Submission to SENATE SELECT COMMITTEE ON FINANCIAL TECHNOLOGY AND REGULATORY TECHNOLOGY, December 12, 2019.

The concerns in this submission relate firstly to the regulatory framework in which firms operate and the efficacy of KYC and Anti-money laundering (AML) responses of financial technology. The essential background has been the failure of banks in particular to perform appropriate AML. I wish to focus on the responsibilities of ASIC and ASX and the need for a reset of those roles. A second concern is the suitability of ASX for capital raisings by financial technology stocks in the context of potential market manipulation and what can and should be done about that.

Firstly I comment on the relevant categories representing the Committee's remit in the issue paper.

- 1) Regarding (a) and (b) and (e), in order to address KYC/AML it should be the case that financial technology stocks can list on the ASX with confidence that the ASX itself is not a competitor able to leverage a monopoly advantage or take regulatory action which inhibits progressing that company's interests, by suspension..
- 2) Regarding (c) and (d), Australia clearly lags EU legislation and practice with respect to KYC and AML, and the Committee should look to replicate EU practice urgently. In doing so the proper roles of ASX and ASIC should be revised.
- 3) Regarding (e and f) I refer the committee to the 2013 Senate enquiry into ASIC and the lack of follow-up in relation to shorting of stocks in particular and manipulation in general, as laid out in sections 1.3 and attachments of that report. Start-ups are often in need of capital raisings, and are very vulnerable to market manipulation at the time of or in anticipation of news events. One strategy is to short the stock before a anticipated news event and walk away if the news is poor or buy if the news is good. A recent example is the stock PAR in late November early December. Another example is ISX in September.

Section 1: Roles of ASX and ASIC

At this time a financial technology stock, ISignThis (ASX:ISX), has been suspended by ASX for over nine weeks for purportedly price volatility reasons "after consultation with ASIC". There was a later clarification that suspension was not at the direction of ASIC.

ISX is suing ASX in the Federal Court. ASIC are apparently making enquiries of ISX about unstated matters. The issue here is <u>not</u> the outcome of any court case it is the lead up and roles of ASX and ASIC when issues arise and one regulatory party has commercial interests.

There are many ASX announcements in September and since October 2nd which are of concern and which should be considered part of this submission in that:

- 1. ASX may have misled the market as to the reasons for suspension of ISX.
- 2. ASX may have suspended a stock in respect of which they are in potential competition or potential conflict of interest (Astraclear)
- 3. ASX may have used regulatory power, eg potential de-listing, as a lever to obtain commercial in confidence information without assuring ISX it would remain in confidence, when asked
- 4. ASX may have not applied the same implicit volatility criteria for suspension to other companies.

In 2013 ASIC was able to provide relevant information on shorting, so should be able to do so again for other companies as well. Note that ASIC relies on market operators to provide information, so there is no guarantee that the information recorded is comprehensive. This is a defect that should be addressed.

It should be apparent to Senators that there are grounds for review of the role of ASX as a commercial entity which also has regulatory powers in respect of actual or potential competitors, or of being able to exploit such powers to introduce or extend products or services which are tightly coupled to their CHESS monopoly.

Senators should verify that ASX Directors have full access to all details of ASX Departments' activities, and ask has there been any communication about ISX or any other financial technology stock, between the compliance group and ASX Directors, and what was the nature and content of those communications. The ASX annual report indicates that Directors do receive all minutes etc of its officers deliberations.

Senators should ask ASIC: what is the minimum role that ASX should have, given that it is a commercial enterprise, and what other enquiries are outstanding in respect of ISX, for what reason. Are such enquiries an impediment directly or indirectly to financial technology stocks in Australia (for example for Financial Service licence or ADI)? Should such enquiries be conducted by ASIC rather than ASX?

Senators should ask ACCC do they have any concerns about the potential for ASX to obtain monopolistic influence through new, or extensions to any existing, products or services, whether independent of or in conjunction with regulatory powers.

Senators should acquaint themselves with ISX holdings or applications for licences and ADI which may have been impacted by ASX actions and consult with ASIC and ACCC on their relevance to ISX business operations as distinct from ASX proper role. The point of this is to determine whether ASX or ASIC should be conducting such enquiries of any financial technology stock.

My suggestion is that all ASX roles especially regarding suspension apart from listing or volatility be transferred to ASIC for their decision, and that those suspension decisions should be reviewed by ASIC who will make the final decision on when or whether to lift the suspension.

ASIC should charge ASX for those services which ASX may recover as fees.

Section 2: Scope for Market Manipulation

The key proposition is that the Senate Committee should recommend extensive data gathering of any aspect of share market trading across brokers and market participants for analysis and action in order to prevent market manipulation.

Prelude

In order to get to the bottom of issues raised there are three major considerations for the Senate Committee to assess what specifically to recommend:

- 1. Being able to follow the money. There is scant data available:
 - a. On who are the actual owners, and who are the nominal owners of shares being shorted or traded. Who actually benefits from a short, or spoofing or other type of manipulative trade?
 - b. Whether brokers buying and selling shares are in a round robin arrangement which can only be detected by tracing back trades over days to settlement
 - c. How trades are netted out to be near zero between brokers and their clients while pursuing a market price directing strategy.
 - d. On how fund managers attribute interest earned on stocks loaned out to shorters, to their owning entity or to their fund member's accounts
- 2. Who is pushing their own barrow? Trust should not be extended to any party which can benefit from a failure to disclose all relevant data. ASIC needs to determine what data is required to prevent manipulation and set about getting it.(Just as the US Justice department is apparently doing, see below).
- 3. If the shoe does not fit don't buy it. Market manipulators make much of the phrase 'price discovery' as some virtue to be pursued for which they offer a service. If buyer and seller have a gap in their idea of a fair exchange, let it be.

Forms of Manipulation

Spoofing & Layering:

Spoofing is the placement of a high volume of trading orders at a price equal to or better (i.e., lower) than the best-bid-best-offer price and subsequently cancelling these orders to move the price in a given direction without actually concluding any trades. For example, consider a stock where the current best offer is \$9.99 per share. A spoofer might place a high volume of sell orders at \$9.98, causing the best offer to decline to \$9.98, immediately cancel those sell orders before they can execute, and then place a high volume of new sell orders at \$9.97. The strategy of repeatedly placing and cancelling sell orders at or below the best offer without actually selling any shares artificially drives down the share price.

Layering is similar to spoofing, except that instead of placing and cancelling a high volume of orders at the best offer price, the manipulator places these orders deeper in the order book, at prices above the best offer. In the prior example, suppose the manipulator worries that the artificially "spoofed" sell orders at \$9.98 will be inadvertently executed before they can be cancelled. Instead of placing these orders at \$9.98 (or \$9.99, the original best offer), the manipulator may place a high volume of sell orders at \$10.01, or some other price slightly above \$9.99. These orders are virtually certain not to be filled but they affect pricing by suggesting falsely that there is a large volume of shares for sale.

In a USA case Washington D.C., Oct. 16, 2019 —

https://www.sec.gov/news/press-release/2019-216

The Securities and Exchange Commission has filed an emergency action and obtained an asset freeze against 18 traders in a scheme to manipulate more than 3,000 U.S.-listed securities for over \$31 million in illicit profits.

The SEC alleges that the traders, manipulated the prices of thousands of thinly traded securities by creating the false appearance of trading interest and activity in those stocks,

thereby enabling them to reap illicit profits by artificially boosting or depressing stock prices. People familiar with those methods say prosecutors now have an easier time identifying suspected spoofing due to advancements in the way the Department (of Justice) collects and analyzes trade data internally. Do ASIC know how to do that? Are they gathering such data?

- With further reference to spoofing and layering.
- https://www.londonstockexchange.com/exchange/news/market-news/market-news-detail/BUR/14184325.html and
 https://www.proactiveinvestors.co.uk/companies/news/901027/burford-capital-passes-evidence-of-market-manipulation-to-us-regulators-901027.html

Other types of Manipulation:

https://www.cnbc.com/2019/09/18/federal-prosecutors-regulators-broaden-market-manipulation-probe.html

- An investigation into fraudulent trades in the precious metals market has expanded to other markets as well as to more firms.
- The Justice Department may be expanding its staff as the probe into spoofing trades broadens.
- So far, federal prosecutors have brought 13 spoofing cases against 19 defendants in the past five years.

These following particular related types of manipulation are given good definitions or *other* examples in either

- 1. https://essay.utwente.nl/77579/ (a thesis submission), or
- 2. Solving Modern Crime in Financial Markets Elsevier 2016

Namely:

- Front running by insider trading. For example taking 'insider' rather broadly, if there is knowledge of some news, whether opinion or fact, that is about to be published, that forthcoming news may provide advantage to a select group, say subscribers to stock marker commentators, or brokers or their clients, or fund managers, who may seize on that to short or spoof or layer a stock.
- Wash trading is the activity on the stock market that is intended to create a false impression of an active market of a certain stock, whereas in reality there is very little activity. This is done by a trader (or a group of collaborators) in order to lure in other traders to participate in the activity of that particular stock.
- Spoofing and layering other examples in references below
- Smoking a special case of layering
- Stuffing fill the market with immediate or cancel orders to create an impression, then use HFT to close out sales in front of slow traders.
- Momentum Ignition is similar to either spoofing or layering but with the intention of continuing in that direction rather than stepping out or reversing.

Bots & AlgorithmicTrading:

High frequency trading has become a feature of stock markets over the last several years. Orders as bid or offer of a single unit or if a few arrive at once, just a few units, signal that some intent to influence the market price is in the offing as part of some strategy. What might this look like?

The actual close auction and immediately preceding transactions on 16/12 for ...

PAR	Mornin	astar Report	Advanced Chart	Buy	Sell
PARADIG			CEUTICAL)
Stock code PAR	Type ORD	INARY FULLY PA	AID Currency AI	JD Status Ad	just, Notice Received
2.900		. % 2.89 nange Bid		20 3.020 en High	2.870 3.050 Low Close
Summary	Depth	Course of S	<u>.</u>	Research	Charts Price
Course of sa	ales for 16	December 20	119	<< most recen	nt < previous pag
Time	Price	Quantity	Time	Price Q	uantity
4:10:17 pm	2.9000	45	4:10:17 pm	2.9000	1,709
4:10:17 pm	2.9000	673	4:10:17 pm	2.9000	115
4:10:17 pm	2.9000	330	4:10:17 pm	2.9000	311
4:10:17 pm	2.9000	6,100	3:59:59 pm	2.9000	39
4:10:17 pm	2.9000	286	3:59:50 pm	2.8700	131
4:10:17 pm	2.9000	1,996	3:59:50 pm	2.8700	26
4:10:17 pm	2.9000	103	3:59:50 pm	2.8700	1
4:10:17 pm	2.9000	811	3:59:39 pm	2.8800	4
4:10:17 pm	2.9000	500	3:59:39 pm	2.8800	2
4:10:17 pm	2.9000	757	3:59:35 pm	2.8800	29
4:10:17 pm	2.9000	214	3:59:35 pm	2.8800	1
4:10:17 pm	2.9000	63	3:59:35 pm	2.8800	5
4:10:17 pm	2.9000	610	3:59:35 pm	2.8800	1
4:10:17 pm	2.9000	348	3:59:35 pm	2.8800	3
4:10:17 pm	2.9000	42	3:59:35 pm	2.8800	17
4:10:17 pm	2.9000	5	3:59:35 pm	2.8800	3
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[•] And just before that..

PARADIGM BIOPHARMACEUTICALS LIMITED..

Stock code PAR	Type ORD	INARY FULLY PA	ID Currency A	UD Status Ad	ljust, Notice Re
2.900 ↓ -0.1 Last Chance		. % 2.890 nange Bid		020 3.020 pen High	2.870 3. Low C
Summary	Depth	Course of S		Research	Charts
Course of sales for 16 December 2019 << most recent < pre					nt < previous
Time	Price	Quantity	Time	Price Q	uantity
3:59:30 pm	2.8800	3	3:58:57 pm	2.8800	128
3:59:30 pm	2.8800	1	3:58:57 pm	2.8800	30
3:59:30 pm	2.8800	1	3:58:57 pm	2.8800	34
3:59:30 pm	2.8800	1	3:58:56 pm	2.8800	1
3:59:30 pm	2.8800	1	3:58:56 pm	2.8700	6,024
3:59:26 pm	2.8800	3	3:58:55 pm	2.8800	2
3:59:19 pm	2.8800	3	3:58:49 pm	2.8800	2
3:59:12 pm	2.8800	1	3:58:43 pm	2.8800	2
3:59:11 pm	2.8700	3,823	3:58:35 pm	2.8800	1
3:59:11 pm	2.8700	5,677	3:58:33 pm	2.8800	1
3:59:11 pm	2.8800	2	3:58:33 pm	2.8800	104
3:59:07 pm	2.8800	2	3:58:29 pm	2.8800	2
3:59:07 pm	2.8800	162	3:58:24 pm	2.8800	2
3:59:07 pm	2.8800	96	3:58:21 pm	2.8800	146
3:59:07 pm	2.8800	31	3:58:18 pm	2.8800	2
3:59:04 pm	2.8800	1	3:58:12 pm	2.8800	2
3:59:04 pm	2.8800	17	3:58:05 pm	2.8800	1
3:59:01 pm	2.8800	1	3:58:04 pm	2.8800	9
3:58:57 pm	2.8800	83	3:58:04 pm	2.8800	153
3:58:57 pm	2.8800	62	3:58:00 pm	2.8750	13
5.50c.57 pm	2.0000	02	3,30,00 pm	2.0730	13

• Senators might conclude that single unit offers had succeeded in forcing the price down to 2.87 by repeatedly offering to sell 1 unit at last sale price (you can't see the offers that don't "take". A supposition, no one actually wants to buy 1 share in an auction period at close). However as soon as the final auction takes place, it appears that the bots don't want to trade at the higher clearing price, there is not a single trade of 1 at 4:10, those offers are inferred to have been retracted. On this occasion the inferred manipulation attempt to lower the close price fails; the big successful short

was a few days earlier. Later, on December 19. PAR opened at 2.94. The chart below shows how many cases there of a number of trades alongside.

Cases	N	umber traded
	70	1
	133	2
	61	3
	27	4
	17	5
	14	6
	465	6 <x<100< td=""></x<100<>

There were a total of 1160 trades recorded, with obviously more than 1/4 of <6. The chart below shows:

From 1pm several groups of three single trades, then groups of three small trades every few minutes up to around 2pm. This period looks like spoofing. One thing that shorters need are other sellers at a low price so the short can be closed. From around 3.31pm, a 'Wash' looks to be in progress because there were no other trades taking place, and the apparent manipulation was to create the impression that there were willing buyers and sellers. In this case the aim was to draw in some sellers.

Time	Price	Quantity
10:06:54 AM	2.94	3
10:48:33 AM	2.87	1
10:48:34 AM	2.87	1
11:00:05 AM	2.85	1
12:33:17 PM	2.86	1
12:33:17 PM	2.86	3
12:39:18 PM	2.86	3
12:44:22 PM	2.86	2
12:46:15 PM	2.86	2
12:47:01 PM	2.85	1
12:49:31 PM	2.85	1
12:51:54 PM	2.85	1
12:52:27 PM	2.86	1
12:57:41 PM	2.86	2
1:00:06 PM	2.86	1
1:00:06 PM	2.86	1
1:00:06 PM	2.86	1
1:00:25 PM	2.86	1
1:00:25 PM	2.86	1
1:00:25 PM	2.86	1
1:02:30 PM	2.85	1
1:02:30 PM	2.85	1
1:02:30 PM	2.85	1
1:07:41 PM	2.85	2
1:07:41 PM	2.85	2

1:07:41 PM	2.85	2
1:10:26 PM	2.85	1
1:10:26 PM	2.85	1
1:10:26 PM	2.85	1
1:13:05 PM	2.85	1
1:13:05 PM	2.85	1
1:13:05 PM	2.85	1
1:19:22 PM	2.84	2
1:22:38 PM	2.84	1
1:25:47 PM	2.84	1
1:28:44 PM	2.84	1
1:31:40 PM	2.83	1
1:35:00 PM	2.83	1
1:35:00 PM	2.83	1
1:41:44 PM	2.81	2
1:41:44 PM	2.81	2
1:45:05 PM	2.81	1
1:45:05 PM	2.81	1
1:48:08 PM	2.81	1
1:48:08 PM	2.81	1
1:51:17 PM	2.8	1
1:54:19 PM	2.805	1
1:55:59 PM	2.81	1
1:58:35 PM	2.805	1
2:01:09 PM	2.81	1
2:02:44 PM	2.81	1
2:05:15 PM	2.81	1
2:10:49 PM	2.815	2
2:13:41 PM	2.815	1
2:16:13 PM	2.81	2
2:20:53 PM	2.8	2
2:22:07 PM	2.81	1
2:26:40 PM	2.805	2
2:29:03 PM	2.8	2
2:30:11 PM	2.81	1
2:33:56 PM	2.81	1
2:36:17 PM	2.81	2
2:38:53 PM	2.81	2
2:43:42 PM	2.81	3
2:48:27 PM	2.81	2
2:50:55 PM	2.81	2
2:53:24 PM	2.81	1
2:55:50 PM	2.81	2
3:01:03 PM	2.8	1
3:01:03 PM	2.8	2
3:06:23 PM	2.8	2

3:09:35 PM	2.78	1
3:10:43 PM	2.79	1
3:11:15 PM	2.79	2
3:15:35 PM	2.8	1
3:15:35 PM	2.8	2
3:22:38 PM	2.8	1
3:25:55 PM	2.805	2
3:27:06 PM	2.805	1
3:28:35 PM	2.81	1
3:31:17 PM	2.81	1
3:31:17 PM	2.81	1
3:31:17 PM	2.81	3
3:31:18 PM	2.805	1
3:31:20 PM	2.805	2
3:31:21 PM	2.805	2
3:31:23 PM	2.805	2
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3:31:49 PM	2.805	2
3:31:51 PM	2.81	2
3:31:51 PM	2.805	2
3:31:53 PM	2.805	2
3:31:53 PM	2.805	2
3:31:55 PM	2.805	2
3:31:57 PM	2.805	2
3:31:58 PM	2.805	2
3:32:01 PM	2.805	2
3:32:04 PM	2.805	2
3:32:05 PM	2.805	2
3:32:08 PM	2.805	2
3:32:10 PM	2.805	2
3:32:13 PM	2.805	2
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3:33:32 PM	2.815	2
3:33:36 PM	2.815	3
3:33:38 PM	2.815	2
3:33:41 PM	2.815	3
3:33:45 PM	2.815	3
3:33:47 PM	2.815	2
3:33:48 PM	2.815	2
3:33:50 PM	2.815	2
3:33:52 PM	2.815	2
3:33:54 PM	2.815	2
3:33:56 PM	2.815	2
3:33:57 PM	2.815	2
3:33:59 PM	2.815	2
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3:34:06 PM	2.815	1
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3:41:37 PM	2.79	2
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3:47:17 PM	2.78	1
3:47:17 PM	2.78	3
3:47:28 PM	2.78	3
3:47:39 PM	2.78	3
3:47:40 PM	2.78	3
3:47:41 PM	2.78	3
3:47:43 PM	2.78	3
3:47:46 PM	2.775	2
3:47:50 PM	2.78	3
3:47:52 PM	2.78	3
3:47:57 PM	2.775	2
3:48:06 PM	2.78	3
3:48:09 PM	2.78	3
3:48:11 PM	2.78	3
3:48:15 PM	2.78	3
3:48:17 PM	2.775	2
3:48:19 PM	2.78	3
3:48:21 PM	2.78	3
3:48:25 PM	2.78	3
3:48:26 PM	2.78	3
3:48:31 PM	2.78	3
3:48:35 PM	2.78	3
3:48:43 PM	2.78	2
3:48:44 PM	2.78	2
3:48:45 PM	2.78	2
3:48:46 PM	2.78	2
3:48:47 PM	2.78	2
3:48:48 PM	2.78	2
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3:48:50 PM	2.775	2
3:48:51 PM	2.78	2
3:48:52 PM	2.775	1
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3:58:26 PM	2.76	1
3:58:26 PM	2.76	1
3:58:34 PM	2.76	1
3:58:34 PM	2.76	1
3:59:51 PM	2.76	1
3:59:51 PM	2.76	1
4:10:10 PM	2.75	1
4:10:10 PM	2.75	1

Suggested Recommendations

The problem of how to eliminate some forms of manipulation is simply resolved. Market manipulation mitigation in general requires all of the following points to be recommended.

- 1. Place a minimum cost (tax) on an order placed of \$10, and another \$10 for an order retracted. Manipulators will come up with all sorts of reason why not to do that while pretending they are close to being saints. Brokers will hate it because their income will go down, ASX too. What will happen is that stocks will trade at what investors not manipulators think is the right price. That is how it should be. The Committee should beware of those pushing their own barrow.
- 2. Off market transfers must be priced to market intraday or close before the next day open and disclosed to the market to be reflected pre-open, with the date of the transaction and average price. All off-market transactions must be reported to ASIC and ATO, appropriately.
- 3. Shorts can only be placed on a zero down, that is, after a down tick and then another trade at the same price. Brokers may only trade on their own behalf on zero down or zero up.
- 4. Stocks can only be loaned to a borrower who agrees to pay the lender for any loss in market value, and is made to do so by requiring an option to sell the shares at the return price. (Think about it; the lender has to be stupid otherwise, or be in collusion to make a profit in some other way for themselves as a corporate entity at the expense of those for whom shares are held in trust).
- 5. Trustees (or equivalent as nominees for investors in a fund) who loan shares, must notify ASX/ASIC of the price at time of loan and price at time of return, and report that to the actual beneficiaries with net revenue received.
- 6. Shorters must hold cash (deposited with a broker for 3 days) to the value of a buy option at the shorted price as collateral.

What manipulation might look like

Case 1:

ISX in September up to being suspended 'because of price volatility'

ISX showed high of \$1.76 to a low of \$0.66 and a change in market capitalization from \$b1.92 to \$b0.72 or a 62.5% fall, settling at \$1.2b on suspension a fall of nearly 40% from the high. The volatility was a 'beat up' of old news (Oct 2018) not checked out with ISX before publication, followed by shorting. It is mooted in a public forum, HotCopper, that the

news reports, or material given to subscribers of Ownership Matters, may contravene part of the Corporations Act.



Case 2: PAR

In this case, some investors were expecting news, whereas a careful review of known practice of TGA would have told them it should not be expected before early Jan 2020.



In the case of PAR spoofing appears to have occurred with daily targets. Over the period market capitalisation declined from over \$800m to around \$550m. Although strictly speaking PAR is a pharmaceutical the behaviour of shorters is evident, and makes it difficult for growing companies to be able to raise capital for R&D and expansion.

Other References:

https://www.scribd.com/read/292860602/Solving-Modern-Crime-in-Financial-Markets-Analytics-and-Case-Studies#

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3068903

https://www.sciencedirect.com/science/article/pii/S1877050917326868

 $\frac{http://clsbluesky.law.columbia.edu/2019/03/18/short-selling-and-the-new-market-manipulation/}{}$

 $\underline{https://www.londonstockexchange.com/exchange/news/market-news/$

https://www.researchgate.net/publication/241291762_Stock_manipulation_and_its_impact_o n market quality

https://www.scribd.com/read/312264309/The-7-Deadly-Sins-of-Market-Abuse

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3068903

Where opinions are expressed or implied, they are to be regarded as hearsay needing independent establishment, preferably via ASIC.

Sincerely,

Gerald Jensen