Yes. If I wanted to see  
11 just that transaction into this case 1 node,  
12 would I be able to view that transaction by  
13 itself on the blockchain ledger without the  
14 Chainalysis software?

15 A (JS) You could see a single transaction. You  
16 might not be able to identify where it had gone  
17 in relation to the fact that we actually  
18 identified the entities. So what you would see  
19 is the transaction from one wallet with that  
20 wallet address to another wallet. You wouldn't  
21 be able to say that this transaction went to  
22 Coinbase or Gemini or Bitfinex, for example.

23 Q Right. And so the added value that's provided  
24 by the software here is the sort of  
25 interpretation of the data, but the data would

1                   be itself available to users?

2           A       It is blockchain public data, yes.

3           Q       It would just be -- Chainalysis provides the  
4                   service of, for example, knowing the hashes, if  
5                   I can use that right, knowing the hashes that  
6                   are used by Binance or Bitfinex or other  
7                   services and so they're able to apply that on to  
8                   this software; is that correct?

9           A       (JS) It's slightly more complex but basically,  
10                   yes. Essentially what Chainalysis provides is  
11                   an analysis, right, so is intelligence and  
12                   analysis of the data to provide further  
13                   intelligence and insight in relation to what  
14                   you're seeing. Not only does that make it more  
15                   digestible, but it also assist it's in relation  
16                   to being able to effectively investigate and  
17                   identify new potential leads as well, if we're  
18                   talking about Reactor, for example.

19          Q       Okay. I think that's a big help. Thank you for  
20                   that clarification. And, Mr. Place, is there  
21                   any further review of these transactions that  
22                   you think would be assistive in understanding  
23                   how the Reactor software works?

24          A       (IP) No, and the only thing I would just quickly  
25                   add on top of what Jesse said is exactly right

1           in that, you know, this information is on the  
2           public blockchain, but you can't see which  
3           entity or service are identified to that. So  
4           you can go on the blockchain and you can look at  
5           all these transactions respectively, but you  
6           wouldn't know what services they're coming to or  
7           from directly or indirectly. And so that is  
8           really the important component here and what is  
9           really valuable in what we do. But if it's okay  
10          now would you like me to stop sharing my screen?

11         MS. ROSE: Yes. Subject to any questions the  
12           Commissioner may have those are my questions  
13           with respect to the Reactor software.

14         THE WITNESS: (IP) Sure.

15         THE COMMISSIONER: Thank you.

16         MS. ROSE: I wonder if now might be an appropriate  
17           time to take a quick break, Mr. Commissioner.

18         THE COMMISSIONER: Very well, ten minutes.

19         MS. ROSE: That would be great. Thank you very much.

20         THE REGISTRAR: This hearing is adjourned for a  
21           ten-minute recess until 10:41 a.m. Please mute  
22           your mic and turn off your video. Thank you.

23           **(WITNESSES STOOD DOWN)**

24           **(PROCEEDINGS ADJOURNED AT 10:31 A.M.)**

25           **(PROCEEDINGS RECONVENED AT 10:40 A.M.)**

1   **JESSE SPIRO, a witness**  
2   **for the commission,**  
3   **recalled.**

4   **IAN PLACE, a witness**  
5   **for the commission,**  
6   **recalled.**

7                   THE REGISTRAR: Thank you for waiting. The hearing  
8                                   is now resumed. Mr. Commissioner.

9                   THE COMMISSIONER: Yes, thank you, Madam Registrar.  
10                                Yes, Ms. Rose.

11                  MS. ROSE: Yes, thank you, Mr. Commissioner. I  
12                                understand that we may have one or two  
13                                clarifying questions from counsel for the  
14                                participants for Mr. Place and so while we had  
15                                previously advised that perhaps he might be able  
16                                to be released, unfortunately I don't think  
17                                that's the case and I would ask that he remain  
18                                until the end of the hearings today for that  
19                                purpose. But I would suggest that he can take a  
20                                back seat for right now as I anticipate the rest  
21                                of my questions will be directed to Mr. Spiro.

22                  THE COMMISSIONER: All right. Thank you.

23                  **EXAMINATION BY MS. ROSE (continuing):**

24                  Q     So, Mr. Spiro, could you speak to some of the  
25                                barriers to conducting effective tracing that





1                   anonymity enhancing cryptocurrencies, also known  
2                   as privacy coin, which provide enhanced  
3                   encryption and privacy features to potentially  
4                   obfuscate the ability to trace them.

5                   Q     And I will turn to some of the specifics of  
6                   that, but for now I'd like to just speak a  
7                   little bit to the characteristics of virtual  
8                   assets. So, Mr. Spiro, can you advise whether  
9                   bitcoin is still the most popular coin and, if  
10                  so, do you have any views on why that would be?

11                  A     Yes. So what we've seen is that bitcoin is  
12                  still by far the most popular cryptocurrency  
13                  that is currently used within the ecosystem.  
14                  The main reason for that, honestly, is  
15                  accessibility. Bitcoin was the first. It is  
16                  the most widely featured and accepted and  
17                  exchanged from the global entities within the  
18                  ecosystem. It is also the one that I think  
19                  globally there is the most familiarity with.  
20                  And when it comes to accessibility that's  
21                  extremely important because it means that while  
22                  the savvy users can obviously access it, it also  
23                  means those that are being introduced or are  
24                  early on in relation to their engagement with  
25                  the virtual asset ecosystem can also obtain

1 bitcoin most easily and successfully.

2 Q We heard a little about stable coins yesterday.

3 Could you describe what stable coins are and  
4 provide an example.

5 A Yes, so stable coins are essentially backed by  
6 something else. There's four kinds of stable  
7 coins primarily. You have stable coins that are  
8 backed directly by fiat currency. You have  
9 stable coins that are backed by commodities,  
10 something like gold, for example. You have  
11 stable coins that are backed by other  
12 cryptocurrency and then you have stable coins  
13 that are backed by algorithms. The most  
14 prominent stable coins that you will find are  
15 those that are backed by fiat currency. A good  
16 example and the most widely used would be  
17 Tether, which is backed by the US dollar. And  
18 so that is a good example. They provide more  
19 security and are less vulnerable in relation to  
20 fluctuation because obviously they are backed,  
21 which is why they are called stable coins.

22 Q And we heard a little evidence yesterday about  
23 the different types of virtual currency coins  
24 and the difference between an open ledger and a  
25 closed ledger. Could you tell the Commissioner

1                   about what Chainalysis is seeing as risks of a  
2                   closed ledger or privacy coin?

3           A       Well, in relation to close ledgers, I mean what  
4           I can say is that public blockchains are what we  
5           follow, right, so there is a number of different  
6           coins, if you will, that we're able to follow.  
7           But for those closed blockchains you're not  
8           going to have a visibility into them. So that  
9           is not the kind of thing that we would provide  
10          services in relation to if somebody were trying  
11          to follow that. You have hybrid blockchains,  
12          some of them that are developing that we could  
13          potentially follow and trace and that we could  
14          do, but you have the public and the non-public  
15          which is the best distinction to make there.

16                   In relation to privacy coins you have a  
17          number of different kinds of privacy coins that  
18          have different kinds of anonymity enhancing  
19          features. Some of them used advanced encryption  
20          things like zk-SNARKS, also known as Zero  
21          Knowledge Proofs, which are just a kind of  
22          extreme encryption technology. You have also a  
23          privacy coins that have features that allow  
24          essentially for the privacy to be turned off on  
25          or to be turned off. This is known as being

1                   shielded versus unshielded. There's a number of  
2                   different privacy coins, as I mentioned. Some  
3                   of the more popular would be Monero, Zcash or  
4                   Dash for example.

5                   Q     And what are the advantages in your view of  
6                   privacy coins? Or why might a user -- why might  
7                   a user seek out a privacy coin?

8                   A     You mean from a licit perspective or an illicit  
9                   perspective?

10                  Q     If there's a discrepancy between the two,  
11                  perhaps you could provide your insights on to  
12                  both. Why might a licit user and why might an  
13                  illicit user turn to a privacy coin? In your  
14                  view, of course.

15                  A     So a licit user might turn to a privacy coin if  
16                  they have extreme concerns around their data  
17                  privacy and data protection, for example. If  
18                  they don't want any visibility into the activity  
19                  that they are executing. There is an ethos  
20                  historically associated with virtual assets  
21                  where you do have kind of this cyberpunk  
22                  mentality from some folks where they just want  
23                  extreme control and privacy around access. I  
24                  think that's changed markedly from inception,  
25                  but it is something that does still exist in

1                   some places. You also could potentially have  
2                   the use by individuals that are in certain  
3                   jurisdictions with authoritarian regimes or, you  
4                   know, potentially onerous oversight. So I could  
5                   see that hypothetically. For bad actors they  
6                   are extremely attractive because again it  
7                   potentially allows them to move funds across  
8                   border or domestically and try to avoid  
9                   detection by law enforcement, by government, by  
10                  regulators, by those that would be trying to  
11                  follow the money, as well as the private sector.

12                  Q    Are there -- could you speak to some particular  
13                      use cases where someone might legitimately be  
14                      using privacy coins for the purposes you  
15                      mentioned?

16                  A    Can I speak to a legitimate use case. I mean,  
17                      yes, you know, again, I suppose somebody is  
18                      concerned with, you know, government oversight,  
19                      maybe a government has extreme views or policy  
20                      in place, maybe they are very worried about  
21                      capital flight. For example, maybe they are  
22                      putting extreme controls over their citizens and  
23                      populations. You know, maybe as a result of  
24                      those things and other kinds of conflicts, you  
25                      know, maybe their fiat currency is facing

1 extreme devaluation and problems and so they are  
2 looking to obtain a different kind of asset to  
3 protect their wealth. Hypothetically that is a  
4 potential use case, I guess.

5 Q And building on that we've heard virtual  
6 currencies' role as both a currency as well as  
7 an investment. Could you elaborate on the price  
8 volatility of coins like bitcoin and the way in  
9 which virtual assets are used as an investment  
10 rather than a currency?

11 A Yeah, I mean there is a substantial volatility  
12 that is still associated with many of the  
13 virtual assets that exist. You know, some of  
14 their value initially was derived from the  
15 technology behind them and is still derived from  
16 the technology and the potential use cases that  
17 can be applied with those technologies, like  
18 Ethereum and what is known as the ERC-20. But  
19 as an investment what we've seen is by and large  
20 in relation to growth and valuation that has  
21 been pegged to virtual assets being used for  
22 investment purposes versus being used for actual  
23 procurement and purchasing and, you know, kind  
24 of the traditional uses of fiat currency in many  
25 forms or fashion. As a result of that there

1                   have been over a number of years relatively  
2                   extreme swings in relation to the pricing that  
3                   is associated with different virtual assets.

4           Q       Are you able to comment on whether one or the  
5                   other is more predominant in terms of using  
6                   virtual currencies, is it more frequently used  
7                   as an asset or is it more frequently used as a  
8                   currency for procurement? Is that something  
9                   that you can comment on?

10          A       I think based on our market research I think I  
11                   would be comfortable saying it's more frequently  
12                   used as an asset.

13          Q       Can you speak to challenges in converting a  
14                   large amount of bitcoin into fiat currency or  
15                   another virtual currency?

16          A       Yes, so it is not as easy as some might think in  
17                   relation to their ability to conduct such a  
18                   conversion. Number one, to conduct conversion  
19                   from fiat into virtual assets or virtual assets  
20                   into fiat you're probably going to need to use  
21                   an exchange that provides those kinds of  
22                   services and the exchange is going to have to  
23                   have access to banking to do so. So there is  
24                   that potential issue. When it comes to large  
25                   volumes because of the potential impact in the

1 movement of large volumes on cryptocurrency in  
2 relation to the liquidity in the market and  
3 pricing, right, there are usually limits that  
4 are set in relation to how much cryptocurrency  
5 could be converted at any given time or  
6 transferred at any given time. So there are  
7 those I would say potential issues in relation  
8 to something at scale.

9 Q And in terms of tracing what are the advantages  
10 of coins that operate on a blockchain compared  
11 to fiat currency?

12 A So one of the things that attracted me most to  
13 the virtual asset space when it comes to  
14 anti-money laundering is the transparency and  
15 the visibility, the traceability and the  
16 providence that it provides is really  
17 unprecedented. I liken it to the following  
18 analogy. If you were to take a dollar into a  
19 convenience store and to purchase something,  
20 it's going to be very extremely difficult for  
21 you to follow every cent associated with that  
22 dollar from inception to wherever it goes;  
23 right? But in relation to the transaction  
24 history as it pertains to virtual assets into  
25 the blockchain, you can follow every single



1 piece consistently, and because of that  
2 providence and permanence, you know, it can't  
3 be -- you know, fraud can't occur in relation to  
4 it. The blockchain is secure in that sense.

5 Q Yesterday we heard Sergeant Vickery of the RCMP  
6 describe the on-ramp and off-ramp of virtual  
7 assets in reference to the point of conversion  
8 from fiat to virtual asset in exchanges or  
9 virtual currency kiosks. Do you agree with her  
10 characterization of these being on-ramps and  
11 off-ramps?

12 A I think it a good characterization. I think  
13 when it comes to the way in which you would  
14 investigate this and the ecosystem, you can  
15 think of the on-ramps and off-ramps being these  
16 exchanges how somebody can enter and exit the  
17 cryptocurrency ecosystem as the choke points.  
18 So where they provide those kind of conversion  
19 services, think of them as the choke points  
20 because those kinds of entities that provide it  
21 should be regulated, should have substantial  
22 robust know your customer programs in place for  
23 individuals to be able to access them. And so  
24 from an investigative perspective the reason I  
25 call it the choke point is because if you follow

1                   the flow of funds using something like  
2                   Chainalysis and you're able to follow the  
3                   illicit money to an exchange, what law  
4                   enforcement should then be able to do is to  
5                   issue a subpoena to identify the KYC behind that  
6                   user and to bring about successful prosecution.

7                   Q     And why do you say that this is the choke point  
8                   and what role does regulation have at that choke  
9                   point in your view?

10                  A     Regulation is essential because if there is not  
11                  regulation in place on those choke points on  
12                  those exchanges, the on-ramps and off-ramps,  
13                  then it potentially means that they do not have  
14                  effective compliance programs in place because  
15                  they are not required to have them; right? It  
16                  means potentially they are not conducting KYC on  
17                  their users, they do not have transaction  
18                  monitoring, policies or procedures, training  
19                  et cetera; right? It means that if the bad  
20                  actors attempt to utilize them they probably  
21                  will be able to do so successfully. And  
22                  following the money when it comes to  
23                  cryptocurrency we are able to follow it within  
24                  the ecosystem. If a person then converts into  
25                  fiat currency, for lack of a better terminology

1                   they are then in the wind. We don't have those.  
2                   Law enforcement may in fact be able to then  
3                   follow it from there, but for us that is not  
4                   something that we do.

5                   Q     And from the work that Chainalysis does, are you  
6                   able to speak to the role specifically of kiosks  
7                   in this conversion point and what the risks  
8                   might be there?

9                   A     Yes. So when speaking about kiosks, which are  
10                  also known as ATMs, they are not all equal, and  
11                  when I say that what I mean is some do have  
12                  robust compliance around requiring KYC and  
13                  specific documentation to access them whereas  
14                  others do not. Bad actors would obviously seek  
15                  out that do not have those kinds of  
16                  requirements, for example.

17                  And one of the things that is associated  
18                  with these kiosks traditionally is higher fees  
19                  than the fees that are associated with more  
20                  prominent exchanges, for example, those that are  
21                  probably regulated. So in relation to the use  
22                  cases for somebody -- there are some I would say  
23                  potentially use cases where somebody may just  
24                  want immediate need, immediate access to  
25                  cryptocurrency where they would be willing to

1                   pay that significantly higher fee, but it also  
2                   is potentially indicative of bad actors who are  
3                   paying the fee and in exchange not having to  
4                   provide that PII and identify themselves which  
5                   could potentially lead to successful prosecution  
6                   and law enforcement action.

7           Q       And PII, what does that refer to?

8           A       Personally identifying information. So usually  
9                   in association with your access to the global  
10                  financial system, to a financial institution, to  
11                  a cryptocurrency exchange, you are going to have  
12                  to confirm that you are who you say you are.  
13                  That be it with your passport or your national  
14                  ID or your driver's licence, usually multiple  
15                  forms of identification, and usually you have to  
16                  provide that.

17          Q       Similar to the know your client or know your  
18                  customer obligations data collected?

19          A       Correct.

20          Q       In terms of other risks some have said that  
21                  cross border virtual asset transactions might  
22                  pose a risk. Do you have any views on the risks  
23                  of any cross border virtual asset transactions?

24          A       I mean, I think that the digital payment  
25                  ecosystem, you know, is just radically different

1 to what you've seen in traditional financial  
2 service. Again, when we talk about frictionless  
3 payments and accessibility it is just very  
4 different technology, and with that technology  
5 that are substantial benefits. More financial  
6 inclusion, again accessibility. The list can go  
7 on and on in relation to the benefits. There  
8 are always these potential inherent risks that  
9 could exist as well in relation to risks around  
10 cross border payments. So, you know, it is  
11 something to be considered. But I don't think  
12 it benefits the technology, the growth or the  
13 potential use case to attempt to really silo  
14 that kind of activity. I think it's important  
15 to have universal umbrella fairly cohesive  
16 regulation, in turn which will provide more  
17 financial integrity to the space and eliminate  
18 some of those concerns.

19 Q Your work with Chainalysis, the PII or the KYC  
20 that is currently being collected by exchanges  
21 or by kiosks or other actors, the substance of  
22 that data, is it sufficient?

23 A So we don't touch KYC. What I can say is, you  
24 know, so our visibility would be limited to some  
25 extent. We are familiar with what the practices

1                   are employed by some of the exchanges. We are  
2                   just familiar with what their requirements are  
3                   in relation to KYC or are not. They certainly  
4                   are not universal. In some jurisdictions they  
5                   are far more stringent. In other jurisdictions  
6                   they are far more lax. When it comes to  
7                   regulation I would say that that is probably the  
8                   most important component that I see to  
9                   effectively regulating and mitigating illicit  
10                  activity in the space, and in general as it  
11                  pertains to digital payment, you know, I think  
12                  that that particular component of verifying that  
13                  individuals are who they say they are and  
14                  obtaining that information is extremely  
15                  important.

16                Q    So you mentioned a discrepancy between  
17                    regulation in different jurisdictions. Could  
18                    you roughly describe the trajectory of  
19                    regulation of virtual asset service providers  
20                    from 2013 to date?

21                A    Yes. So in 2013 FinCEN was one of the first to  
22                    regulate the virtual asset space and they  
23                    applied the Bank Secrecy Act to virtual asset  
24                    service providers by defining them as money  
25                    service businesses. The Bank Secrecy Act is the

1 AML CFT laws within the US that pertain to  
2 operation for a number of different kinds of  
3 financial institutions, including financial  
4 institutions and money service businesses. We  
5 saw bits and pieces globally from some other  
6 regulators. A lot of it was just in relation to  
7 guidance or some potential advisories that came  
8 out, and then since 2019 we've seen a rather  
9 rapid flurry of activity. That was driven by  
10 and large by the Financial Action Task Force  
11 when they released their virtual asset  
12 recommendations. The Financial Action Task  
13 Force, also known as FATF, is an [indiscernible]  
14 body that has a mandate of building out capacity  
15 for AML CFT within the regulatory environment  
16 globally. And they do so by releasing  
17 recommendations and after releasing  
18 recommendations they conduct mutual evaluations  
19 where they evaluate the countries that fall  
20 under this umbrella that are over 200 in total.  
21 You have 39 core members of the Financial Action  
22 Task Force and then you have what is known as  
23 FSRBs, FATF style regional bodies. In total you  
24 have over 200 jurisdictions that fall under that  
25 umbrella. And so the mutual evaluations measure

1                   how well and how effective the jurisdiction has  
2                   aligned or implemented those recommendations  
3                   that have come out. There are no regulatory  
4                   requirements connected to the Financial Action  
5                   Task Force, but the results of a poor mutual  
6                   evaluation are substantial on a jurisdiction.  
7                   It potentially impacts their access to the  
8                   global financial system, their credit rating,  
9                   their ability to obtain lending. There's  
10                  substantial impact if they receive a poor mutual  
11                  evaluation and that aligns with them potentially  
12                  being blacklisted what is known as blacklisted by  
13                  FATF, which is a very small list, or being  
14                  greylisted, which is a slightly larger list in  
15                  relation to the jurisdictions that fall under.

16                   So FATF released those virtual asset  
17                   recommendations in June of 2019 and since then  
18                   as kind of a benchmark you've seen jurisdictions  
19                   begin to align with those recommendations, begin  
20                   to introduce regulation around the virtual asset  
21                   space. It hasn't been a domino effect, I would  
22                   say, but it is something where we've seen some  
23                   progress occur between 2019 to 2020. There was  
24                   a year review of the progress as a result of the  
25                   recommendations being released that happened





1 A I was not the author, no.

2 MS. ROSE: Okay. Mr. Commissioner, I'd ask that we  
3 have this marked as the next exhibit.

4 THE COMMISSIONER: All right. I think we are at 259,  
5 Madam Registrar.

6 THE REGISTRAR: Yes, exhibit 259.

7 **EXHIBIT 259: FATF Report - Virtual Assets Red**  
8 **Flag Indicators - September 2020**

9 THE COMMISSIONER: Thank you.

10 MS. ROSE: Thank you.

11 Q In your view -- sorry, Madam Registrar, we don't  
12 need to have the document on the screen any  
13 longer. Thank you.

14 Mr. Spiro, in your view are these indicators  
15 useful?

16 A Yes. I would say these indicators are extremely  
17 useful. They were extremely prescriptive, well  
18 thought out. I think they will be extremely and  
19 are extremely useful for both regulators, for  
20 law enforcement and for the private sector as  
21 well.

22 Q And we can take it back on the screen if you  
23 like, but there's a comment at page 6 about  
24 suggesting that the virtual asset exchanges  
25 determine if an address has been identified as

1 holding stolen funds or linked to that address.

2 Are you familiar with that requirement?

3 A Yes.

4 MS. ROSE: Sorry, I'm just receiving a message from

5 one of our witnesses. I wonder,

6 Mr. Commissioner, could we take a five-minute

7 break or three-minute break even?

8 THE COMMISSIONER: We'll take five minutes, thank

9 you.

10 THE REGISTRAR: This hearing is stood down for

11 five minutes until 11:14 a.m. Please mute your

12 mic and turn off your video. Thank you.

13 **(WITNESSES STOOD DOWN)**

14 **(PROCEEDINGS ADJOURNED AT 11:09 A.M.)**

15 **(PROCEEDINGS RECONVENED AT 11:15 A.M.)**

16 THE REGISTRAR: This hearing is now resumed.

17 Mr. Commissioner.

18 **JESSE SPIRO, a witness**

19 **for the commission,**

20 **recalled.**

21 MS. ROSE: My apologies for that impromptu break,

22 Mr. Commissioner. We are dealing with some

23 technical issues. I'll resume my examination of

24 Mr. Spiro now.

25

1                   **EXAMINATION BY MS. ROSE (continuing):**

2                   Q     We had just been speaking about the FATF  
3                             indicators, I believe, and I wanted to ask you,  
4                             Mr. Spiro, from your experience in working with  
5                             Chainalysis and tracing virtual asset  
6                             transactions what in your view do virtual asset  
7                             service providers and law enforcement need to  
8                             know about identifying suspicious transactions  
9                             beyond what is stated in the FATF virtual assets  
10                            document?

11                  A     Well, I think in relation to the document it  
12                            defines potential indicators. Sometimes you  
13                            will have some of those potential indicators  
14                            used in conjunction; right? And potentially  
15                            those indicators themselves are not indicative  
16                            of illicit activity, like the use of VPN by  
17                            itself. I think that also in relation to some  
18                            of the kinds of potential activity that you  
19                            would see in relation to different kinds of  
20                            transaction patterns, for example, while it's  
21                            referenced it may not have been explicitly  
22                            defined there in some instances. There are  
23                            other kinds of illicit activity that have not  
24                            been flagged here, things like extraction  
25                            attacks which are extremely technical that are

1                   indicative of illicit activity as well. But  
2                   again, I think it was a very measured approach.  
3                   I think there are a lot of good indicators  
4                   there. I think they elicited a lot of feedback  
5                   in relation to the production from many  
6                   different jurisdictions and I think by and large  
7                   it's an extremely valuable resource.

8                   Q    Given your work in certain intergovernmental  
9                   groups I take it that you are familiar with the  
10                  some of the regulation of virtual asset service  
11                  providers in Canada?

12                A    That is correct.

13                Q    And could you comment on what you see as being  
14                  the major gaps, if any, in the Canadian and the  
15                  British Columbia regulation of virtual assets?

16                A    I think as a whole, to be fair and transparent  
17                  I'm not as familiar with British Columbian  
18                  regulations itself. In relation to Canadian  
19                  regulation and PCMLTFA, I believe it is, any  
20                  implementation -- application, I should say, to  
21                  virtual assets, I think that that is  
22                  encouraging. I think the fact that it aligns  
23                  closely with the Financial Action Task Force  
24                  recommendations is also encouraging in relation  
25                  to recordkeeping, in relation to the kind of

1 core compliance essentials, you know, having a  
2 compliance officer, policies and procedures,  
3 training, et cetera. You know, suspicious  
4 transaction reporting, all of that kind of  
5 activity. So I think that that is a valuable  
6 step in the right direction. I will say that  
7 one of the potential issues, and this isn't  
8 specific just to Canada but many jurisdictions  
9 around the globe, is while they are implementing  
10 this regulation, defining supervision and having  
11 the resources applied to supervision to  
12 examination are all things that I think are  
13 developing and potentially in flux, and that is  
14 potentially the case in Canada as well. You  
15 know, I think by and large sans a couple of  
16 jurisdictions around the world, this is still a  
17 developing place, and I think that that critical  
18 component in relation to the actual supervision,  
19 having that in place so there is a formal  
20 oversight not just the requirements that are  
21 applied, not just registration and having the  
22 program in place but actually utilizing it  
23 effectively, and I'm talking about the private  
24 sector right now, requires that oversight from  
25 the public sector to do so.

1           Q     And first I must commend your mastery of the  
2                    acronym of the Canadian legislation, the  
3                    PCMLTFA. You are referring to the Proceeds of  
4                    Crime (Money Laundering) and Terrorist Financing  
5                    Act I believe?

6           A     Correct.

7           Q     And do you have any views, you know, from your  
8                    experience do you have any views on how the  
9                    amendment in the PCMLTFA could be improved in  
10                  future?

11          A     You know, I hark to generally one of the things  
12                  that I like to fixate on, and again, I'm talking  
13                  more been global regulation but it could be  
14                  applied here, is what we have seen is the  
15                  extreme inherent value to what can be done in  
16                  relation to transaction monitoring. So applying  
17                  more requirements and specific focus around how  
18                  that should be conducted and should be done I  
19                  think is important because it is unique in the  
20                  virtual asset space as it pertains to what you  
21                  can see, what you can arrest, you know, the  
22                  velocity in which you can do that. In virtual  
23                  assets it can be a proactive response and in  
24                  traditional financial services it is usually  
25                  reactive. What I mean by is that an illicit

1 activity will occur successfully; it will be  
2 identified after the fact; a red flag, a  
3 typology will be identified and they try to  
4 arrest it again in the future potentially. But  
5 here because you have this capability because  
6 you can monitor in realtime and screen  
7 transactions in realtime and identify associated  
8 risk, I think putting more requirements around  
9 that specifically would be extremely beneficial.

10 Q You mentioned earlier in your testimony that  
11 there are discrepancies in regulation by  
12 different jurisdictions around the world. Why  
13 does that matter in your view?

14 A So if you have discrepancies, and you always  
15 have slight nuanced discrepancies, so that's  
16 important to note, because based on local laws  
17 and different potential requirements that they  
18 have it's unlikely that you will have directly  
19 aligned regulation AML CFT regulations, so there  
20 might be slightly nuanced differences. But  
21 those for do that apply it at all, have not  
22 applied it at all, what you then develop  
23 potentially are instances of regulatory  
24 arbitrage, right, because if regulation does not  
25 exist in a jurisdiction it means that the



1                   entities operating in that jurisdiction are not  
2                   subject to it. It means that they can have more  
3                   lax compliance or non-existent compliance and  
4                   what that potentially means is that all of the  
5                   illicit activity will seek out and go to those  
6                   places where they can function and execute their  
7                   transactions successfully.

8                   Q    Are you -- and by "you" I mean you and  
9                   Chainalysis -- are you seeing the impact of  
10                  this? Are you seeing this happen?

11                  A    What I would say is there been a relative  
12                  constant in relation to where we've seen a lot  
13                  of the illicit activity going, but those  
14                  jurisdictions where we have seen that happening  
15                  do have more lax regulation, low to no  
16                  enforcement, so it does align in that sense and  
17                  that has been relatively constant for a long  
18                  time. If you go back and look at more legacy  
19                  information I think you have seen the shift, I  
20                  certainly think you saw a lot more illicit  
21                  activity going through the US than you do in the  
22                  last number of years as FinCEN, for example, has  
23                  really ramped up their programs. But a lot of  
24                  it is still going through certain regions.

25                  Q    And could I ask you to be a little specific on

1                   what you are seeing that leads you to the  
2                   conclusion. Is it that more transactions that  
3                   have connections to darknet, you know, are  
4                   originating or ending in a particular  
5                   jurisdiction that is known to have lax  
6                   regulation, or can you just describe for me what  
7                   exactly you are seeing in that regard?

8                   A    We are actually seeing the majority of all  
9                   illicit activity, be it connected to ransomware,  
10                  to scams, to fraud, to darknet markets. We are  
11                  seeing the majority of it going to a specific  
12                  region, and a lot of that is going through two  
13                  very large exchanges themselves that are subject  
14                  to where they directly exist less regulation and  
15                  regulatory oversight.

16                  Q    And are you able to provide the names of those  
17                  exchanges?

18                  A    I believe it's referenced in the cryptocrime  
19                  report, so I would be more comfortable referring  
20                  to that document.

21                  Q    Sure. Just excuse me for a moment while I just  
22                  find the reference.

23                  MS. ROSE: Madam Registrar, if we could pull up  
24                  appendix A which I believe is exhibit 257. If  
25                  we could have that on the screen. And, Madam

1 Registrar, if wouldn't mind turning to page 9 of  
2 that PDF document. Thank you.

3 Q So, Mr. Spiro, does this document assist you in  
4 providing the answer to my question?

5 A Yes. I believe the this document says that over  
6 50 percent went to two exchanges in relation to  
7 illicit bitcoin between 2016 and 2019, which  
8 were Binance and Huobi.

9 Q And that statement is listed underneath this  
10 colourful graph; is that right?

11 A Yes, that's correct.

12 Q And what would you suggest or what would you see  
13 as being necessary on the basis of the work that  
14 Chainalysis is doing for improvements in future  
15 regulation in terms of where the market is  
16 headed? Do you have any recommendations in that  
17 regard?

18 A You know, I think regulation is meant to be  
19 flexible. I think one of the concerns that I  
20 think I share with many others is this is a  
21 technology that is advancing so rapidly that the  
22 question can be posed will it keep up. Will  
23 regulation be able to keep up with the  
24 technology as it advances. So I think a  
25 vigilance in relation to monitoring different

1                   kinds of activity is certainly something that is  
2                   important, and from a regulatory perspective I  
3                   think that means providing regular guidance and  
4                   advisories and updates as different kinds of  
5                   activity are identified and potential regulatory  
6                   change if required.

7                   MS. ROSE: Madam Registrar, could we turn to page 81  
8                   of this document.

9                   Q    Mr. Spiro, would you -- are there any regulatory  
10                  changes that you see might be appropriate in the  
11                  future in response to these four developments on  
12                  where the virtual asset market is going?

13                 A    I mean, I do see potential changes as it  
14                  pertains to privacy coins and that is something  
15                  that was cited by FATF. I think that as with  
16                  any other instance as it pertains to anonymity  
17                  and privacy, I think that if law enforcement and  
18                  governments and regulators can't follow illicit  
19                  activity successfully then those kinds of  
20                  entities or services or whatever it might be  
21                  cannot continue to exist because the potential  
22                  impact that they have on financial integrity, on  
23                  things like global terrorism and child  
24                  exploitation and all kinds of illicit activity,  
25                  because at the end of the day there's such an

1                   interconnectivity with money; right? And so you  
2                   know, for those kinds of privacy coins that  
3                   provide full anonymity and are more difficult to  
4                   follow, track and trace, there will be  
5                   potentially I think be more regulation that we  
6                   see adapted by jurisdictions which will point to  
7                   the fact that if exchanges, if those that are  
8                   regulated cannot control, cannot identify and  
9                   cannot follow the flow of funds associated with  
10                  those kinds of coins, that they then in turn  
11                  probably will not be able to support them on  
12                  their platforms and be regulatory compliant.

13                  Q     So I'd like to turn now to the topic of OTC  
14                  brokers. Perhaps, Madam Registrar, could you  
15                  turn to page 13 of this report. And I'll ask  
16                  you a couple of general questions, Mr. Spiro,  
17                  before turning to the specifics of the report.  
18                  Could you describe for us the function of an OTC  
19                  broker.

20                  A     Yes. So OTC brokers play a very significant and  
21                  important part in the cryptocurrency ecosystem.  
22                  You know, essentially they support liquidity and  
23                  stability and they provide an avenue for  
24                  individuals that are looking to buy and sell  
25                  large amounts of cryptocurrency. They also

1 provide an additional layer of privacy in  
2 relation to those transactions, which those  
3 investors that are, you know, eliciting large  
4 volumes they may desire. So they are an  
5 important part of the ecosystem and essentially  
6 for a fixed price they allow individuals, the  
7 broker, supports individuals buying and selling  
8 large amounts of cryptocurrencies. Some of  
9 these OTCs are what is known as nested. It's a  
10 similar concept to nested banking wherein they  
11 provide the service and then the broker  
12 themselves has access and an account at a larger  
13 entity like an exchange.

14 Q If a user on a particular exchange were to  
15 attempt to move a large volume of let's say  
16 bitcoin without using an OTC broker what would  
17 happen?

18 A So usually as I mentioned before they are going  
19 to be transaction limits; right? Potentially  
20 that is problematic for them because say there  
21 is a transaction limit they can only move a  
22 certain amount. Based on what we mentioned  
23 previously about the volatility and pricing they  
24 may not be able to move that amount with that  
25 fixed price that they had associated or wanted

1                   to use. Also that kind of movement, you know,  
2                   OTC transactions are seen as kind of off market.  
3                   That kind of movement directly from an exchange  
4                   because of the transparency, the blockchain  
5                   potentially has an impact on the market also,  
6                   right, because if people see this kind of  
7                   massive movement of funds it potentially  
8                   triggers based on the volatility, you know,  
9                   rapid change in pricing and, you know, the  
10                  associated --

11                 Q    Right. Would it be fair to make an analogy to  
12                   something on the stockmarket, for example if  
13                   someone were to purchase a very large amount of  
14                   a particular stock that that might impact the  
15                   overall price of the shares that were  
16                   transferred later on?

17                 A    Yes. I think that's fair.

18                 Q    And you mentioned there is an increased privacy  
19                   associated with OTC brokers. Can you describe  
20                   how that is the case and what role of collecting  
21                   KYC information OTC brokers have?

22                 A    Yes. So on a base level because it's offmarket,  
23                   right, potentially there is more privacy because  
24                   it's not connected to directly to individuals on  
25                   the exchanges in relation to that transaction.

1                   But in relation to KYC I think KYC collection  
2                   and compliance generally that's exercised by OTC  
3                   brokers varies very widely. You have some that  
4                   are extremely compliant that have good  
5                   compliance programs, like Circle, like  
6                   Cumberland Mining, for example. Those are two  
7                   good examples. But you are others that utilize  
8                   and execute very low levels of compliance and  
9                   may not require any KYC in relation to executing  
10                  transactions.

11                 Q     So in referring to this report here we are at  
12                   page 13 of exhibit 257, which is the  
13                   Chainalysis -- sorry. No, still at 13. Sorry,  
14                   Madam Registrar. So this is the Chainalysis  
15                   cryptocrime report and we are at page 13. This  
16                   page describes what Chainalysis is referring to  
17                   as a set of OTC brokers as the Rogue 100. Are  
18                   you familiar this characterization, Mr. Spiro?

19                 A     I am.

20                 Q     Can you explain at a high level how Chainalysis  
21                   would determine that an OTC broker is likely  
22                   involved in money laundering?

23                 A     So we follow the money, right, so it's fairly  
24                   easy, basically by the flow of funds. If we see  
25                   substantial illicit financial proceeds going



1 through certain kinds of accounts and based on  
2 the kinds of transaction history that we are  
3 able to see, we are able to reasonably ascertain  
4 the fact that these individuals are actively  
5 egregiously, you know, participating in  
6 supporting money laundering by way of engaging  
7 directly with those that are involved in illicit  
8 activity.

9 Q I got a lit bit ahead of myself. Can you just  
10 tell us what is the rogue 100?

11 A It is 100 OTC brokers that we've identified that  
12 have engaged in substantial volumes of with  
13 illicit cryptocurrency and illicit proceeds and  
14 have processed transactions and trades with bad  
15 actors and wallets that are associated with  
16 large volumes of illicit proceeds.

17 Q From your experience with Chainalysis are you  
18 able to speak to what features of OTC brokers,  
19 and particularly these Rogue 100, might be  
20 attractive to a potential money launderer?

21 A There are a few. I mean, when you say -- when  
22 you say attractive to a money launderer do you  
23 mean for bad actors to seek out specific kinds  
24 of OTCs or what features in an OTC might be  
25 attractive to a money launderer generally?

1           Q     Perhaps I'll ask a couple of other questions as  
2                    sort of background.  Is it your understanding  
3                    from this report and perhaps other sources that  
4                    OTC brokers are disproportionately favoured by  
5                    potential bad actors including money launderers?

6           A     Yes, I'd say that's accurate.

7           Q     And can you comment on why that's the case?

8           A     I think that these OTCs in particular are --  
9                    have either solicited business in a way that  
10                   encourages their acceptance of illicit activity  
11                   or they have been identified because of  
12                   particular features or attributes that would  
13                   make them attractive, meaning that they do not  
14                   conduct KYC, they do have compliance.  They are  
15                   nested within many instances exchanges that also  
16                   have very low compliance threshold or did have  
17                   at the time of publish here low thresholds and  
18                   compliance procedures.  I should add that as a  
19                   caveat this was from 2019, so there is the  
20                   potential that some of these things have been  
21                   improved by these entities and others.  But if  
22                   they don't have those kinds of requirements and  
23                   if they provide access to fiat by way of the  
24                   nesting service, and if the exchanges that they  
25                   are using, right, are not conducting customer



1 instances so they would be able to potentially  
2 validate if they were using the service like  
3 ours. They also might be able to validate it if  
4 they were doing appropriate customer due  
5 diligence. The thing about these OTCs is  
6 usually we are talking about significant  
7 volumes, you know, so based on customer due  
8 diligence, source of wealth checks, they should  
9 be able to identify what business these  
10 individuals are in. So there's a number of  
11 different potential ways where they would be  
12 able to have visibility.

13 Q And are there any particular measures that you  
14 are aware of that could be used to improve  
15 visibility of these OTC brokers?

16 A I mean, I honestly think that we have fairly  
17 good visibility into, as I mentioned, you know,  
18 the on-chain activity, the kinds of activity  
19 that is occurring, the illicit financial flows  
20 that are associated with some. I think the  
21 visibility does exist, so I don't think it  
22 necessarily needs to be improved. I do think  
23 the onus in part falls on additionally the  
24 exchanges that are connected to these OTC  
25 brokers. Because if the exchanges are compliant

1                   and are trying to do compliance successfully  
2                   they will say to the OTCs if the OTCs try and  
3                   bring them a significant volume of crypto that  
4                   is tainted cryptocurrency that they will bar  
5                   them from their platform, for example. That  
6                   would be a motivator for the OTCs to act  
7                   accordingly.

8                   Q     So is it necessary in your view for a regulator  
9                   to require KYC directly from the OTC, or is it  
10                  sufficient as you've described that the exchange  
11                  which already has in many jurisdictions KYC  
12                  requirements simply sort of pass on those  
13                  requirements to clients on its service,  
14                  including OTC brokers?

15                 A     I mean, this would be my personal opinion. I'm  
16                  not speaking on behalf of Chainalysis when I say  
17                  I think KYC requirements on the OTCs is probably  
18                  a good idea. Just because, you know, when you  
19                  are talking about third party, fourth party,  
20                  fifth party risk that potentially becomes  
21                  difficult to track and to follow successfully  
22                  and putting those kinds of requirements on an  
23                  exchange seems onerous.

24                 MS. ROSE: Okay. Madam Registrar, could I turn to  
25                  page 7 of this document, please.

1           Q     So, Mr. Spiro, at number 2 of page 7 here there  
2                   is a statement by Chainalysis that money  
3                   laundering is the key to cryptocrime.  Could you  
4                   elaborate on that.

5           A     I think when it comes to -- what we are  
6                   essentially saying is that when illicit activity  
7                   occurs anywhere, if the bad actors are trying to  
8                   move it through the cryptocurrency ecosystem,  
9                   money laundering is the component because we  
10                  talked about the choke points, right, so what  
11                  they are trying to do is to successfully  
12                  obfuscate the flow of funds, the ownership so  
13                  that they can either enter or exit.  And so it's  
14                  central to the illicit activity that we see in  
15                  the cryptocurrency space.

16          Q     And I understand that through the work that  
17                  Chainalysis does evaluating trends and such,  
18                  would you be able to comment on what you are  
19                  seeing as common typologies of illegal activity  
20                  and money laundering happening on exchanges or  
21                  otherwise in the virtual asset space?

22          A     I mean, I think we have referenced a number of  
23                  those common typologies that we just talked  
24                  about.  I will say that I think an interesting  
25                  distinction and change that we've seen this year

1                   from last year is if you look at the 2020  
2                   cryptocrime report that we provided a lot of the  
3                   illicit activity in 2019 was associated with  
4                   scams and fraud, particularly two major scams  
5                   which were Plus Token and OneCoin, whereas this  
6                   year what we're seeing is a 600 percent increase  
7                   in relation to payments associated with  
8                   ransomware. So just a marked huge change in  
9                   relation to that kind of associated activity,  
10                  which I think tracks with probably a lot of what  
11                  you've seen in the press and heard in relation  
12                  to ransomware and how it's impacted the globe in  
13                  the last year. That certainly, I think, could  
14                  be defined as a trend. We've talked about some  
15                  of the specific laundering typologies already  
16                  and I think many of the prominent ones, but that  
17                  is a trend that we've seen this year that I  
18                  think is important to note.

19                Q    And one of those techniques for money laundering  
20                    that you described is using a mixer or a  
21                    tumbler; is that right?

22                A    That is correct.

23                Q    And in your view that continues to be a  
24                    predominant typology of money laundering in  
25                    connection with virtual assets?

1           A     We do still see mixers and tumblers used, yes.

2           MS. ROSE: Madam Registrar, could we turn to page 21  
3                   of this report. Just scroll down a little bit.

4           Q     Mr. Spiro, can you describe this picture on the  
5                   screen here?

6           A     Yes. So essentially what you have is you  
7                   have -- when we talked about tumbler at a high  
8                   level view it was my explanation where these  
9                   coins were mixed up and you returned a different  
10                  output, and this is what it actually looks like  
11                  in practice where there are algorithms that are  
12                  used, a myriad of transactions are conducted.  
13                  These mixing algorithms continue to mix up this  
14                  cryptocurrency and then there's consolidation  
15                  that occurs.

16          Q     I'll attempt to do some analysis of this and I  
17                  am hoping you can tell me whether I've correctly  
18                  assessed it, but my understanding is that a  
19                  normal transaction you would have point A and  
20                  point B, point A being at the top left-hand  
21                  corner of this image and point B being at the  
22                  bottom right-hand corner of this image. And  
23                  normally you would see a pretty straight line  
24                  from A to B?

25          A     Correct.



1           Q     Is that right?  Yeah.  And in this pattern you  
2                    are seeing a number of nodes that are sort of  
3                    interrupting the chains.  You're also seeing  
4                    that the transaction has been split into a  
5                    number of different lines here that then flow  
6                    through these different nodes, but nonetheless  
7                    eventually the funds do arrive at what's  
8                    referred to as the consolidation point at the  
9                    bottom right-hand corner of the screen; is that  
10                  right?

11           A     That's correct.

12           Q     And this is a service that is provided by  
13                    software that's called a mixer or a tumbler?

14           A     That is correct.

15           Q     And so it makes it more difficult to trace the  
16                    transaction with a model like this than if it  
17                    was a straight line from A to B; is that right?

18           A     That is correct.

19           MS. ROSE:  Okay.  And, Madam Registrar, could we  
20                    please turn to page 22.  And, Madam Registrar,  
21                    could we zoom in on the image here.  And maybe  
22                    scroll up just a little.  There.  That's great.  
23                    Thank you very much.  Maybe we could scroll up a  
24                    little bit, Madam Registrar.  There.

25           Q     So, Mr. Spiro, could you tell me what we are

1                   seeing in this image?

2           A       Yes.  So let's see here.  When we're talking  
3                   about -- I believe what we're talking about here  
4                   is peel changes, and I had mentioned peel chains  
5                   before which is where you have a number of  
6                   wallets that are utilized by the same individual  
7                   or individuals; right?  They are processing a  
8                   number of different kinds of transactions.  
9                   Eventually you will have some consolidation  
10                  point or points in relation to this graph and  
11                  you have to forgive me because this is not a  
12                  graph that I'm particularly familiar with, but  
13                  essentially this is a laundering typology which  
14                  is connected to a number of kinds of potential  
15                  resources that would be used by bad actors.  So  
16                  you have peel chains, the use of an OTC, you  
17                  have mixing service that is used as well and  
18                  then additional consolidation.  So I would  
19                  define this as a more complex laundering  
20                  typology that is actually employing different  
21                  methods.

22           MS. ROSE:  Thank you.  Madam Registrar, I think that  
23                   is all I need for this document.  Thank you.

24           Q       And one OF the other typologies you mentioned,  
25                   Mr. Spiro, is chain hopping.  I know you've

1                   spoken approximate it a bit before, but could  
2                   you just explain briefly what the process of  
3                   chain hopping is.

4           A       Yes. The process of chain hopping is fairly  
5                   easy to explain, which is that an individual  
6                   will take a certain kind of cryptocurrency and  
7                   will convert it to another kind of  
8                   cryptocurrency and then process a number of  
9                   transactions in each accordingly, potentially  
10                  using a number of different kinds of  
11                  cryptocurrencies. Sometimes they will be doing  
12                  this utilizing cryptocurrencies like altcoins,  
13                  which are those coins that have far less  
14                  liquidity in the market, smaller values. So  
15                  they do this because, and my colleague had  
16                  alluded to this previously, it is harder to  
17                  follow the funds in that way. Potentially  
18                  visually even, you cannot graph them together.  
19                  So it is a technique that is used by bad actors  
20                  sometimes, chain hopping, to try and obfuscate  
21                  the flow of funds.

22           Q       Are you familiar with the recent FinCEN penalty  
23                   issued to Larry Dean Harmon, who I understand  
24                   was running Helix and Coin Ninja?

25           A       I am.

1           Q     Could you describe what services Helix and Coin  
2                    Ninja were providing?

3           A     Yes, they were providing mixing and tumbling  
4                    services. They were soliciting customers off  
5                    the darknet. They were providing exactly the  
6                    kinds of services that we just described.

7           Q     And are you familiar with FinCEN's process  
8                    against those companies?

9           A     Yes. There was actually parallel process. I  
10                   believe there was criminal charges that came  
11                   from FinCEN as well. But FinCEN had put out the  
12                   penalty because based on the nature of activity  
13                   that was associated with these mixers and  
14                   tumblers that Larry Harmon operated, it was  
15                   defined as a money service business and was  
16                   therefore subject to the Bank Secrecy Act and he  
17                   was in violation, egregious violation, of Bank  
18                   Secrecy Act on multiple levels. He was not  
19                   conducting recordkeeping. In fact he was  
20                   specifically and maliciously deleting any  
21                   information associated with users. He was not  
22                   filing suspicious transaction reports, which  
23                   probably would have encompassed almost every  
24                   transaction, if not every transaction, that he  
25                   processed, and there was a mountain of other

1                   particulars that were in violation. So he faced  
2                   this civil penalty.

3           Q       And these details of the process that you are  
4                   describing are public record and publicly  
5                   available?

6           A       Yes.

7           Q       Can you speak to -- are there any -- do you see  
8                   any legitimate uses for tumblers or mixing  
9                   services?

10          A       I mean, any time that we're talking about  
11                   obfuscation or privacy, again I would just refer  
12                   to the specific example that I provided before  
13                   where there are a handful of potential use cases  
14                   I could say with legitimacy, but I think it's a  
15                   relatively small scope, to be honest.

16          Q       So my understanding is, and I'm happy to take  
17                   you to a document if you would like, but my  
18                   understanding is that there is a rather large  
19                   volume of transactions conducted on Helix and  
20                   Coin Ninja. Do you know the particulars of the  
21                   volume of transactions or the dollar value of  
22                   same?

23          A       It was thousands of transactions. I believe it  
24                   was over \$300 million, I think, estimated in  
25                   relation to those transaction volumes. So it

1                   was substantial.

2           Q     And my next question was going to be is this a  
3                   large volume in the context of virtual asset  
4                   transactions generally?

5           A     It is a significant volume that I'd say.  It's a  
6                   significant volume in relation to illicit  
7                   activity, yeah.  I'd be comfortable saying that.

8           Q     And I also understand that you're familiar with  
9                   the recent US Department of Justice seizure of  
10                  virtual assets in connection with Silk Road?

11          A     That is correct.

12          Q     Do you think you could describe for us what that  
13                  incident involved?

14          A     Yes.  So Silk Road was the original darknet  
15                  market that existed for procurement of illicit  
16                  narcotics and a host of other kinds of services  
17                  that they provided and products that they  
18                  provided.  The operator Ross Ulbricht, also  
19                  known as the "Dread Pirate Roberts," was  
20                  arrested in 2013, the site was shut down, but  
21                  active and ongoing investigations continued in  
22                  relation to those that were providing services  
23                  on the site and the associated illicit financial  
24                  flows.  Chainalysis was used by federal  
25                  investigators to identify 54 previously unknown

1 transactions that had been associated with Silk  
2 Road. One of those transactions by way of an  
3 additional transaction was connected to a  
4 hacker. And recently the US Department of  
5 Justice seized I believe at this point  
6 significantly over 1 billion, probably closer to  
7 upwards of \$1.5 billion of cryptocurrency in a  
8 single wallet, and they did that by utilizing  
9 Chainalysis, as I mentioned, to identify  
10 additional transactions and connected activity.

11 Q When was the Silk Road operating, roughly?

12 A It operated for a number of years. You'll have  
13 to forgive me. I don't know exactly how long it  
14 was in operation. I know it was shut down in  
15 2013. It was not particularly old. It was  
16 operational for a few years. I know that.

17 Q And so can you explain to me, the funds that  
18 were seized by the DOJ they were connected to  
19 one wallet, you said?

20 A They were connected to one wallet; that is  
21 correct.

22 Q And you're able to trace that wallet to activity  
23 on the Silk Road?

24 A Yes.

25 Q Is it accurate to say that those funds were

1 sitting in the wallet since 2013?

2 A Almost all of the funds. There were a small  
3 number of the funds were exited by way of an  
4 additional exchange that has since been shut  
5 down known as BTCE, which was a primary vehicle  
6 for many years for bad actors looking to move  
7 funds.

8 Q Is it -- sorry, please continue.

9 A I was going to say the majority of it, yes.

10 Q Is it common for virtual assets users to park,  
11 if I can use that word, their funds in a wallet  
12 for that amount of time?

13 A In some instances. It really depends on the  
14 particulars, but if it is a very well known what  
15 we would consider to be a hot case or activity  
16 that's associated with it, because bad actors  
17 potentially know that, you know, law enforcement  
18 investigators and others will be following the  
19 money and attempting to follow the money, it  
20 might sit dormant for a few days or a few  
21 months, even potentially a number of years. It  
22 varies in relation to the activity. But it does  
23 occur, yes.

24 Q And can you explain the role of FinCEN and other  
25 regulation in enabling the seizure of these



1 funds?

2 A Well, I think this was more driven by law  
3 enforcement, and I would like to address that  
4 directly in a moment. I think generally what I  
5 will say is with regulation and the way in which  
6 regulation has continued to develop in relation  
7 to AML/CFT requirements in relation to the  
8 capabilities of both the private and public  
9 sector, as that has continued to develop and as  
10 the technologies that support investigations and  
11 compliance have continued to develop, it lends  
12 itself to more success stories and successful  
13 investigations. But I would say tying it into  
14 law enforcement, which is important, you know,  
15 this year there are a number of prominent cases  
16 where Chainalysis has been used and cited  
17 publicly in relation to successful be it  
18 prosecutions or seizure or civil forfeiture  
19 orders. You know, you had this case which was  
20 over a billion dollars. There was the Welcome  
21 to Video case executed by IRS Criminal  
22 Investigation and a number of other agencies  
23 that led to arrests in I believe over  
24 30 countries. There were a number of children  
25 that were saved. It was the largest what's know

1 as CSAM material, child abuse material, that was  
2 shut down in history which was coordinated with  
3 many countries. There were specific parallel  
4 actions by the department of justice in OFAC in  
5 relation to North Korean hacking and hacking  
6 that they had done in relation to cryptocurrency  
7 exchanges. The volumes are getting close to, I  
8 would say, about between 1.3 and \$1.5 billion in  
9 2020. And one of the things that I'm regularly  
10 asked is why are we seeing all of this now. It  
11 is not because there is a more illicit activity  
12 in the cryptocurrency space. We are in fact  
13 seeing less illicit activity in the  
14 cryptocurrency space as compliance has been  
15 ushered in and regulation, et cetera. But the  
16 capabilities of law enforcement and  
17 investigators have improved substantially.  
18 Based on my estimates, which are skewed in the  
19 sense that I only know the information that I do  
20 in relation to the number of users that we have,  
21 I would say we have about 34 times as many  
22 investigators in the US that are utilizing  
23 Chainalysis than they are in Canada, for  
24 example. So I think resources and accessibility  
25 have been the primary driver coupled with

1 expertise that has certainly been developed and  
2 the great investigators in law enforcement that  
3 you have in the US that has driven a lot of  
4 those successes, but I expect that that can be  
5 duplicated in any place when those resources are  
6 applied.

7 Q Would you say that the increased regulation and  
8 in turn increased availability of KYC  
9 information that allows law enforcement and  
10 others to connect a wallet to a particular  
11 individual, would you say that that has played a  
12 role in this increase?

13 A I would say yes. I would say yes. I mean, in  
14 an ideal world the way in which successful  
15 investigation occurs is by following the money  
16 and investigating wallets in the transaction  
17 history. And I don't know if I referenced this  
18 before, so please apologies if I have. But they  
19 would follow it to an exchange and then by way  
20 of [indiscernible] or MLAT, if they had to  
21 execute that in relation to engagement with a  
22 foreign country, if we're talking about the US,  
23 for example, depending upon the relationship  
24 that they have they would then be able to obtain  
25 the associated KYC and PII of those bad actors.

1                   That is how it should look like and how it  
2                   should work in practice successfully.

3           Q       In Canada there's also been a number of  
4                   notorious samples of exchanges, including  
5                   probably the biggest story here is QuadrigaCX.  
6                   What can you tell us about that without getting  
7                   into any areas of current law enforcement action  
8                   and what insight does Chainalysis have on what  
9                   happened there?

10          A       I know there are still a number of active  
11                   investigations in many different countries in  
12                   relation to Quadriga. So the amount of  
13                   information that I can provide you is fairly  
14                   limited, unfortunately. But what I can tell you  
15                   is that the operator of Quadriga, Gerald Cotten,  
16                   you know, essentially stole the users' funds.  
17                   Not essentially, he did. He stole the users'  
18                   funds. What we can tell you is in relation to  
19                   the associated activity based on some of the  
20                   illicit activity he was already involved in, he  
21                   could not gain access to banking. He became  
22                   engaged with some OTC brokers that were less  
23                   than savory and there has been a lot of  
24                   associated activity that has been followed all  
25                   over the world.

1           Q     In using the Reactor software, particularly in  
2                   the context in which law a enforcement agent  
3                   might be using the Reactor software, does the  
4                   software have insight into transactions that are  
5                   operating only inside the exchange, so back and  
6                   forth between clients within the exchange?

7           A     What we would call activity in transit.  You'll  
8                   have to forgive me.  I don't want to give an  
9                   inaccurate answer here.  My instinct is to  
10                  supply and answer, but I would prefer to refer  
11                  bang to you once I'm able to get a confirmation  
12                  on how that works.

13          Q     That's fine.  We certainly wouldn't want you to  
14                  speculate on an answer that you don't have the  
15                  knowledge on at this moment.

16          MS. ROSE:  So subject to any questions from you,  
17                  Mr. Commissioner, those are my questions for  
18                  Mr. Spiro.

19          THE COMMISSIONER:  Thank you, Ms. Rose.  No, I don't  
20                  have any questions.

21          MS. ROSE:  Okay.  My understanding is that the  
22                  Province of BC will be the next counsel asking  
23                  questions of Mr. Spiro and their allotment of  
24                  time is 20 minutes.

25          THE COMMISSIONER:  Yes.  Ms. Chewka.

1 MS. CHEWKA: Yes, thank you, Mr. Commissioner.

2 **EXAMINATION BY MS. CHEWKA:**

3 Q Morning Mr. Spiro. Can you hear me okay?

4 A I can.

5 Q Excellent. Thank you. I'm going to pick up  
6 where my friend Ms. Rose left off and focus all  
7 my questions on the regulatory framework and so  
8 my first question is whether or not it's fair to  
9 say that virtual assets is a complex area that's  
10 moving or evolving fairly quickly.

11 A I think that that is an appropriate assessment.

12 Q In particular would you say that the risks  
13 associated with virtual assets are also  
14 constantly changing?

15 A To a degree. To a degree I think that's a fair  
16 assessment. I think that the technology, as I  
17 mentioned, is evolving quickly and we are seeing  
18 new use cases and instances where there may be  
19 additional risks. There are a lot of parallels,  
20 though, in relation to illicit finance and  
21 illicit activity that we see in this space that  
22 you would see in traditional financial services  
23 as well, so I think there are a number of  
24 constants that will be maintained.

25 Q And in your experience have the law enforcement

1 agencies that you've dealt with kept pace with  
2 those changes?

3 A In my experience what we've seen is that  
4 globally law enforcement agencies by and large  
5 were kind of behind the curve in relation to  
6 this. I think it has been a catchup game. I  
7 think some of them have been evolving quickly  
8 and adapting and kind of building out their  
9 capabilities and I think others are still  
10 developing those capabilities.

11 Q For those that have been evolving quickly, I  
12 understand that you had mentioned in your  
13 evidence resourcing and training. Is that sort  
14 of the key to success for law enforcement  
15 evolution in this area?

16 A I think so. I mean, I can just speak again to  
17 the capability of blockchain forensics and the  
18 success stories that we've seen this year. You  
19 know, part of that, I mean it's a combination of  
20 things. There has been robust training, right,  
21 of those agencies, you know, rapid expansion in  
22 relation to those users and those that become  
23 what we like to call power users. And so  
24 they're coupling the expertise that they're  
25 learning about the activity with the products

1                   and with the training and then they're just  
2                   seeing, you know, almost unprecedented results,  
3                   I would say. So yes.

4           Q        I understand from your evidence and as you just  
5                   explained it now that these law enforcement  
6                   agencies are using your software as an  
7                   investigative tool. Is that a fair assessment  
8                   of how they're using it primarily?

9           A        Yes.

10          Q        And so am I correct in saying that law  
11                   enforcement agencies are using your services  
12                   primarily after the alleged criminal activity  
13                   has occurred?

14          A        For law enforcement explicitly I would think  
15                   that's probably accurate. However, they can  
16                   identify other potential leads and intelligence,  
17                   right, in relation to other activity which we do  
18                   see regularly as well. So they may be working  
19                   on specific activity, a specific case. They may  
20                   identify a number of associated wallets, for  
21                   example, and individuals, a larger network, more  
22                   activity which leads to more success.

23          Q        So while it's primarily a reactive tool it can  
24                   have preventative uses as well?

25          A        I think it certainly has preventative uses. I



1 mean, we've seen that many times as well.

2 Q Now, in your evidence you also talked about the  
3 FINTRAC reporting requirements under the  
4 PCMLTFA, and is it is fair to say that those  
5 reporting requirements are occurring again after  
6 suspicious transactions have occurred?

7 A No, some of those reporting requirements are not  
8 connected at all to suspicious transactions.  
9 They're connected to transaction thresholds, in  
10 fact. Some of that aligns directly with the  
11 travel rule, for example, that we have seen come  
12 from the Financial Action Task Force and any of  
13 that kind of information would support potential  
14 investigations, right, because it provides  
15 additional information and ease of accessibility  
16 to law enforcement and investigators and  
17 regulators, but it is not all connected to --  
18 directly to, in relation to recordkeeping,  
19 directly to suspicious activity.

20 Q Would you say that those reporting requirements  
21 are again more reactive in nature if we're  
22 trying to draw this distinction between  
23 preventative and reactive, or would you say also  
24 has a preventative result?

25 A I think it is a preventative intended result. I

1 think when it comes to recordkeeping and those  
2 kinds of requirements, there does always need to  
3 be a balance between what the impact is on  
4 business function and, you know, harkening back  
5 to something you hear regularly which is the  
6 cost of compliance. So what the impact is on  
7 those entities in the private sector to be  
8 compliant with these things versus what  
9 potential information it provides and the,  
10 again, financial integrity it potentially  
11 provides. So I do think that it needs to be  
12 taken into account. You know, regulation is a  
13 tricky thing because if it becomes too  
14 draconian, which I'm not saying what this is at  
15 all, but if it does become that way in relation  
16 to competition, those that fall under that remit  
17 will have potential problems, right, being  
18 competitive in those in other jurisdictions  
19 even.

20 Q In your evidence again today you have emphasized  
21 the importance of realtime monitoring as part of  
22 the strategy to addressing illicit activity. Is  
23 that a fair assessment of your evidence today?

24 A Yes.

25 Q And based on your experience what additional

1 steps could be taken beyond the KYC requirements  
2 that you had mentioned to prevent or mitigate  
3 some the risks that are associated with virtual  
4 assets?

5 A So obviously enhancing implementation of  
6 regulation would be one thing; right?  
7 Developing those compliance essentials, having  
8 those programs in place. Having policies and  
9 procedures, having red flags and typologies,  
10 integrating that type of information into your  
11 organization so you can identify that.  
12 Identifying those kind of risks, doing your  
13 internal risk assessment. The next step that  
14 hasn't really been discussed which I think is an  
15 important one, and we've only seen that this  
16 really applied in very few jurisdictions thus  
17 far, but it's an extremely important, is all  
18 these regulatory requirements are now being  
19 relayed and identified. So for exchanges that  
20 have not been subject to regulation before or  
21 have no requirements, they are putting the  
22 program in place, right, so they will have the  
23 compliance officer, the compliance program, you  
24 know, all those things that I've mentioned a few  
25 times today.

1                   Implementation is one thing, but what's  
2                   known as enterprise risk management is seen as  
3                   the next iteration, right, which is where you  
4                   conduct these audits and these audits are  
5                   required to identify how successfully the  
6                   program functions. To identify gaps, to  
7                   identify potential vulnerabilities, different  
8                   kinds of testing conducted, seeing how effective  
9                   your program is. And that ongoing long term is  
10                  going to be extremely important and beneficial  
11                  because the carrot, for lack of a better term,  
12                  in many jurisdictions right now is if an  
13                  organization puts a program in place, they can  
14                  then get registered successfully and potentially  
15                  licensed to operate; right? But you want this  
16                  in perpetuity to be successful. You want to  
17                  make sure this is continued and that the upkeep  
18                  occurs, so I think that is the next step that's  
19                  important as well.

20                  Q    You had mentioned that with this enterprise risk  
21                      management that there are a couple of  
22                      jurisdictions. Are those the ones that are  
23                      implementing this next step, and if so, which  
24                      jurisdictions are doing that?

25                  A    So there are some that are more advanced, I

1 would say, just in relation to not only to  
2 releasing the regulation but highlighting things  
3 like enterprise risk management. The monetary  
4 authority of Singapore comes to mind. In  
5 relation to what I'd say are some of the most  
6 advance regulatory regimes I think FinCEN for me  
7 is probably the best example. FinCEN put out an  
8 extremely prescriptive guidance around virtual  
9 assets in 2019. They have put out multiple  
10 advisories specifically in relation to virtual  
11 assets. They have a program called FinCEN  
12 Exchange wherein they bring the public sector  
13 and the private sector directly together to  
14 address specific issues and they've done that  
15 for virtual assets. They recently did this for  
16 ransomware as well, business email compromise I  
17 believe also. These programs are extremely  
18 important for information sharing in a closed  
19 session and developing new tools. And then they  
20 have as a regulator a specific unit that focuses  
21 on virtual asset enforcement, and that to my  
22 knowledge is fairly unprecedented also, wherein  
23 within the FIU they have that specific group  
24 that specifically focuses on that kind of  
25 activity.

1           Q     Now, you mentioned FinCEN. Are there other  
2                   jurisdictions that we should be looking to for  
3                   cross-jurisdictional learning purposes in your  
4                   experience?

5           A     I think there's a number. I think the monetary  
6                   authority of Singapore is a good one. I think  
7                   Japan is a good one. I think the UKFCA has  
8                   built out a good regime in relation to their  
9                   requirements. I mentioned the US. I think the  
10                  program itself that's been developed by ADGM,  
11                  Abu Dhabi Global Markets, is robust as well.  
12                  Those would be off the top of my head.

13          Q     Is it there anything that these jurisdictions  
14                   are doing in particular that you would say  
15                   beyond what you've already given evidence on  
16                   that are like the hallmarks of a robust  
17                   regulatory regime in this area?

18          A     I think that they have been -- they took a  
19                   proactive approach initially, so I think the  
20                   regimes that they've built out are just, you  
21                   know, extremely strategic. They've put a lot of  
22                   time and effort into not only identifying the  
23                   risks but the particulars that will be important  
24                   to successful functionality in the country;  
25                   right? While still in many cases trying to

1 support invasion. So you know, I will add some  
2 of them are not functional technically yet.  
3 They have just built out these regimes that I  
4 think are very good as a benchmark.

5 Q I'll ask a specific question based on the  
6 testimony of Sergeant Vickery yesterday.  
7 Yesterday she testified that in her view one  
8 solution or maybe a part of a solution would be  
9 to have financial institutions deal directly in  
10 virtual assets or with virtual assets and  
11 eliminate third party public exchanges. So I'm  
12 going to ask a two-part question here. The  
13 first part is in your view whether or not  
14 Sergeant Vickery's proposed solution is viable  
15 or in your opinion whether there is still a role  
16 here for a unique independent regulator of third  
17 party public exchanges?

18 A Well, right now there is not a unique  
19 independent regulator for these kinds of  
20 businesses; right? Usually they roll into the  
21 same regulatory regime that you have for other  
22 kinds of financial services. I think generally  
23 that makes sense. I do think that is a  
24 potential option. That you could have, right,  
25 if you had the resources in a country to have

1                   specific regulation that is applied just  
2                   specifically to this space, you could do that.  
3                   I think our end goal and our motto is building  
4                   trust in blockchains. When I say that what I  
5                   mean is we are a unique intermediary if you  
6                   think about us between the public and the  
7                   private sector and you have data that is used  
8                   collectively to build trust in this ecosystem.  
9                   For larger adoption to occur outside of what  
10                  we've seen thus far, right, even though there  
11                  are promising developments eventually what you  
12                  would like is institutional adoption, in the  
13                  sense that there would be the accessibility  
14                  between fiat, between using banking, between  
15                  using cryptocurrency, and that fusion would  
16                  eventually occur I think for this really to take  
17                  off and develop in the way that it has the  
18                  potential to do so. I don't think necessarily  
19                  one entity needs to swallow another. I don't  
20                  think traditional banking needs to swallow up  
21                  the cryptocurrency space or the organizations.  
22                  They have subject matter expertise and they have  
23                  brought very unique thinking and technical  
24                  advancements that I don't think could be  
25                  replicated or duplicated easily by a big bank.



1           So I think cohesively working together is  
2           probably ideally what happens. But for the  
3           financial institutions, for the large financial  
4           institutions, you are seeing them to start to  
5           dip their toes in. But for them to become more  
6           comfortable, really more comfortable with the  
7           space, it comes from successful regulation and  
8           identifying the fact that it is a safe ecosystem  
9           I think we are seeing progress there, but I  
10          think it has to get there for you to see more of  
11          that kind of development.

12                 I will add one other thing, or please  
13          proceed, actually. This is not -- what I would  
14          add in relation to investigations, however, is  
15          conceptually the idea of a national centre  
16          that -- and I mean this for many different  
17          jurisdictions where they potentially have the  
18          resources to do it this is I think potentially  
19          valuable, because again with the cryptocurrency  
20          ecosystem existing in the way in which it does  
21          and again the speed, the velocity and the nature  
22          of it, I think having centralized resources, law  
23          enforcement capabilities to work and tackle on  
24          this project is potentially attractive. I'm not  
25          saying necessary but I think potentially

1 attractive.

2 Q Are there are any potential disadvantages to  
3 regulating this area? And so I'm thinking, for  
4 example, of the stifling of invasion. You've  
5 also mentioned things like you can become too  
6 draconian. Can you elaborate on the potential  
7 disadvantages or at what point we go too far  
8 potentially in your view.

9 A Yeah, I think that invasion has driven so many  
10 amazing things right in relation to digital  
11 payments and Fintech, what's known as Fintech  
12 recently, right, and will continue to do that  
13 and in fact it's moving more quickly than I  
14 would have expected, which is amazing. But two  
15 things are happening. One, those innovators and  
16 those that are developing this technology  
17 sometimes are not soliciting the feedback and  
18 having the kind of engagement that they should  
19 with the regulators and then they're running  
20 into major regulatory hurdles, right, because,  
21 again, if something becomes dangerous even if  
22 it's brilliant and unique there have to be some  
23 controls. There has to be protection, consumer  
24 protection, safety, these kinds of thing. So  
25 that is on the one hand. But on the other hand

1           if you bring in regulation too stringently, the  
2           innovators, the biggest innovators when they  
3           realize that they cannot develop those  
4           technologies and exist in the jurisdiction they  
5           are in, they will leave. They will go to places  
6           where they can, where they can develop and they  
7           can deploy the technology effectively. That is  
8           something that will happen. It certainly is a  
9           concern, it's a concern that I've heard from  
10          domestic operators in the US before and I've  
11          heard it from other jurisdictions as well, so  
12          it's something to take into account. It  
13          requires a balance.

14          Q     And my last question for you today is that I  
15          understand from your evidence that bad actors in  
16          this area can be quite savvy or adaptable. And  
17          in your view will regulation prevent potential  
18          illicit activity or will it simply shift that  
19          activity elsewhere and how do we stay ahead of  
20          that curve?

21          A     So think of it as bad actors are always looking  
22          at a fence, probing the fence for  
23          vulnerabilities or holes to exploit. You have  
24          that in the traditional financial services  
25          ecosystem. You have that in this ecosystem as

1 well. So that will exist. I think there would  
2 not be the capability -- people have mentioned  
3 before well, if you do this or you do that  
4 you'll just push this complete black market or  
5 grey market into existence. And there is  
6 potential for something like that to develop, to  
7 be fair. You could have that. But what I hark  
8 back to the fact that without the accessibility  
9 and the liquidity that is connected to this  
10 global ecosystem to those that have access to  
11 banking and otherwise, there's not going to be  
12 the kind of value associated with doing it or  
13 access wherein it would be feasible long term  
14 and sustainable, I think is the better word that  
15 I'm looking for. It could happen. There are  
16 certain particulars wherein you could see a push  
17 to those kinds of markets. I don't know how  
18 large they could potentially grow. It is  
19 something that could happen, but that's my  
20 personal opinion.

21 MS. CHEWKA: Thank you. Thank you, Mr. Commissioner,  
22 I have no further questions.

23 THE COMMISSIONER: Thank you, Ms. Chewka. I'm sorry.  
24 Go ahead, Ms. Rose.

25 MS. ROSE: Mr. Commissioner, I believe our next

1 cross-examination will be conducted by  
2 Ms. Jessica Magonet of the BCCLA and Ms. Magonet  
3 has 25 minutes.

4 THE COMMISSIONER: Yes. Thank you, Ms. Magonet.

5 MS. MAGONET: Good morning, Mr. Commissioner. Thank  
6 you. Everyone.

7 **EXAMINATION BY MS. MAGONET:**

8 Q Mr. Spiro, I have a few questions for you today.  
9 Can you hear me?

10 A I can.

11 Q Excellent. My first questions concerns the  
12 cryptocrime report produced by Chainalysis.

13 MS. MAGONET: If Madam Registrar could please pull  
14 that up. That would be great. Actually not  
15 this document but the cryptocrime report.  
16 Though I will want to go to that document after.  
17 Thank you. If you could please go to page 5.

18 Q So at the top of page 5 it says:

19 If the last few years have proven  
20 anything, it's that cryptocurrency isn't  
21 just for criminals. Polling shows that  
22 adoption is increasing, as 18 percent of  
23 all Americans and 35 percent of American  
24 millennials have purchased cryptocurrency  
25 in the last year. Mainstream financial

1 institutions like JP Morgan Chase are  
2 getting involved. Popular retailers like  
3 Amazon and Starbucks now allow customers  
4 to pay in Bitcoin."

5 You would agree with this statement?

6 A I am just going to read it again.

7 Q Oh, no problem.

8 A Yes, I think we're seeing more adoption. In  
9 fact if you would reference the price of bitcoin  
10 today and all of the press we're seeing I think  
11 it tracks with that statement, yes.

12 Q Thank you.

13 MS. MAGONET: And, Madam Registrar, if you could  
14 scroll down a bit yes.

15 Q So further down on the page just below the graph  
16 it says:

17 "Illicit transactions still make up a  
18 small share of all cryptocurrency activity  
19 as just 1.1 percent."

20 And you would agree with this statement?

21 A This was as of 2019?

22 Q Yes.

23 A I think potentially slightly lower even this  
24 year, although you can't quote me on that, but,  
25 yes, I agree with this, yes.

1           Q     And earlier today in your testimony I just  
2                    wanted to confirm you said the amount of illicit  
3                    activity in the cryptocurrency space is actually  
4                    going down; is that correct?

5           A     Yes.

6           Q     Thank you.

7           MS. MAGONET: Madam Registrar, if you could go to  
8                    page 6 of this report.

9           Q     And I just want to find the sentence I'm looking  
10                   for. So just below the graph here it says:

11                    "Were it not for just three separate  
12                    large-scale Ponzi schemes, the crime would  
13                    account for just .46 percent of all  
14                    cryptocurrency activity."

15                    Understanding this is based on a 2019 report you  
16                    would agree with this statement?

17          A     Yes. From 2019, yes.

18          Q     Great. And you would agree that this report  
19                    demonstrates that the majority of cryptocurrency  
20                    gained through criminal activity just goes to a  
21                    small segment of criminals?

22          A     Yes. That's accurate, I would say.

23          Q     Great. Thank you. Those are my questions with  
24                    respect to this report. I now have some  
25                    questions related to Chainalysis's work with law

1 enforcement. As a first question can you tell  
2 me which police agencies that Chainalysis has  
3 contracts with in Canada?

4 A I'm not sure based on confidentiality that we  
5 have if I can do that. Not only is that what I  
6 would say, but full disclosure that kind of  
7 falls outside of my remit in relation to the  
8 work that I do directly. So apologies.

9 Q No, that's fine. I certainly wouldn't want to  
10 ask you to give evidence outside of the scope of  
11 your knowledge. Are you able to tell me whether  
12 Chainalysis has contracts with any law  
13 enforcement agencies in Canada and in particular  
14 in British Columbia?

15 A I believe I can say that we do have contracts  
16 with law enforcement in Canada, yes. I can't  
17 tell you where explicitly, but I believe we do  
18 have them in Canada, yes.

19 Q And do you know if Chainalysis has contracts  
20 with other government agencies or national  
21 security agencies in Canada?

22 A Again, to my knowledge I don't know the scope in  
23 relation to the number of agencies. I know that  
24 we work with law enforcement in Canada. It is  
25 certainly possible that we work with additional



1                   government agencies in Canada. Probably likely  
2                   I would say as well, in fact.

3           Q       Thank you. Is the Chainalysis Reactor software  
4                   a software that can be purchased by companies as  
5                   well as law enforcement?

6           A       Yes.

7           Q       Can it be purchased by individuals?

8           A       No.

9           Q       Okay. And what limits if any does Chainalysis  
10                  place on a customer, whether it be law  
11                  enforcement or a company, who purchases the  
12                  Chainalysis Reactor software in terms of what  
13                  they can do with the data available through that  
14                  software? Are there any limits placed on that?

15          A       I don't know if I understand the question. Are  
16                  you saying do we put controls around what our  
17                  users can do with the data?

18          Q       Exactly. That's my question.

19          A       I would assume it varies depending upon the kind  
20                  of entity that we work with. In some cases I  
21                  would assume correctly that there will be  
22                  controls in relation to what can be done with  
23                  the data.

24          Q       Do you think in some cases there would be no  
25                  controls?

1           A     I cannot speak one way or the other to if there  
2                   were or were not controls in relation to our  
3                   customers. Again, unfortunately, you know, I  
4                   handle regulatory affairs and policy for our  
5                   organization. I am familiar with our products  
6                   and services. I'm familiar loosely in relation  
7                   to scope with the kinds of entities that we work  
8                   with, but in relation to the specific mechanics,  
9                   functionality, those kinds of things in relation  
10                  to contracting, which is a lot of what I think  
11                  you're discussing and mentioning, I do not have  
12                  visibility into that kind of information.

13          Q     No problem. Thank you. So when Chainalysis  
14                  works with law enforcement is the way it usually  
15                  works that law enforcement is purchasing the  
16                  Chainalysis Reactor software?

17          A     With law enforcement in many cases they would  
18                  purchase our software, yes.

19          Q     And they might also obtain contracts-based  
20                  investigative services from Chainalysis as well.  
21                  Could that happen?

22          A     It could.

23          Q     Thank you. Madam Registrar, if you could please  
24                  pull up the PDF document of the Chainalysis  
25                  website for the Chainalysis Reactor page.

1                   Mr. Spiro, do you recognize this. This is a  
2                   print to PDF of the Chainalysis Reactor tab on  
3                   the Chainalysis Reactor website.

4           A     It does look like Reactor, yes.

5           Q     Okay. Excellent.

6           MS. MAGONET: Madam Registrar, if you could please  
7                   scroll down a bit to the bottom of that page.

8           Q     Here it says that Chainalysis Reactor allows you  
9                   to:

10                         "Enter any cryptocurrency address to learn  
11                         which entity controls the wallet and  
12                         discover related addresses."

13                         Would you agree that this is what Chainalysis  
14                         Reactor allows you to do?

15          A     It allows to you identify entities, yes. Not  
16                   individuals but you can identify entities, yes.

17          Q     And what is meant by entities? Is that a  
18                   company? Is that a group of people?

19          A     It would not be a group of people. It would be  
20                   you can identify what we would consider to be  
21                   entities on the blockchain. It could be a  
22                   company. It could be a kind of service. It  
23                   could be a darknet market. It could be  
24                   something that is unknown, right, where we have  
25                   not been able to make an attribution or define;

1                   we just know there is a number of connectivity  
2                   there, there's a number of different kinds of  
3                   services in this space. It could be other kinds  
4                   of services that exist in this space like  
5                   gambling site, et cetera. So there's a number  
6                   of different kind of entities that could be  
7                   identified.

8                   Q     So the Reactor allows you to say which entity is  
9                   controlling a cryptocurrency wallet; that's  
10                  correct? Sorry it go over this again. I just  
11                  want to make sure I understand.

12                 A     Yes.

13                 Q     Okay. Great. Does the Chainalysis Reactor  
14                  software allow users to determine the location  
15                  of this entity?

16                 A     If we have information on the entity in relation  
17                  to where it's domiciled, I wouldn't hark to  
18                  Reactor; I would hark to Kryptos wherein we have  
19                  some of that registration and other kinds of  
20                  information. But I --

21                 Q     Could -- sorry, please go ahead.

22                 A     I would warn, because it sounds like we're  
23                  getting into territory where you are starting to  
24                  ask questions about functionality of our  
25                  products. And so what I would say is one,

1 harking to the effect there are confidentiality  
2 agreements and proprietary information that I  
3 potentially couldn't share, but more to the  
4 point further and what I would call most  
5 concerning for why I don't think I could  
6 answer certain types of questions if we're going  
7 in that direction is because this is public  
8 testimony and because this is public testimony  
9 there is a potential that anyone could watch  
10 this, including bad actors and money launderers  
11 and potentially identify information that would  
12 contribute to their efforts. In fact I can cite  
13 specific cases where this has happened recently  
14 and then published. So I think that would be  
15 the antithesis of what we're doing this hearing  
16 for and why I have chosen to participate and  
17 provide testimony today. So if we are going in  
18 that direction I would have to say that I  
19 respectfully not be able to speak about those  
20 kinds of capabilities, if we did or didn't have  
21 them.

22 Q I certainly understand that and I wouldn't want  
23 to you to have to answer any questions that you  
24 don't feel positioned to answer. But just so  
25 you understand the thrust of my questions I'm

1                   just trying to get a sense of not the specifics  
2                   of the types of information that are available  
3                   through the Chainalysis Reactor but at a more  
4                   higher level scale. So maybe what I could do,  
5                   then, is to return to something I believe you  
6                   said earlier to Ms. Rose or perhaps it was  
7                   Mr. Place who said this but that Chainalysis is  
8                   providing analysis of the blockchain which is  
9                   publicly available data; is that correct?

10            A     Yes.

11            Q     But Chainalysis isn't just providing -- or the  
12                   Reactor isn't just providing analysis of the  
13                   blockchain, it's also integrating other data  
14                   sources. Is that accurate?

15            A     Yes. We use human intelligence, heuristics a  
16                   number of different kinds of information to  
17                   provide the data that we provide. That is  
18                   correct.

19            Q     And on this document here it says it alludes to  
20                   the fact that the Chainalysis Reactor uses open  
21                   source intelligence data. That's correct?

22            A     There is some open source intelligence data that  
23                   is included. It is not referenced in relation  
24                   to all of the wallets, all of the attributions;  
25                   there is just some that is contributed and

1 contained in relation to specific transactions.

2 Q And just to speak at a high level, not the  
3 specific data that Chainalysis is using but for  
4 the benefit of any people here who may not know  
5 what open source intelligence data is, that  
6 could include things like your social media  
7 page, your media report, commercial data from a  
8 private database, data purchased from data  
9 brokers. Is that accurate?

10 A No, any of the information that would be  
11 included and again I'm going to curb this after  
12 I provide the following because, again, I don't  
13 want to provide any proprietary information in  
14 relation to what we use or who we work with.  
15 Any of the information that we are using to my  
16 knowledge is actual open source information.  
17 And when you talk about proprietary database and  
18 other kinds of information, I don't believe that  
19 would be considered to be open source. I could  
20 be wrong. We do solicit information from a  
21 number of different resources that we use. We  
22 also have a number of partners that we work with  
23 to solicit the different kinds of information.

24 Q Okay. Thank you. Would you agree that open  
25 source intelligence data, while open source so

1 publicly available, may still be considered  
2 private by an individual. So for example, a  
3 post to a social media page, even if that could  
4 fall within the scope of OSINT, a person  
5 publishing it might consider it to be private?

6 A Yeah, I mean data privacy and data protection  
7 are something that we are intimately familiar  
8 with. You know, it is something that I  
9 understand. I will add that there is a historic  
10 conflict that it seems you're starting to work  
11 around which is there is a conflict with data  
12 privacy and data protection and potentially with  
13 the anti-money laundering and CFT laws. This is  
14 historic. You see it in Europe with GDPR in the  
15 AML laws there. You see in it other places  
16 potentially as well. It certainly is  
17 potentially something that exists. That is not  
18 something -- that is not something that I think  
19 is potentially relevant in relation to the kind  
20 of work that we do, but again, because I can't  
21 focus in on any of the specific kinds of  
22 information that we solicit I unfortunately  
23 don't think I can provide you any additional  
24 information on that.

25 Q Thank you. Are you able, and it's okay if



1                   you're not, but are you able to tell me if  
2                   Chainalysis ever purchases data from data  
3                   brokers?

4           A       Off the top of my head I am not sure. I do not  
5                   know. I believe it is possible, but off the top  
6                   of my head I'm not sure. But entirely possible,  
7                   probable.

8           Q       Thank you. And is the Chainalysis Reactor able  
9                   to link a cryptocurrency wallet to a specific IP  
10                  address? Is that something you're able to tell  
11                  me?

12          A       That again, what you're talking about are  
13                  specific functions and features and I cannot  
14                  talk to you about any of those things today,  
15                  unfortunately, so my apologies.

16          Q       Thank you. Does Chainalysis ever disclose  
17                  personal information by selling its products to  
18                  the entities that purchase it?

19          A       Sorry, could you ask the question again.

20          Q       Certainly. So does Chainalysis through the sale  
21                  of its products ever disclose personal  
22                  information to the entities who are purchasing  
23                  them or information you might consider to be  
24                  sensitive?

25          A       Do we disclose PII or sensitive information to

1                   our clients?

2                   Q     Sorry, perhaps I'll rephrase my question.  When  
3                   a client purchases Chainalysis software such as  
4                   the Chainalysis Reactor is Chainalysis  
5                   effectively giving them access to personal  
6                   information?

7                   A     No.  This is pseudo-anonymous addresses that are  
8                   all public on the blockchain.

9                   Q     Okay.  Sorry, I didn't mean to cut you off.

10                  A     Yeah, all of this information in relation to the  
11                  blockchain in these wallets, A, they are  
12                  pseudo-anonymous so you cannot identify who the  
13                  owner is.  We don't ever touch any of that kind  
14                  of information.

15                  Q     Thank you.  Does Chainalysis have any  
16                  requirement that it applies before it will allow  
17                  law enforcement -- sorry, let me think about how  
18                  to reformulate this question.  Does Chainalysis  
19                  ever require law enforcement to seek a  
20                  production order prior to providing data to law  
21                  enforcement?

22                  A     I mean law enforcement would have to be a client  
23                  of ours to be using our services.  There are  
24                  instances where trials are provided to any kind  
25                  of client that we have, right, before purchasing

1 a service potentially.

2 Q But do you ever require law enforcement to seek  
3 a production order or a warrant before  
4 disclosing information to them?

5 A If -- are we talking about if they are our  
6 client or if they are not a client of ours?

7 Q If they are your client.

8 A What kind of data would they -- you're saying --  
9 I don't know if I understand the question. I  
10 have to apologize. In relation to the usage of  
11 our services?

12 Q Certainly. My apologies if it wasn't clear. So  
13 perhaps this context, usually when law  
14 enforcement is seeking a person's personal  
15 financial data from a bank, for example, they  
16 can't just walk in and get that. Like, they  
17 would need a production order first given the  
18 sensitivity and privacy of the type of  
19 information. And I was wondering if there is a  
20 similar process when working with Chainalysis or  
21 if you take the position that this is all  
22 publicly available data so that's not necessary?

23 A Yes. It's not necessary in relation to their  
24 use of our data. I think if they were to  
25 solicit data from exchanges, that would exist.



1                   predict -- well, perhaps not predict but detect  
2                   activity that perhaps law enforcement didn't  
3                   have a pre-existing interest in or awareness of?  
4           A        I think it's law enforcement's duty to have an  
5                   interest in illicit activity, but they would  
6                   only be following the flow of funds in relation  
7                   to illicit activity. They wouldn't be looking  
8                   for -- you know, in relation to the scenarios  
9                   that I'm familiar with, they would not be just  
10                  trolling along on the blockchain wasting  
11                  valuable hours and resources.  
12           Q        Thank you. And earlier when Ms. Rose was asking  
13                   you about changes you think would be beneficial  
14                   to Canada's anti-money laundering and terrorist  
15                   financing laws with respect to virtual assets, I  
16                   just wanted to make sure I understood something  
17                   that you said. I believe that you said that  
18                   increased reporting would be beneficial given  
19                   its preventative, potential preventative uses.  
20                   Is that correct?  
21           A        Increased reporting as in a record? I mean,  
22                   there are recordkeeping requirements that are in  
23                   existence that require increased recordkeeping.  
24                   Increased reporting is something else, though.  
25                   That's something completely different. You

1                   potentially run into an issue when there's too  
2                   much reporting in relation to STR where they  
3                   can't effectively be worked through. They  
4                   should be targeted. It should be targeted  
5                   information that supports law enforcement and  
6                   regulators in relation to their efforts. So  
7                   volume, yeah, volume is not necessarily a good  
8                   thing at all. If you're starting from nothing  
9                   it's important to continue to begin to build  
10                  that, but you know, I would say it needs to be  
11                  targeted.

12                Q    Thank you. I just have two or three last  
13                    questions for you because I know I'm running out  
14                    of time. Are you able to tell me how much  
15                    Chainalysis's contracts with policing and  
16                    intelligence agencies in Canada are worth, or is  
17                    that outside the scope of your knowledge?

18                A    It's outside the scope of my knowledge. My  
19                    apologies.

20                Q    No worries. And do you know in Chainalysis  
21                    employees have ever acted as experts in criminal  
22                    prosecutions in Canada?

23                A    I do not. I should say I do not know.

24                Q    And do you know if there are any other ways that  
25                    Chainalysis would receive revenue from law

1 enforcement or government within Canada?

2 A It would only be from contracts.

3 MS. MAGONET: Okay. Thank you. Those are my  
4 questions. Thank you very much.

5 THE COMMISSIONER: Thank you.

6 MS. ROSE: Mr. Commissioner, I'm hoping that we might  
7 take a further short break of perhaps  
8 ten minutes now to address an issue that has  
9 arisen if you're amenable to that.

10 THE COMMISSIONER: Yes, all right. That's fine,  
11 Ms. Rose. Ten minutes.

12 MS. ROSE: Sorry, Mr. Commissioner. I just wonder it  
13 if you wish to give the witness the usual  
14 caution about not discussing his evidence during  
15 the break.

16 THE COMMISSIONER: Yes. All right. Thank you.  
17 Mr. Spiro, it's a common rule I'm sure in the US  
18 as well as in Canada, but when you're under  
19 cross-examination you're not permitted to speak  
20 with anyone about your evidence. So I just  
21 indicate that rule is in place for you. Thank  
22 you.

23 THE WITNESS: Thank you.

24 THE COMMISSIONER: All right. We'll take  
25 ten minutes.





1           Transparency International considers that there  
2           are outstanding issues at the end of this  
3           cross-examination with Mr. Spiro, I suggest that  
4           we address it at that time because I do know  
5           that my colleagues had contacted Mr. Place to  
6           inquire about him attending, but I'm  
7           understanding that that's not possible at this  
8           time.

9           THE COMMISSIONER: Okay. All right. Thank you,  
10           Ms. Rose. Mr. Gratl, are you ready and able to  
11           proceed with Mr. Spiro?

12           MR. GRATL: I am, thank you, Mr. Commissioner.

13           THE COMMISSIONER: Thank you.

14           **EXAMINATION BY MR. GRATL:**

15           Q     So, Mr. Spiro, Chainalysis clients include  
16           virtual assets service providers including  
17           crypto-exchanges; is that right?

18           A     That is correct.

19           Q     And then other clients include financial  
20           services businesses, including banks and hedge  
21           funds and private equity groups; is that right?

22           A     I believe so, yes.

23           Q     Okay. And in terms of those financial services  
24           businesses it's not possible to tell on the face  
25           of it whether those entities are acting as

1 over-the-counter brokers; is that right?

2 A Well, to my knowledge I don't know of any bank  
3 that is or financial provider that would be  
4 acting as an OTC broker. There would be flags,  
5 if you will, or tells in relation as I mentioned  
6 before to large volumes associated with OTCs  
7 wherever you are. So that activity would be  
8 identifiable.

9 Q Yes, and you'll agree with me that 90 percent of  
10 all volume in terms of cryptocurrency  
11 transaction is now in excess of \$10,000; is that  
12 correct?

13 A It could be potentially be accurate. Off the  
14 top of my head I cannot confirm, but I know that  
15 in relation to transaction volume it certainly  
16 is plausible.

17 Q It's around 90 percent then, is it? Over, in  
18 excess of \$10,000?

19 A That seems realistic. I would have to cite  
20 specifics to be able to confirm definitively,  
21 but that seems realistic.

22 Q And transactions in excess of \$1 million  
23 constitute more than half of the entire dollar  
24 amount of cryptocurrency transactions now;  
25 correct?

1           A     I don't know if I understand the question.

2           Q     All right.  Let's say you've got a total dollar  
3                   amount X of all cryptocurrency transactions in a  
4                   given month.  Greater than half of that total  
5                   dollar amount consists of transactions in excess  
6                   of \$1 million; correct?

7           A     I think you have to make the distinction between  
8                   what happens on chain as it pertains to services  
9                   and activity between services in those kinds of  
10                  entities and then there is unhosted activity as  
11                  well which is activity between wallets which  
12                  also exists.  So you know, there's a lot of  
13                  different potential data components involved  
14                  there.

15          Q     I'll just read from your report to 2010  
16                  geography of cryptocurrency.

17          THE COMMISSIONER:  Can we put that up on screen,  
18                  Mr. Gratl.

19          MR. GRATL:  Sure.  At page 103, Madam Registrar,  
20                  please.

21          Q     You'll see at the bottom, Madam Registrar, if  
22                  you could scroll down.  "As of June" I'm  
23                  reading.  June of 2020 I take it, Mr. Spiro.

24                  "-- over 90 percent of cryptocurrency  
25                  transfer volume came from

1 professional-sized transfers above \$10,000  
2 worth of cryptocurrency."

3 That's pretty --

4 A Yeah. Yes. So the distinction that I was  
5 making is this is transfer volume that we're  
6 talking about between entities; right? That's  
7 all that I was saying. But obviously this is  
8 our data, so confirmed.

9 Q Confirm. And then the following paragraph takes  
10 this high volume of high worth transfers as an  
11 indication that the ... That the area is  
12 becoming more legitimate; is that right?

13 A Yes.

14 Q And then over on the following page you'll see  
15 in the first full paragraph under the graph at  
16 the last sentence:

17 "The increasing dominance of North  
18 America's professional market since  
19 December 2019 appears to be almost  
20 entirely driven by transfers of \$1 million  
21 or more worth of cryptocurrency, many of  
22 which we believe are coming from  
23 institutional investors."

24 Is that right?

25 A Yes.

- 1 Q And those institutional investors, I'm  
2 suggesting to you some of them are your clients.  
3 Am I wrong about that?
- 4 A No. You're not wrong.
- 5 Q And you keep track of which of your investors  
6 are involved in these transactions in excess of  
7 \$1 million?
- 8 A Yes, we would be able to follow the flow of  
9 funds, yeah.
- 10 Q All right. And for those you don't keep records  
11 of whether they're acting as OTC brokers, do  
12 you?
- 13 A I don't think we keep explicit records in  
14 relation to functionally how they are  
15 interacting, no.
- 16 Q Sure. But all of those entities, banks, hedge  
17 funds, private equity groups that are your  
18 clients might be acting as OTC brokers but you  
19 don't know whether that is so?
- 20 A That's not -- yeah, that's not a service that we  
21 would provide. We will have a record of  
22 transactions that have occurred, so we would  
23 have a record in relation to high volume  
24 transactions, to your point.
- 25 Q You might have a record of transactions, but a

1                   lot of the records there wouldn't be records of  
2                   many different types of OTC transactions like  
3                   derivatives or transfers of paper wallets or  
4                   trust relationships, would there?

5           A        There are some indicators in relation to  
6                   derivative transfers, but by and large I would  
7                   say no. That is not the kind of information  
8                   that we would -- that we produce.

9           Q        Sure. Because they don't -- those types of  
10                   transactions, transactions that are derivative  
11                   of cybercurrency, that transactions where the  
12                   so-called paper wallet, which is just the key  
13                   and the password and trust relationships, those  
14                   don't make it into the blockchain; right?

15          A        Yes, if it occurs offchain we are not going to  
16                   have a record of it. That is correct.

17          Q        And those types of relationships, derivative and  
18                   trust relationships, are the types of  
19                   transactions in which sophisticated banks, hedge  
20                   funds and private equity groups specialize in  
21                   that type of transaction, don't they?

22          A        Potentially. It falls outside of my area of  
23                   expertise in relation to those kinds of  
24                   financial services, but I assume they do a lot  
25                   of their business in those spaces.

1 Q All right. And then some of your clients are  
2 governments; correct?

3 A That is correct.

4 Q Including some regulatory agencies?

5 A That is correct.

6 Q And then others are properly policing, either  
7 domestic or international policing; correct?

8 A Correct.

9 Q And then other clients are defence contractors;  
10 is that right?

11 A I ...

12 Q Military?

13 A We work with a wide swathe of different kinds  
14 ever clients. The way that we usually define  
15 publicly our clientele is between the public  
16 sector, the cryptocurrency space and traditional  
17 financial services, so we work with many  
18 different kinds of entities in the public  
19 sector.

20 Q Well, you work with the US Department of  
21 Defence; right?

22 A If that information is public record. I would  
23 have to check.

24 Q You're not sure whether you work with the US  
25 Department of Defence?

1           A     As I mentioned before in my previous testimony  
2                    in relation to the clients that we work with I  
3                    know that we have confidentiality agreements.  
4                    What I don't want to do is violate that kind of  
5                    confidentiality agreement which is why I'm  
6                    conscious of confirming any kind of information  
7                    or not confirming any information that might  
8                    exist.

9           Q     Well, you should tell the people who are running  
10                   your website because you're currently  
11                   advertising for somebody to do sales to the US  
12                   Department of Defence.

13          A     Well, if somebody is potentially going to do  
14                   sales with the US Department of Defence it  
15                   doesn't mean that they're currently doing them,  
16                   does it?

17          Q     Is that your evidence? You're under oath, sir.

18          A     Is what my evidence? I just provided my  
19                   evidence which is that we work with a myriad of  
20                   different kinds of government agencies.

21          Q     You're not at liberty to reveal whether you're  
22                   working for the US Department of Defence? So --

23          MS. ROSE: Mr. Commissioner, Mr. Spiro has already  
24                   answered this question to the best of his  
25                   ability. He has advised that providing further



1 detail on this could reveal sensitive and  
2 potentially propriety information and that there  
3 could be implications for foreign law  
4 enforcement regarding notification of these  
5 details, and quite frankly this goes beyond what  
6 is relevant to our mandate here with the  
7 commission. We have not brought this witness  
8 with the view to getting into this type of  
9 commercial information from Chainalysis. We are  
10 dealing with a witness who has not been brought  
11 under subpoena as Mr. Spiro is resident in the  
12 United States, and I would submit that the  
13 witness has answered this question sufficiently  
14 already.

15 THE COMMISSIONER: Well, he has in fact answered it.  
16 He said that he isn't aware whether or not that  
17 is public knowledge or whether or not it's  
18 governed by confidentiality concerns, so I think  
19 if you could move on, Mr. Gratl.

20 MR. GRATL: Thank you, Mr. Commissioner.

21 Q Chainalysis provides access to its data on the  
22 basis of software as a service; is that right?

23 A We provide software as a service. Yes, we  
24 provide software as a service. We also provide  
25 other kinds of services as I mentioned as well.

1           Q     All right.  And I take it that what that means  
2                   is that your clients can't actually purchase the  
3                   Reactor software, they actually just access the  
4                   software by means of an internet connection; is  
5                   that right?

6           A     Our clients can access our products in a number  
7                   of different ways and they can purchase them by  
8                   way of the internet.  Utilization of the  
9                   internet, yes.  Again I'm not in -- two things  
10                  that I should add.  One, I'm not on the side of  
11                  the house, so unfortunately I'm not best suited  
12                  to answer those kinds of questions.  But also in  
13                  relation to questions that pertain to things  
14                  like technical implementation and access, again  
15                  because of the proprietary nature of some of  
16                  that kind of information I cannot share it.

17          Q     All right.  I take it some of your clients,  
18                   though, access over the internet software that's  
19                   hosted on your servers?

20          A     I believe that to be accurate, yes.

21          Q     All right.  And then in order to use the  
22                   software they have to sign a customer agreement;  
23                   is that right?

24          A     Yes.  I believe that's probably accurate.

25          Q     And then the software -- by the -- by your

1 client?

2 A Sorry, you cut out there for a moment there.

3 Q Your software tracks the uses of the software by  
4 the client. It logs, for example, the types of  
5 searches that are conducted and so forth?

6 A I'm not privy to what kind of information is or  
7 not captured in relation to our client's usage.

8 Q All right. For some customers, in particular  
9 virtual asset service providers, they are  
10 required to provide you with information about  
11 their own clients in order to access your  
12 database; correct?

13 A Potentially that could happen. Also if our  
14 clients are -- if the client is using something  
15 like the KYT software, they are integrating and  
16 running transactions through that, right, so  
17 information would be provided as a result of  
18 that as well.

19 Q Sure. And so that would provide Chainalysis  
20 with information that is held by, for example,  
21 cryptocurrency exchanges, including the identity  
22 of the owners of the wallets?

23 A No. We would never have any information  
24 pertaining to the identities or any PII for the  
25 owners of wallets or access to any of that kind

1                   of information, nor do we want access to any of  
2                   that kind of information.

3           Q       In addition to providing software as a service  
4                   Chainalysis also has an investigative team that  
5                   will actually participate in investigations with  
6                   law enforcement groups; is that right?

7           A       That is correct.

8           Q       And certainly while participating in those  
9                   investigations, it learns about the nature of  
10                  those investigations and the reasons sometimes  
11                  why suspects are being targeted?

12          A       Our team supports both the public and private  
13                  sector in relation to investigations. By and  
14                  large the information that is provided is in  
15                  relation to specific wallets. If additional  
16                  information is required for the investigators to  
17                  do that kind of work, it would never pertain to  
18                  PII, but again I'm not one of those  
19                  investigators, so not best suited to be able to  
20                  tell you exactly the nature of, you know, how  
21                  some of those investigations potentially  
22                  develop.

23          MR. GRATL: Madam Registrar, could you please remove  
24                  the screenshot. Thank you kindly.

25          Q       The information derived from the users of

1 Chainalysis Reactor software is used in part by  
2 Chainalysis to ascribe risk; is that correct?

3 A Yes.

4 Q Right. So that's not open source information.  
5 That's information derived from your client's  
6 use of the software; right?

7 A No. Not necessarily, no. In relation to how we  
8 attribute and identify risk, there's a number of  
9 different ways in which that's identified. You  
10 know, we talked today about the red flags and  
11 typologies. For example documentation that FATF  
12 produced, there are different kinds of  
13 identifiers that exist for how we would qualify  
14 something that's potential risky, running those  
15 qualifications against data would then identify  
16 potential risk.

17 Q All right. Sure, potential risk, then. But you  
18 identify potential risk or ascribe potential  
19 risk using in part the user log information;  
20 right?

21 A We would do it based on-the transactions, based  
22 on transactions, the transaction history and  
23 what the interaction is with potential risky  
24 activity.

25 Q Sure. But part of what you use in order to

1 assess that is the user log information; right?

2 A When you say "user log information," can you  
3 define what you mean by that.

4 Q Well, I mean that your software generates a log  
5 of all activities undertaken by your clients in  
6 the course of using your database or accessing  
7 your database?

8 A I think we do -- I mean, I think within the  
9 software you saw I think that kind of log is  
10 generated. I don't know what the scope of that  
11 log is, right, in relation to what that looks  
12 like, but we do obviously have that kind of  
13 information, yes.

14 Q But your user agreement require that the user  
15 log information becomes the proprietary  
16 information of chain analysis; right?

17 A I think that not all of our user agreements are  
18 the same. I think some of them require certain  
19 information. I think other contracts that we  
20 have have different requirements, so I don't  
21 think anything would be universal, no.

22 Q So I didn't say it's universal. So for some  
23 users, then, you're saying yes, the user log  
24 information becomes proprietary to chain  
25 analysis?

1           A     I have no idea, again because I'm not in  
2                    contracting. I'm not in sales. I'm not in any  
3                    of that kind of engagement. So a lot of the  
4                    questions that you're asking, unfortunately, I  
5                    am not best suited to answer. I'm sure that's  
6                    frustrating and I apologize.

7           Q     It is what it is. The risk information then is  
8                    not just derived from the blockchain and from  
9                    the register of transactions. There are other  
10                   sources, some open sources, some proprietary to  
11                   you and some purchased from other sources. Is  
12                   that right?

13          A     I don't know if I would say purchased from other  
14                   sources in relation to how we identify risk. I  
15                   don't know if I would include that. I do know  
16                   that we do do some proprietary analysis, we rely  
17                   on specific regulation that has come out, you  
18                   know, regulatory specifics. We rely on the  
19                   data, the attributions that we've made. There's  
20                   a number of different components that are  
21                   associated with that.

22          Q     I just note that in your "2020 State of  
23                   Cryptocrime," tax evasion is not included.

24          A     So I would encourage you -- it's funny you  
25                   should say that, sir. I would encourage you

1 next week to tune in. I am doing a session we  
2 call Links, which is our virtual event series,  
3 with two of the J5 chiefs that specifically  
4 focus on tax evasion, tax avoidance, in relation  
5 to cryptoccrime in part. I've done a lot of work  
6 and executed some of the first successful cases,  
7 and certainly that is a focus area as well that,  
8 you know, we have an appetite for and that we  
9 work in as well. I think one of the things that  
10 you raised which is important and interesting,  
11 right, is until you have further regulatory  
12 scrutiny around tax in this space, data can only  
13 be contributed and built by way of  
14 investigations and other information, and I  
15 think tax laws and as that pertains to  
16 cryptocurrency is something that's still  
17 developing around the globe. But certainly not  
18 something that was, you know, an oversight on  
19 our part. I just think it's a developing kind  
20 of category in relation to illicit activity.

21 Q Is it fair to say, though, that Chainalysis  
22 treats large institutional investors as a sign  
23 that cryptocurrency is achieving legitimacy  
24 rather than a potential source of crime itself?

25 A I think that we treat our customers and any



1                   entities based on the activity that we see on  
2                   chain and the risk that we're able to identify.  
3                   We have customers that have had illicit activity  
4                   associated. We have called that out before. We  
5                   have identified that. So it's all based on  
6                   applicability and the kind of data that we have  
7                   for how we're able to make any kinds of  
8                   determinations.

9                   Q     What would you recommend as a policy  
10                   prescription to stop money laundering on the  
11                   part of large institutions?

12                   A     That's a juicy question.

13                   Q     It is. It's an interesting question and one  
14                   that your reports don't seem to engage with  
15                   directly. And quite the opposite. Your reports  
16                   seem to suggest that large institutional  
17                   transactions are a good thing for crypto and a  
18                   sign that crime is on the wane rather than  
19                   waxing, blossoming. Isn't --

20                   A     I think that the question --

21                   Q     Sorry.

22                   A     No, I think the question is predicated on what  
23                   is defined and determined to be illicit  
24                   activity. I think it's very difficult given the  
25                   kind of information that we have access to, what

1                   we've been able to develop, to make those kinds  
2                   of determinations based on what currently exists  
3                   and the laws that currently exist in relation to  
4                   the kind of data and determinations and  
5                   assumptions we could potentially make.

6           Q       Well, you've got gambling, sextortion, phishing  
7                   scams, Ponzi schemes and things like that in  
8                   your list of illicit activity, and that type of  
9                   activity is used to build what you call the  
10                  typologies of crime and build groups such as the  
11                  Rogue 100 set out in your report. But I don't  
12                  see any reference to crimes committed by large  
13                  institutions like bread price fixing  
14                  transactions or diversion of pharmaceutical  
15                  opiates or bribery of public officials.

16          A       Yeah, I mean, if there's a cryptocurrency nexus  
17                  directly that can be attributed to any of those  
18                  kinds of cases or activity that is something  
19                  that with we qualify. I think that falls  
20                  outside of what we see traditionally in the  
21                  cryptospace and the kind of determinations that  
22                  we can make. I referenced earlier in this  
23                  testimony, and this is an important distinction,  
24                  in relation to activity that happens offchain,  
25                  right, we don't have visibility into that,

1 right, in relation to the actual blockchain  
2 information and history. If one of those  
3 institutions that you're talking about gets  
4 charged, right, huge civil penalty. Something  
5 big comes out, they get hammered, and there's a  
6 nexus with crypto. There is a potential impact  
7 there depending upon what that nexus with crypto  
8 is and what their interaction is with the  
9 ecosystem. So, you know, that's kind of my  
10 response --

11 Q But you --

12 THE COMMISSIONER: Sorry, I think the witness was --  
13 hadn't completed his answer yet, Mr. Gratl.

14 MR. GRATL:

15 Q Sorry. Go ahead. Sorry for interrupting.

16 A I was finished.

17 Q I thought you were done your answer.

18 A I was. No, no, no, I was just saying it's very  
19 hard. What we're usually doing is there's some  
20 kind of fairly linear connection. So this is  
21 going way out in left field and trying to make  
22 that potential connection based on a lot of  
23 speculation, and I don't say that outside of the  
24 fact that unless you can provide me tangible  
25 evidence where big financial institutions or

1           other are directly engaged in this kind of  
2           activity in the cryptocurrency ecosystem.  If  
3           you can provide that I would love to see it  
4           because, again, we are white hats.  We're trying  
5           to make this a clean ecosystem.  I just don't  
6           know of it.

7           Q     Do you monitor the crimes committed by large  
8           financial institutions?

9           A     So I've done a lot of work with Transparency  
10          International.  I used to head up the  
11          World-Check product line when I was with both  
12          Thomson Reuters and Refintiv.  I'm intimately  
13          familiar with illicit activity that has occurred  
14          as a result of a myriad of different kinds of  
15          activity executed by large financial  
16          institutions.  I teach a number of courses for  
17          the Association of Certified Anti-Money  
18          Laundering Specialists in relation to large  
19          financial institutions.  In short what I'm  
20          saying is I am intimately familiar.  I could  
21          tell you about any of the big banks from BNP  
22          Parabas to Wells Fargo, all the different kinds  
23          of initiatives that have occurred historically,  
24          legacy, the different kinds of information  
25          sharing relationships that now exist as a

1 result, specifically and explicitly, of  
2 different kinds of illicit activity. I  
3 personally am certainly aware of that kind of  
4 activity and things that we've seen in the past.  
5 But again, we're talking about virtual assets  
6 right now, and the interconnectivity, it feels  
7 like this is a bit of a reach to try and make  
8 that connection.

9 Q Well, in Canada, for example, we have Scotiabank  
10 was involved in handling bribes for a large  
11 infrastructure project in Costa Rica and the  
12 engineering firm SNC-Lavalin recently accepted  
13 its responsibility for infrastructure bribes for  
14 the son of Muammar Gaddafi in Libya. Does that  
15 kind of information get added to your database  
16 as an alert for companies that engage in  
17 criminal activity?

18 A Do our database, no, because our database is  
19 filled with companies and entities that are,  
20 again, within the virtual asset space. If one  
21 of those companies that you just mentioned, if  
22 that company that you just mentioned were  
23 entering into the cryptocurrency ecosystem or  
24 was in the cryptocurrency ecosystem, that  
25 information would certainly potentially be

1                   relevant; right? Might surface. But again  
2                   we're talking about a specific ecosystem; right?

3           Q        Sure. But do you as a company prevent those  
4                   types of large institutions that have been  
5                   convicted of serious regulatory offences or  
6                   crimes from accessing your ecosystem, your data  
7                   set?

8           A        Well, any of the large financial entities that  
9                   you just referenced and I just referenced have  
10                  not been shut down. They've usually faced civil  
11                  enforcement penalties, corrective actions, for  
12                  example. They're still in operation.  
13                  Additionally if you look at the scope of the  
14                  illicit activity, comparatively to the entirety  
15                  of the activity, you know -- actually, forget  
16                  that last part. Scope, right. Any illicit  
17                  activity is bad illicit activity, and I do  
18                  believe that wholeheartedly, but if they faced  
19                  civil action, if they're still in operation if  
20                  they've taken corrective measures, if those  
21                  kinds of things have happened, I would be  
22                  curious to know why you would then try to deny  
23                  access to more financial inclusion banking or  
24                  services, which is again based on the concept of  
25                  institutional adoption something that, you know,

1 I think we encourage.

2 Q I'm concerned that the way your database is  
3 structured and the way your alerts are  
4 constructed and the way illicit activity is  
5 constructed the services you provide contribute  
6 to the selective enforcement of money laundering  
7 laws?

8 A I would not think that there's any selective  
9 enforcement. I think there have been  
10 deficiencies that have specifically been  
11 identified for a number of years that were  
12 identified in relation to the virtual asset  
13 ecosystem and that we're providing support and  
14 services to build more financial integrity in  
15 the cryptocurrency space. And as more  
16 institutional adoption does occur, because it is  
17 relatively limited to be clear right now  
18 although developing, then there is other  
19 potential information, specific risks that could  
20 potentially be identified, et cetera. Right?  
21 But as of right now there's disparity, I would  
22 say, and it's not interconnected like is  
23 potentially being proposed. On the illicit.

24 Q I'm being told that I'm out of time.

25 A I have to tell you something, I loved working

1                   with Transparency International. I think you do  
2                   fantastic work and I just would like to say  
3                   that.

4           THE COMMISSIONER: All right. Thank you then.

5           MR. GRATL: Thank you kindly.

6           THE COMMISSIONER: Thank you, Mr. Gratl. Is there  
7                   anything arising as far as you're concerned,  
8                   Ms. Magonet?

9           MS. MAGONET: Nothing arising, Mr. Commissioner, but  
10                   I wanted to mention that I failed to ask you  
11                   earlier if we could have the PDF from the  
12                   Chainalysis website marked as an exhibit.

13          THE COMMISSIONER: Yes, I think we're at exhibit 160  
14                   now.

15          THE REGISTRAR: 260.

16          THE COMMISSIONER: 260. I'm only out by a hundred.

17                   **EXHIBIT 260: Chainalysis Reactor webpage**

18          THE COMMISSIONER: All right. Thank you. Ms.  
19                   Chewka.

20          MS. CHEWKA: Nothing from me, Mr. Commissioner.

21          THE COMMISSIONER: Thank you. Ms. Rose.

22          MS. ROSE: No further questions for me,  
23                   Mr. Commissioner.

24          THE COMMISSIONER: All right. Thank you. Thank you,  
25                   Mr. Spiro, and you're excused now from any



1 further testimony. Thank you for your time.

2 **(WITNESS EXCUSED)**

3 THE COMMISSIONER: Ms. Rose, I haven't heard from any  
4 of the participants whether or not they require  
5 Mr. Place. Is that something you wish to deal  
6 with them on offline or is that something we  
7 could profitably deal with at this point?

8 MS. ROSE: I might suggest for efficiency's sake that  
9 we have participants if there are any further  
10 concerns arising from this say so now on the  
11 record.

12 THE COMMISSIONER: Right. Ms. Chewka.

13 MS. CHEWKA: No, nothing from me, Mr. Commissioner.

14 THE COMMISSIONER: Ms. Magonet?

15 MS. MAGONET: Nothing from me, thank you.

16 THE COMMISSIONER: And Mr. Gratl?

17 MR. GRATL: Yes, Mr. Commissioner, I do have some  
18 remaining questions of a technical nature  
19 dealing with --

20 THE COMMISSIONER: I'm sorry, you're breaking up.  
21 Sorry, Mr. Gratl, you're breaking up on me.

22 MS. ROSE: I wonder if it might be preferable in  
23 light of the ...

24 MR. GRATL: Is that any better, Mr. Commissioner?

25 THE COMMISSIONER: Yes, it is. Thank you. Yes,

1                   thank you.

2                   MR. GRATL: Subject to your being interested in  
3                   further exploration of the topic,  
4                   Mr. Commissioner, I'd like to ask further  
5                   questions about the sources of information used  
6                   by Chainalysis to generate its list of illicit  
7                   transactions and Rogue 100 and so forth in  
8                   service of the larger notion that large  
9                   institutional actors, including Canadian banks,  
10                  are effectively insulated by the structure or  
11                  the architecture of the Chainalysis Reactor  
12                  software from scrutiny.

13                  THE COMMISSIONER: Okay. Ms. Rose, do you have a  
14                  position on that?

15                  MS. ROSE: I do have some concerns with respect to  
16                  those questions, Mr. Commissioner. In my view  
17                  Mr. Gratl has explored this area with Mr. Spiro  
18                  already. And I'm not clear how those questions  
19                  would be within either of the witnesses'  
20                  expertise here today based on the CVs tendered  
21                  as evidence. But I do wonder if we might want  
22                  to deal with these issues offline and see if  
23                  there's a resolution that might be available  
24                  with Mr. Gratl.

25                  THE COMMISSIONER: Okay. Yeah, I don't want to

1                   unnecessarily curtail his quest for cogent  
2                   information. I do however remind everyone that  
3                   we're concerned with the problem of money  
4                   laundering in British Columbia, and that as I  
5                   understand it this portion of the evidence is  
6                   devoted to exploring the issue of the risks that  
7                   are associated with the development and  
8                   evolution of virtual currencies. Certainly the  
9                   question of whether or not large institutions  
10                  are involved in money laundering is potentially  
11                  a question of interest. I'm not sure whether it  
12                  intersects with these witnesses' evidence or  
13                  not, but I'm perhaps a little unclear,  
14                  Mr. Gratl, on what it is you're driving at. So  
15                  maybe it's a good idea to discuss it offline  
16                  with Ms. Rose and see if you can arrive at some  
17                  accommodation. All right?

18                  MR. GRATL: Thank you, Mr. Commissioner.

19                  THE COMMISSIONER: Thank you. We will adjourn, then,  
20                  until tomorrow at 9:30 unless there's something  
21                  else to deal with, Ms. Rose or Mr. Martland.

22                  MS. ROSE: Nothing further from my end, thank you,  
23                  Mr. Commissioner.

24                  THE COMMISSIONER: All right. Thank you. Tomorrow  
25                  at 9:30 then.

1                   THE REGISTRAR: The hearing is adjourned until  
2                   November 25th, 2020 at 9:30 a.m. Thank you.  
3                   **(PROCEEDINGS ADJOURNED AT 1:36 P.M. TO NOVEMBER 25,**  
4                   **2020)**

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