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Investment Industry Regulatory Organization of Canada
British Columbia Securities Commission
Alberta Securities Commission
Financial and Consumer Affairs Authority of Saskatchewan
Manitoba Securities Commission
Ontario Securities Commission
Autorité des marchés financiers
Financial and Consumer Services Commission (New Brunswick)
Superintendent of Securities, Department of Justice and Public Safety, Prince Edward Island
Nova Scotia Securities Commission
Securities Commission of Newfoundland and Labrador
Superintendent of Securities, Northwest Territories
Superintendent of Securities, Yukon
Superintendent of Securities, Nunavut

via e-mail

May 15, 2019

Re: Joint CSA/IIROC Consultation Paper 21-402 Proposed Framework for Crypto-Asset Trading Platforms

Dear Sirs and Mesdames:

TD Securities welcomes and appreciates the opportunity to comment on the Joint CSA/IIROC *Proposed Framework for Crypto-Asset Trading Platforms* (the Proposed Framework).

TD Securities is a leading securities dealer in Canada and a top ranked block trader in Canadian equities and options based on dollar value and shares traded. TD Securities also acts as the execution broker for TD Waterhouse, the largest direct investing brokerage firm in Canada.

BACKGROUND

A cryptocurrency is a digital or virtual currency designed to work as a medium of exchange. It uses cryptography to secure and verify transactions as well as to control the creation of new units of a cryptocurrency. Essentially, cryptocurrencies are limited entries in a database that no one can change unless specific conditions are fulfilled. The challenges going forward from a Regulatory perspective would entail the operational requirements intended to protect participants from the counterparty and other risks associated with Platforms, such as requirements for market integrity, market surveillance, fair pricing, custody, clearing and settlement, disclosure of conflicts of interest, and systems and business continuity planning.

CSA/IIROC QUESTIONS:

- 1) Are there factors in addition to those noted above that we should consider?

TD Securities believes there are 4 clear categorizations to be examined:

1) Coins or Cryptocurrencies – These would include digital currencies such as Bitcoin whereby encryption techniques would be used to regulate the generation of currency units and thus the verification of the transfer of fund. This would be operated independently of a Central Bank. Items such as Stable coins/Bank coins could be issued by Financial Institutions or other credible Global entities where hypothetically every Fiat currency could one day become a cryptocurrency.

2) Utility tokens (ICO's/Crowdfunding tokens) – Utility tokens are services or units of services that could be purchased. These tokens can be compared to API keys which could be used to access these services.

3) Security Tokens – These would be tokens that could represent shares of a business that has Cashflow. In addition, considering the recent SEC announcement, "any tokens that cannot pass the Howey Test" should be considered a Security and fall under the 1934 Securities Exchange Act.

4) Asset backed Tokens – An asset backed token is a blockchain token that has a link with an object with economic value. This object would be tangible or intangible (e.g. Property vs Patent). The asset backed token would help to digitize an asset and the information would be recorded via blockchain. This asset-based token could then easily be transferred to whoever decides to buy the property.

2) What best practices exist for Platforms to mitigate these risks? Are there any other substantial risks which we have not identified?

TD Securities believes and has outlined below other substantial risks that have not been identified previously.

- *Multi signature wallets (hot wallets vs cold wallets)*
- *Segregation of accounts (client vs proprietary)*
- *Regular technical and financial audits*
- *Regular security tests (pen test)*
- *Decentralized Exchanges*
- *Governance committees*
- *Better KYC/AML (more automated solutions, compliance layers on top of blockchains)*
- *Third party reports on Platform volumes and trading data*
- *Moving platforms to non-offshore jurisdictions*
- *Higher security reviews of staff*
- *Investments into 3rd party custody services (e.g. Bitgo)*

3) Are there any global approaches to regulating Platforms that would be appropriate to be considered in Canada?

TD Securities has identified the following potential Global approaches to regulating platforms that could be considered appropriate to be used in Canada. In NY and in Singapore they issue something called "bit-licenses" to operate while in Singapore they are in the process of issuing security token licenses for exchange operator. The process in NY is an application that gets vetted before licenses are issued. In Singapore, applicants must go thru their sandbox and clear the sandbox requirements before a license is issued. Other countries like Japan are also moving towards the license-based model for crypto exchanges. A fine balance needs to be put in place as the harder and onerous the application process is, the likelihood that technology companies will move to jurisdictions with lower barriers of entry. The application process needs to be prudent, balanced and fair not overly burdensome for the sake of slowing done technology.

- 4) What standards should a Platform adopt to mitigate the risks related to safeguarding investors' assets? Please explain and provide examples both for Platforms that have their own custody systems and for Platforms that use third-party custodians to safeguard their participants' assets

TD Securities believes mitigating the risks relating to safeguarding an Investors' Asset is of the utmost importance. Some of the steps TD Securities would support and enact would be platforms that are completely decentralized so there would be no impropriety of any "middle men" to hold private keys or assets. Regular reporting on transactions both on and off exchange will be vital and would tie into regular audits (Security, technical/code and financial, Internal and External etc.) that would greatly assist in minimizing risk. Finally, an enhanced and robust Risk Management program which would set the terms of Limit setting, notifications and Circuit Breakers.

- 5) Other than the issuance of Type I and Type II SOC 2 Reports, are there alternative ways in which auditors or other parties can provide assurance to regulators that a Platform has controls in place to ensure that investors' crypto-assets exist and are appropriately segregated and protected, and that transactions with respect to those assets are verifiable

TD Securities would look to implement alternative ways such as 3rd party custodians as well as other tools to look into various transactions. This can transpire via Blockchain data startups as well as specialized skillsets that comprehend Blockchain, Crypto and other Emerging Technology that are with Regulators such as those like MAS in Singapore, that has a Special team dedicated to this as well as the SFC team in Hong Kong to ensure that investors' crypto-asset exist and are appropriately segregated and protected.

- 6) Are there challenges associated with a Platform being structured to make actual delivery of crypto assets to a participant's wallet? What are the benefits to participants, if any, of Platforms holding or storing crypto assets on their behalf?

TD Securities believes that most platforms that control and retain assets on behalf of their clients would be part and parcel for the issues we have observed and be the best way forward. This would be done to establish and create platforms that decentralize or segregate assets with a 3rd party custodian. There would be no issues in securing a platform that makes delivery of client assets efficient. This would require that the platform hold the assets until payments are delivered. The best solution would be to segregate this service (i.e. settlement/clearing) thru a 3rd party custodial service or for TD Securities to be completely decentralized from the platform.

- 7) What factors should be considered in determining a fair price for crypto assets?

TD Securities believes there would be a threefold factor approach in determining a "fair price" for crypto assets:

- 1) 3rd party reference data (reliable/vetted) is of utmost importance.*
 - 2) a matching engine for the bid/offer that is fair and transparent and*
 - 3) good liquidity with a mix of flows (Institutional, Retail, Liquidity Providers and Market Makers etc.).*
- This would be a catalyst and incentivize that pricing would be conducted in the proper fashion and not be viewed as predatory.*

- 8) Are there reliable pricing sources that could be used by Platforms to determine a fair price, and for regulators to assess whether Platforms have complied with fair pricing requirements? What factors should be used to determine whether a pricing source is reliable?

TD Securities believes there are several external sources that can be used to determine whether a pricing source is reliable. The most obvious source would be Bloomberg as it is the global bellwether for reliable sources and feeds which encompasses absorbing data from 2-3 globally large exchanges such as Coinbase, Kraken and Bitstamp, Coinmarketcap.com would also be a reliable and credible source. Having large data providers in the current traditional financial ecosystem as well as the traditional exchanges participating in developing the next digital financial system would also manifest and establish a good partnership to consider for Regulators globally. Finally, for less liquid assets, Poloniex could be a good platform to reference. Poloniex was acquired by Circle, which is a Goldman Sachs backed Crypto platform.

- 9) Is it appropriate for Platforms to set rules and monitor trading activities on their own marketplace? If so, under which circumstances should this be permitted?

TD Securities disagrees with the concept of platforms being able to set rules and having the ability to monitor trading activities on their own marketplace. TD Securities believes that 3rd Party Surveillance would be a more comprehensive and well-rounded model. There are many platforms throughout the World, particularly in China where trading volumes are not transparent, therefore the accuracy cannot be verified. In terms of setting trading rules, currently traditional exchanges are not regulated in terms of their daily transaction activities. They form their own rules that best fit the needs of their customers/members. Perhaps looking at a "membership" system would help platforms manage the operation and subsequently police the various players versus an open-door onboarding policy where anyone can trade post proper KYC.

- 10) Which market integrity requirements should apply to trading on Platforms?
Please provide specific examples.

TD Securities believes there are 5 key market Integrity requirements that should apply to trading on Platforms:

- 1) Daily reporting on Funds, Transactions and Volumes.*
- 2) Daily reconciliation between reported data and 3rd party data.*
- 3) Proper Segregation of Accounts and proof of Funds.*
- 4) Regular and robust Audits, both Internal and External and*
- 5) Proper documentation of KYC/AML for all clients.*

- 11) Are there best practices or effective surveillance tools for conducting crypto asset market surveillance? Specifically, are there any skills, tools or special regulatory powers needed to effectively conduct surveillance of crypto asset trading?

TD Securities has observed that new startups within the Cryptocurrency field have recently established systems that offer Reporting and Surveillance tools for 3rd parties. One is Blockchain.com which offers an API that allows clients to view network level transactions, wallets etc. Another is Etherscan.io which is an

equivalent and alternative to [Blockchain.com](https://www.blockchain.com) which allows clients to observe the transaction history, wallets/addresses and the total supply of [Ether](https://www.ethereum.org/). These are just a couple, of examples TD Securities believes could be used as tools that could be used to effectively conduct surveillance for crypto asset trading.

12) Are there other risks specific to trading of crypto assets that require different forms of surveillance than those used for marketplaces trading traditional securities?

TD Securities notes concerns for risks applicable to big off exchange marketplaces for trading cryptocurrencies such as Bitcoin and Ethereum. Transactions are conducted wallet to wallet, bank to bank and TD Securities postulates that this would be extremely risky unless a client is dealing with a trusted counterparty. Currently, there is no proper infrastructure at the moment to enable robust monitoring, surveillance and reporting for this flow.

13) Under which circumstances should an exemption from the requirement to provide an ISR by the Platform be considered? What services should be included/excluded from the scope of an ISR? Please explain

TD Securities feels the only circumstance whereby an exemption from the requirement to provide an ISR by the Platform would be one where the platform is a fully operational, distinctly decentralized exchange where there would be no middle entity of people managing assets or funds.

Currently, crypto exchanges are immediately compromised when they hold their customers private keys (i.e. passwords). In order to be secure and risk free, exchanges need to move more towards a fully decentralized system with multi signature wallets playing a big part in the transactions. This would ensure that private keys are held at each end point rather than a middle man, in this case the exchange. All transactions are done peer to peer and the decentralized exchange or DEX only matches and settles the transactions without having to hold private keys. This is the future state that the Canadian Regulators should strive towards in terms of enabling players in the Canadian market. A fully decentralized exchange with customers using an integrated multi sig wallet solution is the only structure that could warrant a provision or exemption to the ISR.

14) Is there disclosure specific to trades between a Platform and its participants that Platforms should make to their participants?

TD Securities believes that at a minimum, Platforms should create and establish a fully vetted 3rd party source report on trading volumes and public audit reports (monthly or quarterly) on all funds. As well, it is the belief of TD Securities that an Annual security report be made public to user – example: Penetration testing on the networks which would be very useful for transparency and would garner goodwill and confidence from the public.

15) Are there particular conflicts of interest that Platforms may not be able to manage appropriately given current business models? If so, how can business models be changed to manage such conflicts appropriately?

TD Securities believes there are certain conflicts of interests that platforms are not managing currently given the prevailing business models. Currently there are still many platforms that do not accurately and suitably segregate customer funds from their own business funds. As well there is a lack of proper established procedures that helps to clarify and avoid Front Running of customers' orders. Finally, secure and protected procedures need to be established as Private keys that allow for access to client wallets are being mishandled and not properly handled.

Regular 3rd party/independent financial, operational and security audits would be a good gauge to ensure that players are consistently improving/enhancing their fiduciary duties as well as strengthening good corporate governance. Within the current banking model, similar checks and balances are put in place with respect to security on infrastructure, financial audits and governance checks on change control and process models.

16) What type of insurance coverage (e.g. theft, hot-wallet, cold-wallet) should a Platform be required to obtain? Please explain.

Currently, there is not mechanism where any viable issuer is prepared and willing to underwrite cryptocurrency platforms. TD Securities gives credence to the belief that the best insurance policy would be a durable and unyielding security framework to help mitigate against the potential for hacks and thefts, which 9 times out of 10 occur due to an internal breach. A considerable number of platforms also do not have the basic and fundamental skillset to establish a cohesive and qualified "short term" money market/treasury functions to ensure funds are suitably managed in terms of continuing and ongoing cash inflows and outflows.

17) Are there specific difficulties with obtaining insurance coverage? Please explain.

Currently, Insurance Coverage is not offered in the industry yet. TD Securities believes this is primarily due to the technicalities and vulnerabilities of businesses to hackers. Until this is compelling and serious progress in securing existing businesses. Insurers, as such, are not willing to underwrite policies significant scope and volumes.

18) Are there alternative measures that address investor protection that could be considered equivalent to insurance coverage?

It is the belief of TD Securities that constructing and investing in decentralized platforms eliminating the necessity for other "middle" entities managing assets and funds would be the best alternative to address investor protection as a thorough equivalent to insurance coverage. This would alleviate and mitigate the necessity for insurance as a sound and vigorous Decentralized Exchange with a fully integrated multi sig wallet would make hacking an extremely remote possibility given the resources required to attack such an infrastructure.

19) Are there other models of clearing and settling crypto assets that are traded on Platforms? What risks are introduced as a result of these models?

TD Securities is of the opinion that due to size of scale problems for a good deal of major Blockchains (e.g. Ethereum) the concept of developing and promoting decentralized exchanges would require greater energy and potency than a centralized exchange relying upon off chain procedures. This would create for the necessity to match orders off the "main" chain and then subsequently bring back those matched

order for settlement. Ultimately the process would be united to 1) order book matching off chain and 2) settlement on the chain. TD Securities believes the risks are yet to be seen as there are currently only a handful of decentralized exchanges that are active presently.

20) What, if any, significant differences in risks exist between the traditional model of clearing and settlement and the decentralized model? Please explain how these different risks may be mitigated

Currently the key difference with decentralized settlement, trades are cleared in real time whereas in the traditional function, settlement normally takes effect on a T+ basis with matching trades and payments transpiring in manual and costly manner. The occurrence of a higher degree of human error is a possibility whereas the decentralized model would automate and help to streamline the process.

21) What other risks are associated with clearing and settlement models that are not identified here?

The other risks associated with the clearing and settlement models that have not been identified would include:

- 1) Security. TD Securities would consider this one of the greater risks whether it is user access, human error and fraud (creating bogus and fabricated accounts).*
- 2) Having the settlement process transpire in "real time" over a blockchain permits and facilitates mitigation from any and all potential human related risks that is widely seen in today's markets.*
- 3) The costs associated with clearing and settlement would dramatically decrease and*
- 4) when assets move faster, payments move faster thus creating a higher turnover on the network(s) ultimately beneficially benefitting Money Managers, businesses, investors and overall users.*

22) What regulatory requirements, both at the CSA and IIROC level, should apply to Platforms or should be modified for Platforms? Please provide specific examples and the rationale

The regulator requirements TD Securities believes should apply to Platforms would be:

- 1) Mandatory Audits (Internal and External),*
- 2) Mandatory Reporting,*
- 3) Compulsory Internal training for employees and management at various start-ups,*
- 4) Mandatory "white hat" and "black hat" security tests (pen test) and*
- 5) a potential "Licensing" requirement as an option.*

CONCLUSION

We thank the regulators for its work on this framework proposal as Crypto-Assets are an important and growing area of interest across the globe. TD Securities welcomes any questions IIROC or CSA staff may have with respect to these comments.