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Australian Securities & Investments Commission

**REPORT 106**

# **Economic assessment of competition for market services**

July 2007

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INTERNATIONAL

**Prepared For:**

Australian Securities and Investments  
Commission

# Economic assessment of competition for market services

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## 1. INTRODUCTION

The Australian Securities and Investments Commission (the Commission) regulates Australia's financial markets, including ASX Limited, and is tasked with advising the Minister about rule changes and whether to approve new markets. Section 1(2) of the Australian Securities and Investments Commission Act 2001 sets out that in performing its functions the Commission must strive to:

- Maintain, facilitate and improve the performance of the financial system and the entities within that system in the interests of commercial certainty, reducing business costs, and the efficiency and development of the economy; and
- Promote the confident and informed participation of investors and consumers in the financial system.

The Commission is considering two applications for new trading venues:

- The AXE ECN regulatory and operational execution and reporting facility (AXE); and
- The Liquidnet Australia trading platform.

Both of these venues would trade in ASX listed securities.<sup>1</sup>

The Commission has asked CRA International (CRA) to assist it by providing an economic assessment of these new market proposals, including in terms of the potential for "market fragmentation" to affect market efficiency objectives.

This report is structured as follows:

- Section 2 describes key aspects of the ASX market, and of the AXE and Liquidnet Australia proposals, respectively;
- Section 3 outlines the implications of economic efficiency objectives and the effect on these objectives of possible market fragmentation, with particular reference to the types of trading venues proposed by the AXE and Liquidnet Australia proponents; and

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<sup>1</sup> Where relevant in the following we also refer to the ASX as the "reference market".

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- Section 4 comments on specific aspects of the AXE and Liquidnet Australia proposals that the Commission may want to focus on in coming to a view as to the implications of these proposals and on whether regulatory responses are warranted.

## 2. RELEVANT CONTEXT

This section describes important features of the existing trading venue provided by ASX and sets out features of the AXE facility and the Liquidnet Australia trading platform. We focus specifically on the types of transactions that are (or would be) permitted on each of these trading venues, including pre- and post-trade information requirements, and associated best execution requirements.

### 2.1. THE AUSTRALIAN SECURITIES EXCHANGE

The ASX is a continuous order-driven auction market in which Australian securities and other types of financial products are traded. For the majority of transactions, public limit orders provide liquidity, and a bid-ask spread is established from the resulting “auction” process on a continuous basis.

#### 2.1.1. Transactions

The ASX rules permit on- and off-market transactions in securities. On market transactions are entered into the Central Limit Order Book (CLOB) and executed during normal trading hours (between 10:00 am and 4:10 pm) through the ASX Integrated Trading System (ITS). ITS matches buy and sell orders and executes transactions automatically by price-time priority. On-market limit orders that are entered into ITS are immediately transparent, so that participants can view current and summary prices and volumes traded, as well as current order depth.

Off-market transactions occur off ITS and are arranged directly between participants, but must be reported to ITS on a specified timeframe. These include:

- Transactions in the overnight market (no transaction size limit, price by negotiation);
- Special Crossings with a minimum sale price between \$1-\$5 million, depending on the type of special crossing. Special crossings may take place off-market at any time and at any price. Trades must be reported in ITS and must include quantity, price, and the identity of the buying and selling broker.

Off-market transactions must be reported by the start of or during the next trading day. This varies with the time of day and the type of off-market transaction executed.

ASX Market Rules permit crossings (i.e. orders where the buying and selling broker are the same) in certain circumstances:

- On-market crossings must be visible to the market before they occur. The time component of price-time priority does not apply for these trades, but the price component does, so that orders at better prices must be filled before a crossing can take place:
  - For priority crossings (best bid and offer are less than one price step apart), the order must appear at its crossing price (but not size) for at least 10 seconds;



- Non priority crossings are allowed as long as a Participant has not pre-arranged the order of the bids and offers, and enters its matching order at least 10 seconds after the initial bid or offer was entered or amended; and
- As noted above, special crossings may take place off-market at any time and at any price.

Table 1 summarises the main elements of these rules.

**Table 1: Overview ASX transactions**

Permitted transactions	Pre-trade market information	Post-trade market information
<b>On-market (ITS) transactions (during normal trading hours)</b>		
Limit Orders: <ul style="list-style-type: none"> <li>▪ Matched in accordance with price-time priority</li> </ul>	Entered into ITS and immediately transparent	Limit orders executed in ITS and immediately transparent
Priority Crossings: <ul style="list-style-type: none"> <li>▪ Best bid and offer are less than 1 price step apart</li> <li>▪ Price, but not time priority applies</li> </ul>	Price but not size of order appears in ITS for at least 10 seconds before execution	On market crossings executed in ITS and immediately transparent
Non Priority Crossings: <ul style="list-style-type: none"> <li>▪ Participant order is matched against another order of the same participant</li> <li>▪ Crossing is not pre-arranged</li> <li>▪ Price-time priority applies</li> </ul>	Price and size of order appears in ITS for at least 10 seconds before execution	On market crossings executed in ITS and immediately transparent
Crossings using Automated Order Processing (AOP): <ul style="list-style-type: none"> <li>▪ Crossing is not pre-arranged</li> <li>▪ Price-time priority applies</li> <li>▪ No requirement for 10 second exposure</li> </ul>	Entered into ITS and immediately transparent	On market crossings executed in ITS and immediately transparent
<b>Off-market (ITS) transactions (during normal trading hours or out of hours)</b>		
Overnight trades: <ul style="list-style-type: none"> <li>▪ No transaction size limit</li> <li>▪ Price by negotiation</li> </ul>	No pre-trade transparency	Reported in ITS up to 15 minutes before next day normal trading session
Block special (> size \$1m): <ul style="list-style-type: none"> <li>▪ Off-market crossing in a single equity security</li> <li>▪ Single client must make up one side, the other side is the broker as principal</li> </ul>	No pre-trade transparency	If executed out of hours, reported up to 15 minutes before next day normal trading session.  If executed during normal trading, reported immediately.

Permitted transactions	Pre-trade market information	Post-trade market information
or as agent for one or more clients		
Facilitated Block Special:	No pre-trade transparency	If executed before 1300hrs, reported up to 15 mins before next day normal trading session. If executed after 1300hrs, reported by 1300hrs next day normal trading session.
<ul style="list-style-type: none"> <li>▪ Off-market crossing in a single equity security</li> <li>▪ Minimum transaction size varies by ASX stock category (\$15m-\$10m-\$5m-\$2m)</li> <li>▪ A single client must make up one side, the other side is the broker as principal</li> </ul>		
Portfolio Special:	No pre-trade transparency	Immediate reporting if participant acts on both sides as agent and if executed in normal trading.
<ul style="list-style-type: none"> <li>▪ Off-market crossing for at least 10 buys/sells of different equity securities</li> <li>▪ Each buy/sell transaction must be for at least \$200,000 and the total transaction must have a value of at least \$5m</li> <li>▪ Broker acts as agent for both sides or as principal to buyer/seller</li> </ul>		<p>If participant acts as agent and execution outside normal trading hours, reporting up to 15 minutes before next normal trading session.</p> <p>If participant acts as principal, if executed before 1300hrs, reporting 15 mins before next day normal trading session. If executed after 1300 hrs, reporting by 1300 hrs next day normal trading session.</p>

### 2.1.2. Best execution

ASX supervises and monitors the market activity of participants, listed entities and other users to ensure a market that is fair, orderly and transparent.<sup>2</sup> ASX participants have extensive disclosure obligations to clients and must act in accordance with client instructions.

ASX best execution requirements for participants are set out in Rule 7.5 of its Market Rules:

- *Fairness and priority in dealing:* A market participant must deal fairly and in due turn with clients' orders, and a client order and an order on its own account (7.5.3). Broadly speaking, compliance with this rule is assessed on the basis of whether:
  - The participant has acted in accordance with client instructions;
  - Where there is no discretion in order timing, price or quantity, client orders have been entered in the sequence in which they have been received or as soon as practicable;

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Australian Stock Exchange, Integrity Division, "Why and How ASX Supervises the Market".  
[http://www.asx.com.au/about/pdf/integrity\\_div\\_supervision.pdf](http://www.asx.com.au/about/pdf/integrity_div_supervision.pdf)

- Where the participant does have some discretion in relation to these factors, or where the sequence of orders has not been established, client orders are given preference over orders on the market participant's own account;<sup>3</sup>
- The market participant has acted in accordance with its own procedures to ensure that order information has not been used to the disadvantage of that client; and
- The client is a wholesale client.
- *Fairness and priority in allocation:* A market participant must allocate market transactions fairly (7.5.5). Compliance with this rule requires is assessed on the basis of:
  - Whether the allocation of market transactions is immediate and automatic, unless justified by circumstances or client instructions;
  - Whether the transactions are allocated in the sequence in which they were received, entered and effected;
  - Client instructions;
  - Whether allocation occurs in accordance with the market participant's disclosed allocation policy; and
  - Unfulfilled client orders are allocated prior to the market participant's own orders.

ASX monitors market participants' compliance with, *inter alia*, the ASX Market Rules. The ASX Surveillance section uses electronic monitoring and investigative tools, including Securities Market Automated Research Trading and Surveillance (SMARTS) to monitor real-time trading information and identify unusual price or volume movements. Where ASX becomes aware of the possibility of market abuse, the matter may be referred to ASIC, the ASX Markets Supervision Investigations function or the ASX Markets Supervision Issuers Unit.

## 2.2. AXE ECN

AXE ECN is a "*regulatory and operational execution and reporting facility*" for equity securities listed on the ASX.<sup>4</sup> AXE offers its participants trade execution and reporting services in respect of certain transactions in ASX listed equity securities.

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<sup>3</sup> The participant is nonetheless not allowed to place its own interests ahead of those of its client. However in appropriate circumstances it is allowed to share a trade pro-rata between clients, its own account or a prescribed person, as long as it has not given unfair preference to itself or a prescribed person.

<sup>4</sup> AXE, AML 1 – General, January 2007. P.5.

### 2.2.1. Transactions

Irrespective of size, the following transactions may be executed and reported through AXE during “open session state” from 7AM to 7PM on a business day:<sup>5</sup>

- Crossings, that is, transactions between two clients of the same participant, or transactions between a participant acting as principal and a client; and
- Transactions between two participants acting as either agent or principal.

AXE will not provide any technological infrastructure to support the interconnectivity of AXE participants in respect of order matching. The proponent (for this purpose, AXE) states that:<sup>6</sup>

*In each case, the transactions will be executed within AXE ECN’s regulatory infrastructure and reported to the ECN Platform, that is, the platform for receiving and displaying reports of transactions executed through the ECN.*

The physical receipt of client orders, the search for counterparties to orders, and the matching of orders will take place within participants’ proprietary trading systems:<sup>7</sup>

*AXE envisages that brokers will develop more sophisticated crossing engines and that other brokers will wish to tap into that liquidity. For example, a Participant may build internal mechanisms for matching orders between Participants and clients or acquire services from a third party provider to do this.*

Ordinarily AXE does not require pre-trade disclosure. In certain circumstances, AXE participants will be required to expose pre-trade information where it fits within their best execution obligations to do so (see below). After a transaction within an AXE participant’s own order book or between different AXE participants has been agreed, it must be reported to the ECN platform within 30 seconds of execution. That information is then provided to the participant’s settlement system and will be displayed on the ECN platform. The information provided will cover security, volume, and price.

That data will then be provided by AXE to various data vendors, with whom AXE has entered into agreements. AXE has an agreement in place with one data vendor to consolidate AXE data with data received from ASX and to make available a consolidated data feed for all transactions from both markets. AXE expects to establish similar agreements with other data vendors.

Although all transactions need to be notified to ECN immediately, the operating rules provide for a delay in the reporting and therefore dissemination of this information for certain large-scale transactions:<sup>8</sup>

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5 AXE, AML 5 – AXE Operating Rules, March 2007, 2.1.

6 AXE, AML 1 – General, January 2007, P.5.

7 AXE, AML 5 - AXE Operating Rules, March 2007. P.10.

- If a transaction is of a value of at least \$2 million and the counterparties to the transaction are a participant acting as principal and a client for whom that participant is acting, reporting can be delayed to the earlier of three days or once the value of transactions across all markets (potentially ASX, AXE and Liquidnet Australia) in that security has equalled five times the transaction value.<sup>9</sup>
- If a transaction comprises at least ten sales and/or purchases of different securities with a value of at least \$200,000 each and a total transaction value of at least \$5 million, and the counterparties are a participant acting either as principal or for a client, and another client for whom that participant is acting, reporting can be delayed to:<sup>10</sup>
  - 9.45AM on the next business day after the transaction was executed, if the transaction was executed before 1PM on the date of execution or;
  - 1PM on the next business day after the transaction was executed, if the Transaction was executed after 1pm on the date of execution.

Where clearing and settlement is concerned, AXE will not assume counterparty risk. Settlement will be effected by the entry of settlement messages on both sides of the transaction into CHES (the ASX security settlement system).

Table 1 provides an overview of transactions permitted within AXE and associated disclosure rules. The ASX distinction between on- and off-market transactions does not apply here, since AXE does not provide order matching services.

**Table 2: Overview AXE transactions**

Permitted transactions	Pre-trade market information	Post-trade market information
Crossings:	Ordinarily no pre trade transparency	Unless delayed reporting rules apply:
<ul style="list-style-type: none"> <li>▪ Between two clients of the same participant</li> <li>▪ Between a participant acting as principal and a client</li> </ul>	<p>AXE participants required to expose pre-trade information where it fits within their best execution obligations to do so. The best execution obligation contemplates exposure on either the ASX market or on the AXE platform.</p> <p>For exposure on the AXE platform, AXE will provide an electronic bulletin board for indications of liquidity.</p>	<ul style="list-style-type: none"> <li>▪ Trades during open session must be reported to AXE platform within 30 seconds of transaction.</li> <li>▪ Trades outside open session must be reported to AXE platform by 715hrs</li> </ul> <p>Delayed reporting:</p> <ul style="list-style-type: none"> <li>▪ For large trades in single security (&gt; \$2 million) - reporting the earlier of exactly 3 days after execution or after 5 times the value of the trade has occurred subsequently on AXE and ASX</li> </ul>

<sup>8</sup> AXE, AXE ECN Pty Limited (ACN 121 659 658), Operating Rules Procedures, March 2007.

<sup>9</sup> AXE, AML 5 - AXE Operating Rules, March 2007, S.4.5.1.

<sup>10</sup> AXE, AML 5 - AXE Operating Rules, March 2007, S. 4.5.2.

Permitted transactions	Pre-trade market information	Post-trade market information
		<ul style="list-style-type: none"> <li>Bundles of 10 trades each (&gt; \$200,000 and in total &gt; \$5 million) - If executed before 1300 hrs then by 0945 hrs next business day. If executed after 1300hrs then by 1300hrs on next business day</li> </ul>
Bilateral participant transactions: <ul style="list-style-type: none"> <li>Between two participants, where each is acting as either an agent or principal</li> </ul>	No pre-trade transparency	As above

### 2.2.2. Best execution

AXE's operating rules state that no single definition of "best execution" is possible.<sup>11</sup> Clients may judge execution quality according to different criteria, and the weight clients put on the various elements of execution (such as price, immediacy and net brokerage cost) may vary. Accordingly, under AXE's best execution policy, the onus is on individual participants to define best execution requirements<sup>[0]</sup>, ensure that those requirements are reflected in agreements with customers, and to fulfil them. This policy reflects participants' fiduciary obligation to clients in respect of execution. This policy is also consistent with AXE's stated preference for outcomes-based over process-based regulation which is based on the argument that:<sup>12</sup>

*Participants in determining how they can best meet these requirements within the context of their own business models and consequently will lead to a greater level of compliance with both the letter and spirit of the requirements.*

AXE's best execution obligation then takes the form of an obligation for each participant to have in place a best execution policy and to be able to demonstrate that transactions are effected in accordance with that policy. AXE expects that a participant's best execution policy would provide specifically that participants must follow "specific client instructions", which would override any default relevant provision of its best execution policy.

<sup>11</sup> AXE, AML 5 - AXE Operating Rules, March 2007, S.4.4.

<sup>12</sup> Ibid., , S.3.3.2.

The Guidance Note – Best Execution Policy proposes that for retail investors (those with transactions below \$500,000) there will be a general assumption (for the purposes of AXE surveillance) that price is a key feature of the best execution policy.<sup>13</sup> AXE surveillance systems would monitor on a real-time basis that all transactions below \$500,000 are effected within certain price parameters based on reported prices and spread on the “underlying market” (the ASX). If price outcomes fall outside these parameters, AXE will require a participant to demonstrate that its best execution policy has been satisfied. More generally, AXE requires participants’ best execution policies to address at least the following factors – client instructions, price, size of the trade, (direct and indirect) transactions costs, and speed.

AXE’s best execution obligation contemplates exposure on the ASX or on the AXE platform “*where this is in the client’s interests*”.<sup>14</sup> For exposure on the AXE platform, an electronic board “for indications of liquidity” will be provided. While the information content and functionality of this board is not clear, the scope of information provided will be that “*appropriate to acting in the client’s best interests*”, including one or more of – (interest in a) security, volume, price, buy/sell.

However, AXE does not require a participant to offer both the ASX and the AXE platform as execution venues to satisfy best execution requirements.<sup>15</sup>

*A key issue for Participants is whether they can satisfy best execution requirements if they include only one execution venue in their Best Execution Policy. The question is relevant for Participants who:*

- *Can minimise their execution costs significantly by directing all their order flow to a single execution venue;*
- *Wish to use the execution services of affiliates.*

*The test will be whether in each of these circumstances, the firm will be able to obtain the best possible results on a consistent basis with only one execution venue. AXE does not Rule this out.*

A Participant wishing to use only one execution venue would need to demonstrate to AXE how this satisfies the requirement for taking “all reasonable steps” to achieve best execution.

AXE’s market surveillance section would be tasked with monitoring trading in equity securities in the market operated by AXE to ensure that trades are fair and transparent, and that participants meet their obligations under the AXE operating rules and rules procedures.<sup>16</sup> AXE would also rely on SMARTS to monitor trades, and would undertake enquiries as necessary and/or refer transactions to ASX and ASIC.

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<sup>13</sup> AXE, AML 7 – Additional Written Procedures, Guidance Note – Best Execution Policy, January 2007, P.3.

<sup>14</sup> Ibid., P.2.

<sup>15</sup> Ibid., P.4.

<sup>16</sup> AXE, Procedure, Market Surveillance, January 2007, P.3.

## 2.3. LIQUIDNET AUSTRALIA

Liquidnet Australia Pty Ltd (Liquidnet Australia) is a wholly-owned subsidiary of Liquidnet Holdings, Inc. (Liquidnet), a company incorporated in the US. Liquidnet owns an electronic system, the Liquidnet Trading System (LTS), which licenses to its wholly-owned subsidiaries the right to operate LTS in their respective jurisdictions across the globe ("LTS Markets"). Liquidnet Australia is applying for an AML licence in relation to the matching of trades for ASX securities on LTS. In this capacity, Liquidnet Australia operates a trading platform for bilaterally negotiated transactions between wholesale institutions in ASX listed securities (Liquidnet Australia Market). Participants of the market must be institutional investors with at least US\$200 million (or equivalent) in assets under management acting transacting on their own behalf or as trustee or manager of a relevant managed fund. Liquidnet participants will not ordinarily be ASX market participants, because they will not be trading on behalf of non-related clients.

In addition, Liquidnet Australia also plans to route orders for overseas securities received from its Australian customers to other Liquidnet group companies for execution on the LTS Markets, and receive and execute orders on ASX securities from other Liquidnet entities. Liquidnet Australia has applied for an AFS Licence for these order routing activities.

### 2.3.1. Transactions

Transactions in ASX securities on the Liquidnet platform can occur between 0600 and 1700 hours. Orders from a participant's order management system are transmitted to the Liquidnet Australia platform as non-binding indications of interest to appropriate counter-parties as Liquidnet Australia finds matching indications of interest for the security and advises the corresponding counterparties who then electronically (and anonymously) negotiate the transaction. During the course of negotiations, if a proposal is not accepted in 30 seconds it expires, but a new proposal can be submitted or the proposal can be resubmitted, and the negotiation process will then begin again.

Upon acceptance, participants report the transaction to the Liquidnet Australia platform. No minimum order size applies. However, no orders can be placed on behalf of retail clients – participants must be acting as principals on or behalf of wholesale clients. Average transaction value is expected to be \$1 million. Liquidnet Australia note that traders are allowed to trade away from the National Best Bid and Offer (NBBO) and when acceptance is effective, trade is executed for the lesser of the two parties' negotiation quantities.<sup>17</sup>

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<sup>17</sup> NBBO is a standard applied in the US to define the price aspect of best execution requirements. Liquidnet Trading Rules (including Australian Addendum), S.3.06. The rules in relation to whether trades must be made in accordance with NBBO differ for different LTS markets. In the US LTS Market, traders must trade at or within the NBBO. In the UK LTS Market, traders must trade within the NBBO at the time of submission of the order. ^



Liquidnet Australia states that it does not display quotes.<sup>18</sup> Given the process outlined above, there is no pre-trade transparency since participants engage in one-on-one negotiation, and data on price and quantity of the initiating party is not displayed to anyone but the negotiating counterparty. Post-trade transparency would be achieved as information about executed trades on Liquidnet Australia will be disseminated through Liquidnet Australia's website and through the Integrated Real-Time Equity System (IRESS) used by ASX. We understand that trades executed on the Liquidnet Australia platform will be reported on its website and on IRESS without delay. In addition, Liquidnet Australia intends to provide traders with market data for securities traded on its network. This market data would be supplied to Liquidnet Australia by Reuters.<sup>19</sup>

The process outlined above refers to Liquidnet Australia's manual negotiation facility which is available to all participants. Liquidnet Australia also provides auto-execution functionality whereby automated orders are set up by members to be matched and executed in market at mid-price. However, auto-execution is only available for US securities.<sup>20</sup> Traders are also allowed to place orders for securities which are available through the other LTS markets in other countries and to meet orders from Liquidnet Australia systems in other countries (i.e. outbound and inbound trades respectively).<sup>21</sup> Table 3 provides an overview of the transactions permitted on Liquidnet Australia.

Liquidnet Australia will provide no guarantee to a counterparty that it will step in to ensure completion of the transaction. All trades are settled on the third business day following the trade date.<sup>22</sup> Buyers and sellers will have their own custodian/settlement participants to whom they provide instructions in respect of payment or delivery. Liquidnet Australia will act solely in an agent capacity in executing trades on behalf of buyers and sellers. Liquidnet Australia will furthermore provide no clearing or settlement services but will enter into clearing and settlement arrangements with Bear Stearns Securities Corp.

As part of its obligations as a market operator, Liquidnet Australia would have powers of investigation, including monitoring members' conduct and their compliance with the operating rules, and conducting internal reviews.<sup>23</sup>

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18 Liquidnet Australia Pty Ltd, Application for an Australian Market Licence (for a domestic market), 26 March 2007, P.38.

19 Liquidnet Trading Rules, S.5.08.

20 Ibid., S.2.02 and 3.07.

21 Ibid., S.2.14 and 2.15.

22 Ibid., S.5.10.

23 Ibid., S.5.1.

**Table 3: Overview Liquidnet Australia transactions**

Permitted transactions	Pre-trade market information	Post-trade market information
Bilateral participant transactions (manual negotiation facility): <ul style="list-style-type: none"> <li>▪ Participants are institutional investors and fund managers that may be acting as principals or agents on behalf of wholesale clients.</li> <li>▪ Liquidnet Australia merely executes orders acting as agent</li> </ul>	No pre trade transparency  Exposure is only to counterparties with matching indications of interest.	Transactions executed on Liquidnet Australia platform are immediately transparent.  Information about executed trades on disseminated through Liquidnet Australia's website and through IRESS.
Bilateral participant transactions (auto-execution facility): <ul style="list-style-type: none"> <li>▪ Participants submit automated orders for matching and execution at market mid-price.</li> <li>▪ Available for US securities and securities available through Liquidnet Australia systems in other countries.</li> </ul>	Assumed to be same as above	Assumed to be same as above

### 2.3.2. Best execution requirements

We understand that Liquidnet Australia does not intend to impose specific best execution rules. Liquidnet Australia state that:<sup>24</sup>

- Where time precedence of limit orders is concerned, *“as participants in the Liquidnet Australia Market are free to access any other market centres, this issue is better addressed by leaving market force to attract limit orders to the venues where they stand the greatest likelihood of achieving time precedence”*. Liquidnet Australia also do not expect time precedence to be an issue in practice, as Liquidnet Australia participants will not be ASX participants.
- Where order handling rules are concerned, *“best execution rules should incentive brokers to make best use of the opportunities presented by competing providers of trade execution services to achieve the most competitive executions”*.

## 2.4. IMPLICATIONS FOR THE COMMISSION

The functionality and the types of trades that would be permitted on the AXE and the Liquidnet Australia trading venues differ significantly from that of the ASX.

<sup>24</sup> Liquidnet Application, P. 39ff.

Given the types of trades that may be executed on the AXE platform, the AXE proposal combines aspects of:

- An internalisation platform, whereby clients' orders are matched by participants in-house or routed to other participants and executed on the platform; and
- A platform for facilitating bilateral block trades occurring off-market.

The term "ECN" does not appear to be defined in AXE's application, although it is suggested that the AXE platform resembles the "Electronic Communications Networks" (ECNs) that have emerged in the US.<sup>25</sup>

For clarity, it is worth noting that the AXE platform does not conform to how the term "ECN" is commonly used. The US Securities and Exchange Commission (SEC) has defined an ECN as "*any electronic system that widely disseminates to third parties orders entered into it by an exchange market maker or over-the-counter ("OTC") market maker, and permits such orders to be executed in whole or in part*".<sup>26</sup> The definition specifically excludes internal broker-dealer order-routing and crossing systems, that is, the types of systems that appear to be considered here. Alternatively, under the EU "Markets in Financial Instruments Directive" (MiFID), trading venues are classified into:

- "Regulated Markets", essentially conventional exchanges;
- "Multilateral Trading Facilities (MTF)" that correspond to ECNs as defined by the SEC; and
- "Systematic Internalisers" or an "*investment firm which, on an organised, frequent and systematic basis, deals on own account by executing client orders outside a Regulated Market or an MTF*".

In turn, the Liquidnet Australia platform would also facilitate bilateral block trades occurring off-market.

Appendix A to this paper provides an overview of US and EU approaches to regulation of trading venues that are not conventional exchanges, which we collectively refer to here as Alternative Trading Systems (ATS).<sup>27</sup>

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<sup>25</sup> In describing the context for the application, AXE state that "In the United States and Europe there are approximately 34 ECNs." AXE ECN, "AML 1 – GENERAL", January 2007, P.7.

<sup>26</sup> Exchange Act Rule 11Ac1-1, 17 CFR 240.11Ac1-1, se: <http://www.sec.gov/news/studies/ecnafter.htm>.

<sup>27</sup> The Committee of European Securities Regulators defines an ATS "*an entity which, without being regulated as an exchange, operates an automated system that brings together buying and selling interests - in the system and according to rules set by the system's operator - in a way that forms, or results in, an irrevocable contract*". The Forum Of European Securities Commissions, "The Regulation of Alternative Trading Systems in Europe, A paper for the EU Commission", September 2000.

For the Commission, AXE and Liquidnet Australia's licensing application raise two inter-related questions:

- About the degree of market fragmentation in ASX-trade securities that would arise as a result of these market proposals, and the implications of this fragmentation for the efficiency with which trades in securities would be conducted; and
- Whether specific characteristics of these proposals, for instance in terms of pre- and post-trade transparency, would accentuate or mitigate against any adverse effects of fragmentation.

### 3. EFFICIENT MARKET OBJECTIVES AND MARKET FRAGMENTATION

This section describes some important economic considerations for assessing financial markets. In economic terms, the performance of financial markets is assessed primarily on the basis of efficiency objectives. These incorporate short-term objectives that relate to the efficient operations of markets, but also longer-term (dynamic) objectives relating to innovation in market structure and conduct.

The effects of having competing market venues (referred to as “market fragmentation”) or more generally, of competition between trading venues, on efficiency are complex and not necessarily beneficial. While competition between trading venues may foster innovation, improved services and lower trading costs, it can also undermine liquidity in existing exchanges and result in inefficient pricing outcomes (which may then indirectly affect the viability of alternative trading platforms that rely on prices from the reference market). These inefficient pricing outcomes can then have widespread effects throughout the economy.

The advent of competing trading platforms also raises broader questions about competitive neutrality, that is, about establishing a robust framework within which different market models can operate on a “level playing field”, in which more onerous obligations are not placed on one platform than on others. Competitive neutrality is essential for competition to be on the merits, rather than being skewed by artificial burdens or advantages.

#### 3.1. EFFICIENT PRICE DISCOVERY AND PRICE FORMATION

The central economic role of exchanges and other trading venues is to enable efficient price discovery and price formation. Price discovery involves the degree to which, and the speed at which, prices converge to fundamental values, or more generally, reflect the best information currently available as to future income streams. The greater the extent to which trades are made at or close to fundamental values, the greater the efficiency of price discovery. As set out below, liquidity promotes efficient price discovery (and vice-versa).<sup>28</sup>

##### 3.1.1. Liquidity

Liquidity is the ability to organise trades at low transactions costs. The greater the size of the trades that can be made at any given cost, the more liquid is the market. As liquidity depends on the ease with which potential buyers and sellers can be matched, liquid markets are characterised not merely by the number of traders they attract, the pool of funding those traders represent and the efficiency of the trading platform on which they rely, but also by:

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28 Useful general surveys of the economics of trading venues can be found in Maureen O'Hara (1995) *Market Microstructure Theory*, Blackwell Publishing and Larry Harris (2003) *Trading and Exchanges*, Oxford University Press.

- The presence of a diverse mix of traders of various types (including traders who trade for different purposes, going from asset and risk management to gambling and speculation), which increases the likelihood of a two-sided order flow;
- Incentives for traders to reveal their willingness to trade, including through limit orders, which provides options other traders can draw on to make immediate trades;
- Prompt and complete access to information, which ensures that traders can readily identify counterparties for their intended trades and can trade with confidence as to the prices on offer; and
- Scope for traders to protect themselves from adverse selection risk (the risk of finding themselves on the wrong side of the market by trading with traders who are better informed than they are).

The liquidity of a market is then related to its transparency and to the confidence investors can have in the fairness of market processes:

- A market is fair if it is free of unfair practices and abuse, thereby underpinning investor confidence. Trading venues establish order flow and best execution requirements to achieve this objective, along with market surveillance and disciplinary procedures.
- The effects of transparency, particularly pre-trade transparency, on securities markets are more complex.<sup>29</sup> In general, the more complete and widely available trading information is, the more efficient the price discovery process should be. This should, in turn, increase the incentive to participate in the market, and increase liquidity and competitive pricing.<sup>30</sup> However, the interest of individual market participants and their customers in transparency levels varies. Wide availability of trading information may attract participation by uninformed traders who might otherwise stay out of the market, but it may discourage others, for instance, those interested in entering into larger (block) trades. No single transparency regime will therefore be seen as optimal by all types of investors and market participants.

### 3.1.2. Transactions costs

Transaction costs (of trading) are comprised of direct costs, such as brokerage/trading costs, and indirect costs. The indirect costs of a transaction are determined by market liquidity and related factors:

- The difference between the actual buy and sell price (the bid-ask spread);

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29 Financial Services Authority, The FSA's approach to regulation of the market infrastructure, January 2000.

30 One aspect of this is that greater transparency reduces the market power of brokers, as smaller traders get more of the price benefits arising from large trades. In turn, reduced broker market power should make for lower transactions costs, both through its direct impact on spreads and indirectly by promoting innovation and cost reduction.

- Market impact costs, that is, the impact that a transaction has on the prices at which that transaction is executed; and
- Opportunity costs compared to an alternative transaction that might have been carried out.

Liquid markets, and, more broadly, markets in which efficient price discovery occurs, are associated with and themselves reduce transactions costs (since low transactions costs encourage trading).

### 3.1.3. Dynamic efficiency objectives

From a dynamic (longer-term) efficiency perspective, investment and innovation are of central importance. It is obviously desirable to allow (or at least not prevent) competition between trading platforms developing where it will be efficient. The benefits of competition between trading venues can include:<sup>31</sup>

- The reduction or avoidance of monopoly mark-ups, especially in explicit trading charges like execution costs and indirect trading costs like bid-ask spreads;
- Innovation in trading platforms that may offer traders a range of trading methods that better reflect their requirements and accordingly creates pressures for conventional exchanges to engage in operational innovation as well; and
- Greater participation of investors and of the general public more widely in trading because of the greater range of platforms available and the lower trading costs promoted by competition.

Competition will be efficient where the gains in terms of innovation in trading platforms and lower transaction costs exceed any likely detriments that competition (and the associated potential for market fragmentation) may cause in terms of liquidity, price discovery and trading integrity.

## 3.2. MARKET FRAGMENTATION

In financial markets where securities are traded, there is typically a conflict between the objective of promoting innovation through competition, and that of ensuring the optimal performance of trading platforms in terms of price discovery and price formation. Specifically, market diversity or “fragmentation” – the simultaneous operation of multiple trading venues – brings with it both costs and benefits. Competition between trading venues can generate dynamic efficiencies, in terms of reduced transactions costs or improved services, but the accompanying fragmentation of previously centralised trading can undermine liquidity and transparency, and as a result, the quality of price-formation and the efficiency of the market as a whole.

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31 Report from the Technical Committee of the International Organization of Securities Commissions, “Transparency and Market Fragmentation”, November 2001. Available at: [www.iosco.org](http://www.iosco.org)

To an extent, trading in ASX securities is already fragmented, in that a proportion of trades is undertaken without being exposed to the market, or more generally, as liquidity is spread across trading hours. Nonetheless, the advent of a competing trading venue can introduce a number of additional costs:<sup>32</sup>

- The duplication of costs, including “search” costs (by reducing the visibility of pre-trade information), operating costs and regulatory costs;
- The diffusion of liquidity into separate liquidity pools, which may in turn make price discovery less reliable as well as less stable and undermine efficient price formation overall; and
- The introduction of trading methods and business practices that may also diminish the efficiency of the market as a whole (for example, if it becomes more difficult to ensure market integrity).

Overall, market fragmentation raises questions about the extent to which best execution rules, in terms of price-time priority, can be met and at what cost.<sup>33</sup>

While market fragmentation poses a number of challenges to the efficient operations of markets, market responses may offset some of these, for instance if:

- Third party intermediaries collect and consolidate information from all trading venues; and
- The dispersal of order flows is mitigated by the presence of participants who trade and arbitrage across multiple markets, so that divergent price or liquidity conditions would be eliminated.

These considerations raise broader policy questions for the regulator about the respective merits of regulatory intervention versus an approach in which potential risks to market efficiency would primarily be left to “the market” to address. Resolving these questions involve judgements as to the potential costs of regulation, including indirect (opportunity) costs that regulation can give rise to, on the one hand, and the potential detriment to the integrity and efficiency of trading in Australian securities in the absence of regulation, on the other.

Market fragmentation can take different forms. In the following sections we discuss the implications of the specific business models contemplated by AXE and Liquidnet Australia.

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32 Report from the Technical Committee, of the International Organization of Securities Commissions”, November 2001.

33 This is not to suggest that best execution only refers to price-time priority. Rather, as will be clear from the wider discussion of this issue, there are generally many dimensions to best execution, including price, volume, immediacy and so on.



### 3.2.1. Internalisation and preferencing<sup>34</sup>

The AXE and Liquidnet Australia proposals give rise to specific forms of market fragmentation that raise important regulatory questions because they arrange trades away from organised markets:

- Internalisation or internal order crossing, when dealers fill clients' orders internally or arrange trades among their clients; and
- Preferencing, when brokers route clients' orders to dealers or to ECNs in exchange for payments for order flow or liquidity fees.

These types of trades will directly reduce liquidity in the reference market, simply by virtue of the fact that fewer orders will be posted there.

This is not to say, however, that internalisation reduces the number of trades overall. Internalisation can be viewed as an additional pool of liquidity that participants can tap to create new trades. Internalisation of client orders may represent an alternative trading venue for investors and market participants that serves their needs. For example, low-risk, uninformed retail investors may obtain improved execution of their orders if they are able to obtain lower dealing costs than if trades are matched and executed on the reference market (the ASX). If participants compete for low risk, uninformed retail orders, they may set smaller spreads than would occur in a consolidated market with a mix of counterparties (and a correspondingly greater risk of adverse selection).

#### *Best execution*

Specific regulatory concerns about internalisation and preferencing arise in relation to order exposure problems. The order exposure problem arises because brokers who cross internally may expose client orders only to their clients, to preferred counterparties, or to themselves, and not to other traders who might be willing to fill the order, perhaps on better terms. This raises difficult questions about the extent to which "best execution" objectives are adequately achieved with respect to the customers of those brokers (and *a fortiori*, the base of investors as a whole).<sup>35</sup>

At the same time, defining best execution (and assessing whether best execution obligations have been met) is controversial, since:

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<sup>34</sup> Harris, Larry, *Trading and Exchanges*, Oxford University Press, 2003.

<sup>35</sup> Internalisation and internal order crossing additionally creates an "agency" problem that arises when brokers favour some clients over others. The broker may then arrange trades to the advantage of more favoured clients. Where intermediaries also trade on their own account, the risk is that own-account trades are favoured relative to the trades done on behalf of third parties. In the following we assume that these types of agency problems which typically arise in the context of relationships between investor clients and their agents (such as fund managers or brokers) are addressed elsewhere as part of the broader governance arrangements that agents will put in place. As a result, our focus is on the principal-agent problems associated specifically with trading in securities (as against the more general agency problems that might arise as between, say, an ultimate investor and that investor's funds manager).

- Different types and sizes of orders may trade at different prices; and
- Price is only one aspect of quality of execution, so that there is typically a trade-off between price and speed of execution.

At least well informed-traders could be expected to be sufficiently sophisticated to assess whether a trade has been well or poorly executed. But this is not necessarily the case for smaller, less well-informed traders who may not be in a position to assess trade-offs between transactions costs and bigger bid-ask spreads.

### *Incentives to compete*

Other adverse market impacts that have been identified from internalisation/internal order crossing and order preferencing relate to the incentives these transactions create for other market participants. There is a risk that these activities indirectly reduce the effectiveness of competition in public trading venues, since traders will more likely offer aggressive prices when their orders attract order flow, than if price competition has no effect on the orders they attract.<sup>36</sup> Additionally, if fewer “uninformed” orders are exposed on the reference market, adverse selection risks increase for traders. This could occur if brokers are encouraged to migrate trades from uninformed investors to the AXE platform. Spreads would need to rise to match the increased adverse selection risk, which in turn can cause an increase in price volatility (as higher bid-ask spreads cause traders to increase their outside spreads) and reduce the efficiency of price discovery.

There may, of course, be offsetting gains. Thus, AXE state that brokers will be able to develop more sophisticated crossing engines on its platform and that the opportunities for better customisation of matching orders this provides will spur more innovation and competition in the long run.<sup>37</sup>

### *Regulatory responses*

In the US and in Europe regulators have recently put in place strict regulation of best execution requirements, particularly in the context of internalisation and preferencing of trades.

In Europe, MiFID imposes extensive requirements on trading venues classed as Systematic Internalisers and investment firms handling client orders:

- Systematic Internalisers must, *inter alia*:
  - Publish firm quotes “on a regular and continuous basis during normal trading hours” in the securities for which they act as Systematic Internalisers;

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36 Pricing is, in other words, likely to be more aggressive when demand (i.e. the allocation of order flow) is relatively elastic.

37 AXE, AML 5 - AXE Operating Rules, March 2007, P. 10.

- Execute their clients' orders at the price quoted when receiving the order;
- Investment firms processing client orders must, *inter alia*.<sup>38</sup>
  - Take all reasonable steps to obtain the best possible result, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to the execution of the order;
  - Execute client orders in a "*prompt, fair and expeditious*" way – orders that are not immediately executed must be exposed on a regulated market or an alternative trading venue;
  - Meet post-trade disclosure obligations, including making public the volume and price of those transactions and the time at which they were concluded;
  - Put in place "arrangements" including an execution policy so as to take all reasonable steps to obtain the best possible result for the execution of their client orders;
  - Disclose "*appropriate information*" to clients about the firm's (execution) policy and obtain client consent to the execution policy; and
  - Be able to demonstrate on a client's request that they have executed the client's order in compliance with their execution policy.

In the US, the intermarket-access part of Regulation NMS requires all securities markets to provide automatically executable quotes fairly and efficiently through a new system of private linkages.<sup>39</sup> It also limits access fees to assure traders that displayed prices are accurate within narrow parameters. The Regulation NMS order-protection rule (known as the "trade-through rule"), with some exceptions, requires "*trading centres to obtain the best price for investors when such price is represented by automated quotations that are immediately accessible.*"<sup>40</sup>

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38 Gomber, Peter, and Markus Gsell, "Catching up with technology, The impact of regulatory changes on ECNs/MTFs and the trading venue landscape in Europe, Discussion-Paper 02/2006", Published in: Competition and Regulation in Network Industries, Special Issue on 'The Future of Alternative Trading Systems and ECNs in Global Financial Markets'.

39 Wright, Christopher, "A Bridge Too Far?", CFA Magazine, May-July 2005.

40 Under the rule, displayed quotes need reflect only best bids or offers, not the full depth of book.

SEC rules aimed at improving public disclosure of order execution and routing practices furthermore require all trading venues that trade national market system (NMS) securities to make monthly electronic disclosures of information concerning their quality of executions on a stock-by-stock basis, including how market orders of various sizes are executed relative to the public quotes.<sup>41</sup> These reports must also disclose information about effective spreads, and the extent to which they provide executions at prices better than the public quotes to investors using limit orders. The rules also require brokers that route orders on behalf of customers to disclose, on a quarterly basis, the identity of the trading venues to which they route a significant percentage of their orders. In addition, brokers must respond to the requests of customers to disclose where their individual orders were routed for execution during the previous six months.

Specifically where preferencing is concerned, SEC rules require firms to inform new customers (and otherwise on an annual basis) in writing whether they receive payment for order flow and, if they do, a detailed description of the type of the payments.<sup>42</sup> Firms must also disclose on trade confirmations whether they receive payment for order flow, and customers can make a written request to find out the source and type of the payment as to that particular transaction.

### 3.2.2. Off-market trades

Both the AXE and the Liquidnet Australia proposal enable participants to execute large block trades “off-market”.<sup>43</sup> A central question with respect to these trades is that of the pre- and post-trade disclosure obligations imposed on the market participants who undertake them.

#### *Liquidity*

The impacts of allowing reduced transparency for block trades are complex. Imposing full transparency on traders may penalise those trading large blocks, as it exposes them to “front running” and more generally increases the market impact costs that brokers bear in assembling and unwinding large positions.

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41 Registration of Securities Information Processors (Rules 11Aa2-1 to 11Ac1-6).  
<http://www.sec.gov/investor/pubs/tradexec.htm>

42 Registration of Securities Information Processors (Rules 11Aa2-1 to 11Ac1-6) <http://www.sec.gov/answers/payordf.htm>

43 In the US and Canadian context, the activities of brokers and dealers searching for counterparties to fill large institutional orders without fully revealing their orders are referred to as the “upstairs” market.

The concern with front running and the possibility that such front running will lead to a volatile market is cited by AXE as a rationale for delayed reporting of block trades.<sup>44</sup> AXE argue that such front running disadvantages retail investors, while the requirement to report within a short timeframe across all securities disadvantages smaller fund managers who want to invest in different types of securities. AXE cited a recent academic report to support the claim that delayed reporting can facilitate trading in larger quantities.<sup>45</sup>

To the extent to which these concerns are valid, reducing disclosure and transparency requirements for block traders that meet designated conditions can yield gains not merely for the traders directly involved in those trades, but also for the market more generally.

Liquidnet Australia then argue that its proposed platform would deliver the following benefits:<sup>46</sup>

- Faster receipt, routing and execution of orders;
- Reduced information leakage (because participants using the system do not know the identity of the party they are negotiating with);
- Use of algorithms for more efficient execution; and
- Participants operating under same trading rules, as Liquidnet Australia argues that there is currently no system, transparency or order with respect to transactions that occur off-market and its system will bring these features in for the first time.

As a result, Liquidnet Australia views its role as providing an alternative to institutional investors to achieve best execution, as well as a means of increasing liquidity for Australian companies by providing an avenue for them to tap into the global capital market. Because Liquidnet Australia anticipates it will occupy no more than 2 per cent of the market share of exchange block volume, it argues that it will not have any significant effect of reducing liquidity in the mainstream market. Instead it will attract incremental liquidity from institutional investors by enabling them to execute block trading of shares, something which would be prohibitive in cost in the mainstream market. AXE similarly argues that the introduction of its ECN will attract more activity and liquidity to Australia by offering better and cheaper execution and thus challenging the incumbent exchange to compete more vigorously, benefiting hedge funds, alternative brokers and large brokers looking to establish their own internal crossing networks.<sup>47</sup>

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44 Axe, AML 5 - AXE Operating Rules, March 2007, P. 12.

45 Comerton-Forde, Carole, Alex Frino and Vito Mollica, "Post Trade Transparency in an Order Driven Market: The New Reporting Regime for Large Single Stock Trades on the Australian Exchange".

46 Liquidnet Application, P.35 ff.

47 AXE, AML 1 – General, P.7.

It needs to be recognised, however, that this improved ability for traders to handle large transactions comes at a price. To the extent to which pre-trade disclosure is reduced, other market participants may be excluded from trading opportunities that they value more highly than do those involved in the transactions. The degree to which this would occur is obviously difficult to assess, but it is relevant that participants in transactions usually have incentives to seek out the best bid and offer. These incentives may mean that any losses to third parties arising from the reduction in those trading opportunities are more than offset by the expected gains to the direct participants in the relevant trades.

As regards post-trade disclosure, reductions in that disclosure keep other traders “in the dark” about underlying market conditions over the time that trades take place. This creates the risk that prices for trades arranged elsewhere may be “stale”, with resulting losses in allocative efficiency (as the pattern of trades made and not made will not reflect the best information about prices). Additionally, traders who do not know market conditions expose themselves to adverse selection from better informed traders when they offer liquidity. Given some deterioration in the information available, dealers must then widen their spreads to cover their losses from informed traders. The greater the increased risk that well-informed traders know material information about instrument values that would have an immediate and significant effect on values if it were common knowledge, the greater the resulting widening in spreads must be. As well as increasing costs for traders directly, this increased spread reduces the efficiency of price discovery and can lead to greater market volatility.<sup>48</sup>

The extent of this risk obviously depends at least in part on the extent of the trades that will be affected. Reducing pre-trade and post-trade disclosure of transactions is less likely to have a material harmful effect if the volumes affected are small relative to a large and still reasonably liquid pool. In practice, because “liquidity attracts liquidity”, the dominant pool is likely to remain so, at least in the short term. That said, there may be a risk of a cumulative process developing, especially for securities which are not very liquid to begin with. That is, the more large trades are executed off-market, the more volatile price movements in the reference market are likely to become, which would in turn lead to large buyers and sellers to conduct more trades off-market.

Responding to these concerns, AXE has argued that because its post-trade data will be widely disseminated and because it will work with ASX to develop supervisory information-sharing procedures, its ECN will not have an adverse impact on market integrity.<sup>49</sup> However, the AXE proposal is likely to lead to an increase in the incidence of trades that have delayed disclosure, especially if the ASX amends its trading rules to more closely match those the AXE has set out. The mere fact of the venues then working together to facilitate whatever disclosure they require cannot be said to entirely dispose of the efficiency concerns discussed above.

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48 The increase in volatility will be affected by the extent of “leakage” of information about block trades. If information about these tends to leak pre-trade, then there may be a pre-trade increase in volatility, as market participants seek to protect themselves from price uncertainty (and the resulting adverse selection risk). However, once the facts of the trade become known, liquidity would return to the market, reducing volatility. The impacts of proposals such as those put by AXE and Liquidnet will therefore be affected by the extent to which they tend to reduce leakage, as well as by the delay between the transaction itself and its disclosure.

49 AXE, AML 1 – General, P.8.

### *Integrity*

Beyond raising questions about achieving a workable balance between “informed” and “uninformed” traders, greater scope for off-market trading is of concern if participants undertaking block trades are in a position to manipulate prices in the reference exchange.<sup>50</sup> The buyer and the seller may both be tempted to manipulate the price they will use for their trade. As the costs of monitoring, detecting and punishing such market manipulation will not fall on the AXE but rather be borne (at least in part) by ASX, there is a potential for “free rider” concerns to arise. Moreover, to the extent to which any deterrence is less than perfect, an added risk of market manipulation can harm investors’ confidence in the reference market, detracting from its liquidity and overall efficiency.

### *Regulatory responses*

Some degree of off-market trading is permitted in both US and European security markets, although Regulation NMS has limited this significantly.

In the US, the “Order Protection Rule” part of Regulation NMS banned the practice of “trade throughs,” in which an institutional investor ignores smaller investors making small trades to directly make large block trades. Earlier proposals for Regulation NMS included a general “opt-out” exception that would have allowed market participants to disregard displayed quotations.<sup>51</sup> However, the SEC believed that such an exception would have left a significant gap in protection of the best displayed prices, and elected instead to add a number of tailored exceptions to order-handling rules. Regulation NMS does not provide a general exception for block orders, but broadly aims to promote the interests of investors seeking immediate execution of specific order types that reduce their total trading costs, particularly larger orders:

- Institutional investors choosing best execution over best price may opt-out of the trade-through rule, but must give explicit consent on a trade-by-trade basis; and
- Bids available for automatic execution, such as “intermarket sweep orders” can bypass or “trade through” better-priced bids not available for automatic execution.

In Europe, MiFID transparency and best execution requirements can be relaxed for block trades:

- “Competent authorities” may waive the obligation for MTFs and regulated markets to publish pre-trade information, depending on the market model, type and size of the order, in particular for transactions that are large in scale compared with normal market size for the share; and

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50 Given that these systems are particularly attractive for trading in less liquid securities (where spreads tend to be wider and market impact costs higher), there could be a risk of a vicious circle developing.

51 Regulation NMS (Proposing Release No. 34-50870; December 16, 2004).

- Systematic Internalisers may execute clients' orders at a better price, provided that such a price falls within a range close to market conditions and the orders are of a size bigger than customarily undertaken by retail investors.

### 3.3. COMPETITIVE NEUTRALITY

As set out above, market fragmentation can benefit some stakeholders trading in securities, but potentially at the cost of a deterioration overall of the “quality” (in terms of liquidity and resulting pricing outcomes) of the reference exchange. In turn, this raises questions about the appropriate policy response, in particular what regulatory obligations (if these are thought to be necessary) should be placed on trading venues, and whether these obligations should differ between venues.

This goes to the question of the “competitive neutrality” or consistency of the overall regulatory framework. Competitive neutrality objectives reflect an understanding that regulation should not provide a competitive advantage for one form of economic organisation over another, and that competition should be based on the merits of the regulated entities, rather than being distorted by the particular application of the law. In this sense competitive neutrality aims to create a “level playing field” as a basis for efficient competition.<sup>52</sup>

In the context of the proposals before the Commission, competitive neutrality would imply among other things that ASX would also be permitted to emulate features of the AXE or Liquidnet Australia models by way of a competitive response. For instance, it is possible that the ASX may seek to adopt similar rules and regulations as AXE in respect of the disclosure of large block trades. Alternatively, and given that both the AXE and the Liquidnet Australia proposal implicitly rely on prices generated on a reference market, ASX may elect to modify what data it disseminates and on what terms.<sup>53</sup> The impact of any proposed rules on the efficiency and integrity of Australian financial markets therefore needs to be assessed taking the potential for such a response into account.

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52 As well as imposing direct costs, regulations that are lacking in competitive neutrality may also give rise to regulatory gaming, when the parties affected by the regulation spend resources, or distort their behaviour, to try to influence the regulatory outcome in their favour. These expenditures of resources, which are ultimately a form of rent-seeking, are wasteful, in that they merely aim at redistributing “shares of the pie” rather than creating a larger “pie” for society as a whole.

53 For so long as the ASX was essentially the sole trading platform for its listed stocks, the supply of information about trades on the ASX was, in economic terms, a complement to the sale of trading services. However, once there are competing venues, the extent of that complementarity is reduced, and its sale of trading services becomes more elastic relative to the elasticity of demand for market data. As a result, one would expect charges for market data and potentially for listing to rise, and for trading on the ASX to fall as a result of competitive entry.



US and European regulators have incorporated rules to achieve competitive neutrality into their regulatory frameworks for stock exchanges and ATSS, although from different starting points. The main distinction between the US and European markets in this respect is that in Europe, stock exchanges have a longer history of offering electronic trading features. Furthermore, and as set out below, US and European regulators have applied competitive neutrality requirements to different degrees:

- While there has been some convergence of requirements placed on trading venues, US regulations exempt ATSS with minimal market shares from certain disclosure requirements via threshold requirements; while
- European regulators have recently put in place a comprehensive regulatory framework that explicitly places different types of trading venues on an equal footing.

Regulation ATS (December 1998) in the US sought to integrate ATSS into the national market system. ATSS could remain registered as broker-dealers, but additional obligations applied to ATSS that exceeded certain trading volumes:

- For those securities in which they have 5 per cent or more of the trading volume, ATSS are required to:
  - Link with a registered exchange or the NASD and publicly display their best priced orders; and
  - Allow members of the registered exchanges and the NASD to execute against those publicly displayed orders.
- ATSS with a market share of 20 per cent or more are required to:
  - Ensure that systems met certain capacity, integrity, and security standards; and
  - Not to discriminate unfairly against investors seeking access to their system.

These distinctions have been carried over into the more recent Regulation NMS.

The EU has incorporated important competitive neutrality objectives in MiFID, which will come into effect in late 2007. MiFID will replace the previous Investment Services Directive that allowed member countries to discriminate in favour of “regulated markets” (conventional stock exchanges). As argued in the 5<sup>th</sup> recital:<sup>54</sup>

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54 Ferrarini, Guido, and Fabio Recine, “The Markets in Financial Instruments Directive (MiFID) and Internalization”, Investor Protection In Europe: Corporate Law Making, The MiFID and Beyond, G. Ferrarini, E. Wymeersch, eds., Oxford University Press, 2006.

*It is necessary to establish a comprehensive regulatory regime governing the execution of transactions in financial instruments irrespective of the trading methods used to conclude those transactions so as to ensure a high quality of execution of investor transactions and to uphold the integrity and overall efficiency of the financial system.*

Under MIFID, member states will not be permitted to give preferential treatment to conventional exchanges as opposed to other trading venues. Conversely, MiFID places equivalent pre- and post-trade transparency requirements on regulated markets and alternative trading venues, requires Systematic Internalisers to provide quotes in securities listed on regulated markets, and imposes stringent disclosure and best execution requirements on investment firms executing orders on behalf of clients (broker-dealers).

### **3.4. IMPLICATIONS FOR THE COMMISSION**

Both the AXE and the Liquidnet Australia proposal permit a range of transactions that cannot currently occur in the same form on ASX, namely internalisation and preferencing without pre-trade exposure, and the ability to execute block trades off-market, in the case of the AXE proposal with a significantly delayed post-trade exposure. While transactions of this type could deliver new liquidity, their most immediate effect would be to remove liquidity from ASX, and therefore to potentially reduce efficient price discovery and price formation on ASX.

Overall, this creates the need for a difficult assessment that must balance the potential harm of competition between trading platforms, in terms of its potential to undermine the efficiency of trading on ASX as the central Australian securities trading platform, with the benefits, in terms of innovation and cost reductions, that competition can bring. Whether the advantages of market fragmentation are likely to outweigh its costs in the Australian context then depends on a number of factors that the Commission may want to consider, including:

- The overall size of the market and whether there is sufficient liquidity to sustain multiple trading venues;
- The relative efficiency and service levels of the established market(s) and new trading venues; and
- The business models and business incentives of the trading venues and market intermediaries.

Specifically where internalisation and preferencing are concerned, the questions that are likely to arise for the Commission relate to whether these types of trades would:

- Have a material effect on whether and how best execution obligations to different types of clients are likely to be met; or
- As well as any immediate effect of reducing liquidity on the ASX, discourage aggressive price competition and the incentive to invest in information, because competition is less “effective” in terms of attracting trades, and/or because traders suspect that their counterparties are better informed than they are (causing returns to informed traders to fall).

Parties undertaking large block trades off-market can be considered to be sufficiently sophisticated to assess whether best execution obligations have been met. Overall, the ability to undertake large block trades more easily may attract new liquidity (in the sense that it facilitates larger transactions than might currently be contemplated by investors), but it may also remove liquidity in public trading venues. From a regulatory perspective, these types of trades raise questions about whether:

- Relaxing post-trade disclosure requirements for such trades would significantly reduce the overall volume of large trades conducted on-market, or would encourage “new” trades that would not have been undertaken within the current market rules;
- Price impacts of block trades are likely to be durable so that more limited disclosure requirements for these trades would materially “harm” uninformed traders; and
- Greater potential for such trades either increases incentives for market manipulation or otherwise creates adverse selection risks for traders, which would in turn reduce the integrity and efficiency of the ASX.

Depending on how material the various concerns listed above are considered to be, the Commission may decide either to await a market response (albeit at the risk that the quality of the market may deteriorate until a market or (failing that) a regulatory response occurs), or to intervene by placing certain regulatory obligations on the relevant parties.

In this context, the question is then whether the regulatory framework that applies to ASX and would apply to proposed new platforms provides a competitive advantage to one platform over another that is not justified on the basis of fundamental market efficiency objectives. This is specifically a question about the types of regulatory measures that would be considered appropriate, for instance whether:

- Consistent regulatory obligations should be placed on all trading venues, for instance in terms of order exposure and reporting, and irrespective of the intended business model; or
- At least for smaller markets, some exceptions from the more onerous requirements placed on ASX should apply, in order to permit these ATS to achieve market share, and if so, what thresholds should be applied.

## 4. ECONOMIC ASSESSMENT OF THE AXE AND LIQUIDNET AUSTRALIA PROPOSALS

In this section we assess important aspects of the AXE and the Liquidnet Australia proposals, respectively, in the context of the discussion in Section 3. We focus specifically on the (increased) scope for internalisation and preferencing that are largely a feature of the AXE proposal, and the ability of participants of both the AXE and the Liquidnet Australia trading venues to execute block trades off-market (relative to ASX).

### 4.1. INTERNALISATION AND PREFERENCING

The AXE platform enables participants to trade away from the ASX by permitting participants, to a greater extent than is currently permitted on the ASX platform, to internalise trades and to trade bilaterally.

The Liquidnet Australia proposal similarly relies on a business model that favours bilateral trades, but as applied to wholesale investors undertaking block off-market trades. Although participants in Liquidnet Australia will not be participants in the ASX, such investors are likely to be well-informed about price-time trade-offs, so that concerns about order handling rules would seem to be less of an issue. Concerns about internalisation and preferencing would then primarily arise in relation to the AXE proposal.

#### 4.1.1. Liquidity

Depending on the volume of trades diverted from the ASX platform to the AXE network, a greater number of crossings and bilateral trades can have adverse effects on liquidity and price formation, although the seriousness of these effects is difficult to gauge.

Spreads on the reference market depend critically on orders that brokers do not internalise or trade bilaterally. Crossings made up 30.7 per cent by value of trades on the ASX platform during the 12 months ending September 2006. If the AXE model has commercial appeal, this proportion would rise and order flow on the ASX would decline. This may particularly detract from liquidity if, as is sometimes argued, crossings are the also the easiest orders to fill, so that only orders that are difficult to fill are submitted to a public exchange. The result may be reduced liquidity and wider bid-ask spreads, as well as increased price volatility in the ASX market. Trades would be diverted to AXE participants, in an effect that could be accentuated by any payments those participants made for order flow (noting that some part of those any such payments might be competed away and hence reduce charges to investors).

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55 The AXE business case assumes that fees to AXE participants would be significantly discounted relative to fees charged on ASX. AXE expect that in its first year of operations up to 50 per cent of ASX crossings would migrate to AXE, and up to 90 per cent subsequently. AXE, "AML 2 - Corporate Governance and Financial", March 2007.

#### 4.1.2. Best execution

The AXE business model relies on AXE internalising or preferencing orders, which in turn raises questions about whether best execution standards will be met reliably. In particular, the statement by AXE that AXE would not wish to prevent a participant from trading only on its own (and not the ASX) trading venue would seem to raise questions in this regard. It is difficult to see how price and time precedence objectives could be met by an AXE participant trading only on one platform (the AXE platform).

Clearly, the interest of AXE and its participants to maintain their good name and trading reputation may counteract incentives to settle for less than best execution, however defined. Nonetheless, while wholesale investors would be expected to understand the merits of trading in one venue versus another, it is not clear whether the same is true for smaller, retail investors (on whose behalf participants could transact on AXE).

#### 4.1.3. Transparency

The AXE model would reduce information flows relative to current standards on ASX:

- For (non-block) crossings and bilateral trades, the AXE model does not provide for pre-trade transparency, except in special circumstances, which appear undefined. It is also not clear what functionality the proposed bulletin board would have, in particular, in terms of order exposure and matching.
- Post-trade, AXE will publish information about the traded security, volume, and price. The AXE proponents have indicated that AXE plans to provide execution data to various data vendors with whom it will enter into various agreements.<sup>56</sup> These vendors would consolidate AXE data with the data received from ASX, and to make available a consolidated data feed in respect of all transactions from both markets in relation to ASX securities.

It is not clear to what extent these arrangements would make it more difficult and costly for market participants to inform themselves of trading information on all trading venues, and whether the arrangements that will be put in place will broadly meet the needs of all participants. The issue for ASIC is whether to rely on market forces to deliver consolidated information or whether to intervene with regulatory measures.

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<sup>56</sup> AXE ECN, "AML1 – General", P.5.

<sup>57</sup> AXE ECN, "AML1 – General", P.5.

#### 4.1.4. Implications for the Commission

The internalisation and order preferencing aspects of the AXE business model raise a question about whether best execution requirements on the AXE platform or for the market overall require strengthening to support market efficiency and investor protection objectives. Whether a regulatory response to the AXE proposal is warranted will depend on the materiality of these potential risks, in terms of their potential market impact, and will require a balancing of the legitimate interests of different market participants and investors.

As set out in Section 3.2.1 above, regulators in the US and in Europe have addressed these concerns in different ways, although the clear trend is towards relatively strict regulation of best execution requirements, particularly in the context of internalisation and preferencing activities. Regulatory responses that the Commission could accordingly consider include:

- Strengthened disclosure requirements in respect of investors, in particular retail investors in relation to such matters as execution venue, best execution standards, and order preferencing;
- Strengthened disclosure requirements in respect of trading venues, for instance by requiring publication of quality of execution measures; and/or
- Requirements for some form of order exposure for all trades undertaken on behalf of (at least retail) investors.

Applying different pre-trade transparency requirements to different types of trading venues, perhaps in the form of thresholds, would recognise different user preferences, but at the cost of a reduction in transparency overall. Alternatively, requiring standardised pre-trade transparency for all trading venues ensures maximum transparency, but may raise questions about whether a “one size fits all” approach is appropriate.

Where post-trade transparency is concerned, the issue for the Commission is whether market forces (including the arrangements proposed by AXE) will deliver appropriate information to the wider market. There is a clear efficiency gain associated with the timely availability of consolidated trading information across venues. Additionally, timely and full availability of information reduces monitoring costs, and hence makes it easier for investors to secure whatever best execution arrangements most closely suit their needs. The question, however, is how that timely, full and consolidated information flow is secured.

Allowing market forces to determine how information is consolidated may lead to flexible outcomes that meet the commercial requirements of all stakeholders, including the proponents, market data providers, as well as other traders and investors. Alternatively, if there is a material risk that information about transactions would not be disseminated in a timely and functional format, the Commission may intervene to strengthen information dissemination processes, for instance by:

- Promoting (or prescribing) standardised data protocols across trading venues;
- Requiring access to data on reasonable, non-discriminatory terms; and/or

- Otherwise mandating information consolidation across trading venues.

#### 4.2. OFF-MARKET BLOCK TRADES

Both the AXE and the Liquidnet Australia proposals aim to provide a platform for executing large block trades that are currently executed “off-market” on ASX:

- AXE propose significantly relaxed post-trade disclosure standards for block trades by allowing a three to five day window until trade execution must be reported; and
- We understand that Liquidnet Australia propose that transactions executed on its platform would be reported immediately on its public website and on IRESS. Under this arrangement, the general public will be able to see post trade-data unless it is more than a day old, while members and regulators can also access post trade data which is more than a day old.

While the rules of Liquidnet Australia would therefore seem to conform broadly with those on ASX (or impose a stricter timeframe), AXE’s rules allow a significantly longer reporting timeframe.

##### 4.2.1. Best execution

The AXE and Liquidnet Australia proposals comment to varying degrees on the implications of their proposed block trading facilities for best execution objectives. AXE will require participants to have in place internal governance arrangements to ensure that best execution obligations to clients are met. Liquidnet Australia refer to the sophistication of large participants, who would, in any case, be trading on their own account.<sup>58</sup>

As a general matter, and as noted by AXE, defining best execution in the context of large trades is likely to be particularly contentious. There are likely to be price-time trade-offs, the importance of which would be a matter of judgement. Additionally, and as noted above, traders or investors engaging in large-scale transactions would be expected to be sufficiently informed to be in a position to assess such trade-offs. At least where the participants of these platforms are concerned, it is therefore not clear whether particular concerns should arise in relation to best execution objectives (although of course traders who might not have an opportunity to transact at better prices may consider that they are unable to achieve best execution).

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It is not clear whether the fact that Liquidnet participants would be acting as agents on their own behalf is necessarily an appropriate distinction, since it would be expected that such traders (e.g. large investment funds) would in turn have fiduciary duties in respect of their clients. However, we would assume that such obligations would be addressed as part of the trader-client relationship, rather than as part of the rules on a trading venue.

#### 4.2.2. Liquidity and price discovery

Both proponents emphasise that a greater facility for block trades would not detract from liquidity on ASX, but would instead be a mechanism for discovering additional liquidity. There is some empirical evidence from the economic literature to back this claim.<sup>59</sup> For example, a recent study of the Paris Bourse found that 84% of sample block trades received better execution in the defined 'upstairs' market than they would have if they had been executed against the downstairs limit order book.

At the same time, as outlined above, these types of trades place traders in other markets at a disadvantage and potentially reduce the quality of price discovery and price formation. Given the three-day timeframe proposed by AXE, this proposal may therefore be problematic.

The issue is how to assess the balance of these effects. It is relevant here whether block trades have durable price impacts. If the price impacts of block trades are entirely transient, this would suggest that the only information content they have is that associated with the need for brokers to wind and unwind positions (i.e. that the block trades market impacts are limited to their immediate liquidity consequences). In that case, more limited post-trade disclosure is not likely to be especially harmful, as block trades do not indicate that the market has moved in a durable way (so that fundamentals are unchanged). On the other hand, if the block trades do tend to have durable price effects, then the efficiency costs associated with reducing post-trade disclosure may be greater. We note that some empirical research on block trades, albeit in a US context, tends to support the proposition that these do not have durable price effects.<sup>60</sup> Nonetheless, the issue of the nature and duration of the price impacts is one that the Commission needs to consider in assessing the risks associated with more limited disclosure obligations on block trades.

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<sup>59</sup> See Smith, B., A. Turnbull, and R. White 2001, "Upstairs markets for principal and agency trades: Analysis of adverse information and price effects", *Journal of Finance* 56: 1723-1746; Booth, G., J. Lin, T. Martikainen, Y. Tse 2001, "Trading and pricing in upstairs and downstairs stock markets", *Review of Financial Studies* 15, 1111-1135 and Bessembinder, H. and K. Venkataraman 2001, 'Does an electronic stock exchange need an upstairs market?', *Journal of Financial Economics*.

<sup>60</sup> See Kraus, A. and H. Stoll 1972, "Price Impacts of Block Trading on the New York Stock Exchange", *Journal of Finance*, June: 569-588; Scholes, M. 1979, "The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices", *Journal of Business*, April: 179-211; Shleifer, A. 1986, "Do Demand Curves for Stocks Slope Down?", *Journal of Finance*, July: 579-590; Chan, L. and J. Lakonishok 1993, "Institutional Trades and Intraday Stock Price Behavior", *Journal of Financial Economics*, April: 173- 199 and Babbal, D., C. Merrill, M. Meyer and M. de Villiers 2003, "The Effect of Transaction Size on Off-the-Run Treasury Prices", Wharton Financial Institutions Centre working paper. On the other hand: Barclay, M., C. Dunbar, and J. Warner 1993, "Stealth and volatility: which trades move prices?", *Journal of Financial Economics* 34, 281-306, and Chakravati, S. 2001, "Stealth trading: Which traders' trades move stock prices?". *Journal of Financial Economics* 61: 289-307 uncover a more complicated story whereby the highest percentage of cumulative stock price changes was accounted for by "medium sized" trades as these tended to be so-called "stealth trades".



While it is difficult to assess, before the fact, how great these effects would be, it is worth noting that the incentive to take trades off the reference market is likely to be least pronounced for the most liquid shares.<sup>61</sup> As a result, the AXE platform may be especially attractive for shares that already have somewhat more limited liquidity than the most liquid ASX-traded shares, accentuating possible impacts on overall market liquidity.

#### **4.2.3. Implications of alternative trading platforms using ASX pricing data**

Under both the AXE and the Liquidnet Australia proposals, the prices at which trades are executed are derived from the ASX market. In the context of block trades, where the sums at stake are potentially very large, this may create an incentive for price manipulation in ASX. The mechanism by which trades on these platforms are executed differ, but in either case it is not clear how material such a risk would be:

- The AXE proposal relies on an (apparently) relatively unstructured process of behind-the-scenes negotiations between buyers and sellers. If trades are completed with reference to an ASX price, it is possible that one party might seek to systematically influence the ASX price(s) prior to execution of the trade, although the counterparty would seem to have a strong incentive to monitor activity of this kind.
- On Liquidnet Australia orders would be executed within a 30 second time interval, and this would seem to limit the length of time in which either party could seek to influence prices on the ASX and make such actions relatively transparent.

Additionally, and as described in Section 3 both AXE and Liquidnet Australia aim to put in place arrangements for supervising market operations.

### **4.3. IMPLICATIONS FOR THE COMMISSION**

Both the AXE and the Liquidnet Australia proposal facilitate off-market block transactions that may benefit some participants and harm others. Overall, important elements in assessing the extent to which there should be concerns as to the implications of reduced disclosure for block trades include:

- The extent to which it is likely that the volume of block trades would rise, both in absolute terms and relative to the market as a whole;
- The extent to which such an increase, were it to occur, would withhold from the market, even if only on a temporary basis, information that is relevant to fundamental values;
- The extent to which any resulting adverse effects would be mitigated by:
  - The thresholds proposed by AXE and Liquidnet Australia;

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<sup>61</sup> This is simply because spreads are smallest for the most liquid assets, and any market impact costs associated with trades – including relatively large trades – will be smaller for those assets than for assets that are less liquid.

- Potential gains, in the form of increased overall liquidity, from reduced disincentives to block trades (and hence to accumulate large blocks in the first place).

Additionally, and while it is not clear that either proposal would result in a material risk of market manipulation, market supervision and surveillance functions may need to be strengthened across all markets trading in the same securities. For the Commission, the issue may then be whether greater coordination of supervisory responsibilities, and some mechanism for the sharing of costs, between ASX and other trading venues is required, particularly given that arguably the quality of these markets depend to a large extent on that of the ASX.

## APPENDIX A: OVERVIEW OF ATS REGULATION IN THE US AND IN EUROPE

### A.1 US

The US Securities Exchange Commission has defined an ECN as any electronic system that widely disseminates to third parties orders entered into it by an exchange market maker or over-the-counter ("OTC") market maker, and permits such orders to be executed in whole or in part. The definition specifically excludes internal broker-dealer order-routing systems and crossing systems – i.e., systems that cross multiple orders at a single price set by the ECN and that do not allow orders to be crossed or executed against directly by participants outside of the specified times.

ECN subscribers can enter limit orders into the ECN, usually via a custom computer terminal or a direct dial-up. The ECN will post those orders on the system for other subscribers to view. The ECN will then match contra-side orders for execution. In most cases, the buyer and seller remain anonymous, with the trade execution reports listing the ECN as the contra-side party. In addition, subscribers may use such features as negotiation or reserve size, and may have access to the entire ECN book (as opposed to the "top of the book") that contains important real-time market data regarding depth of trading interest.

When ECNs first developed, they were not integrated into the national market system, but primarily served as private trading vehicles for institutional investors and broker-dealers. Over time, as these subscribers posted prices in ECNs that were better than the prices they were posting in Nasdaq, the public quote became less reliable and the market became fragmented, and particularly retail investors were receiving executions at prices inferior to those displayed by market makers and other subscribers on ECNs. In 1996 the SEC adopted the Order Handling Rules to address the two-tiered market that had developed.

Under the Order Handling Rules, market makers and specialists were required to reflect in their quote the price of any orders they placed in an ECN if the price was better than their own public quotation. The Rules resulted in a substantial narrowing of the spread between bids and offers. However, the Rules did not require all market participants to report to the public quotation stream the orders they placed in ECNs. Institutional orders and non-market maker orders remained undisclosed to the public.

#### A.1.1 Regulation ATS

In December 1998, the SEC adopted Regulation ATS to establish a regulatory framework for alternative trading systems (ATS) and to more fully integrate them into the national market system. After the adoption of Regulation ATS, ECNs could either register as exchanges, pursuant to Section 6 of the Exchange Act, and comply with and undertake the self-regulatory functions implied by exchange registration, or remain registered as broker-dealers, pursuant to Section 15 of the Exchange Act, and comply with the requirements of Regulation ATS.

Under Regulation ATS, ATSs with substantial trading volume were required to comply with the following additional requirements:

- The order handling rules adopted by the SEC include a “display rule” (Rule 11AC1-4) under which dealers who accept limit orders and specialists must display any customer’s limit order, including their full size, when the order is placed at a price superior to the market maker or specialist’s own quotation.<sup>62</sup> ATSs were required to link with a registered exchange or the NASD and publicly display their best priced orders for those exchange-listed and Nasdaq securities in which they had 5 per cent or more of the trading volume, and had to allow members of the registered exchanges and the NASD to execute against those publicly displayed orders;
- An ATS with 20 per cent or more of trading volume also had to ensure that its systems met certain capacity, integrity, and security standards; and
- An ATS with 20 per cent or more of trading volume could not discriminate unfairly against investors seeking access to its system.

### A.1.2 Regulation National Market System

The SEC is in the process of implementing Regulation National Market System (Regulation NMS) which aims to level the competitive playing field by specifying equal regulation for all kind of stocks as well as different kinds of markets.<sup>63</sup> In particular one of the stated objectives of the rule is:<sup>64</sup>

*... promoting fair competition among individual markets, while at the same time assuring that all of these markets are linked together, through facilities and rules, in a unified system that promotes interaction among the orders of buyers and sellers in a particular NMS stock. The NMS thereby incorporates two distinct types of competition – competition among individual markets and competition among individual orders – that together contribute to efficient markets. Vigorous competition among markets promotes more efficient and innovative trading services, while integrated competition among orders promotes more efficient pricing of individual stocks for all types of orders, large and small.*

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62 Ferrarini, Guido, and Fabio Recine, “The Markets in Financial Instruments Directive (MiFID) and Internalization”, Investor Protection In Europe: Corporate Law Making, The MiFID and Beyond, G. Ferrarini, E. Wymeersch, eds., Oxford University Press, 2006.

63 Gomber, Peter, and Markus Gsell, “Catching up with technology, The impact of regulatory changes on ECNs/MTFs and the trading venue landscape in Europe, Discussion-Paper 02/2006”, Published in: Competition and Regulation in Network Industries, Special Issue on ‘The Future of Alternative Trading Systems and ECNs in Global Financial Markets’. [http://www.automatedtrader.net/Files/PDFs/Quant\\_Articles/GomberGsell\\_Catching%20up%20with%20technology.pdf](http://www.automatedtrader.net/Files/PDFs/Quant_Articles/GomberGsell_Catching%20up%20with%20technology.pdf)

64 Securities and Exchange Commission, Regulation NMS.

Regulation NMS would include new substantive rules that are designed to modernise and strengthen the regulatory structure of US equity markets.<sup>65</sup>

- The "Order Protection Rule" would require trading centres to establish, maintain, and enforce written policies and procedures reasonably designed to prevent the execution of trades at prices inferior to protected quotations displayed by other trading centres. To be protected, a quotation must be immediately and automatically accessible. This rule will have an important impact on market structure and indeed already has, forcing the modernisation of some stock exchanges in the US. This is because it essentially protects only orders on fast markets i.e. electronic markets where such automatic quotations as specified are available against "trade-throughs". The implication is that this means that floor-based markets which rely on manual quotations may face the risk of significant loss of order flow unless they modernise their trading systems.
- The "Intermarket Access Rule" would require fair and non-discriminatory access to quotations, establish a limit on access fees to harmonise the pricing of quotations across different trading centres, and require each national securities exchange and national securities association to adopt and enforce rules that prohibit their members from engaging in a pattern or practice of displaying quotations that "lock" or "cross" automated quotations.<sup>66</sup> One of the important consequences of the access rule for competition is that it enables the use of private linkages offered by a variety of connectivity providers, rather than mandating a collective linkage facility such as ITS, to facilitate the necessary access to quotations. In addition, the fee limitation provision strengthens the fairness and accuracy of displayed quotations by establishing an upper limit on the cost of accessing such quotations.
- The "Sub-Penny Rule" prohibits market participants from accepting, ranking, or displaying orders, quotations, or indications of interest in a pricing increment smaller than a penny, except for orders, quotations, or indications of interest that are priced at less than \$1.00 per share. The main aim of this rule is to promote greater price transparency and consistency, as well as to protect displayed limit orders.
- Finally, amendments to the "Market Data Rules" update the requirements for consolidating, distributing, and displaying market information, as well as amendments to the joint industry plans for disseminating market information that would modify the formulas for allocating plan revenues ("Allocation Amendment") and broaden participation in plan governance ("Governance Amendment").

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<sup>65</sup> Securities and Exchange Commission, Regulation NMS.

<sup>66</sup> A locked market occurs when the bids and offers are the same, suggesting that there is insufficient liquidity in the security to unlock the price. A crossed market is where the offer is below the bid and may occur as a result of market manipulation, where a seller submits a higher bid to induce higher prices, or a buyer submits a lower offer to induce prices to fall. <http://www.industrymailout.com/Industry/LandingPage.aspx?id=18142&p=1>

## A.2 EUROPE

In contrast to the United States, most electronic trading facilities in Europe have developed within existing exchanges. Over a period of some years, continuous electronic order books have been incorporated within mainstream exchanges, offering trading methods that in the United States were only available by routing away from the traditional venues.

### A.2.1 Investment Services Directive

Finally, until recently, the regulatory environment of securities trading in Europe was defined by the “Investment Services Directive (ISD)” established in 1993. The ISD defines framework legislation but its implementation in the EU member states differs significantly, especially true in relation to the ability of traders to execute orders outside regulated markets:<sup>67</sup>

- Some EU member states (e.g. France) adopted a “concentration rule” that required transactions up to a certain size to be conducted on a regulated market;
- Other member states (e.g. Germany) applied a “default rule” that required banks/brokers to execute orders on an exchange unless an investor opts-out on a per order basis; while
- Member states like the UK had neither a concentration nor a default rule.

### A.2.2 Markets in Financial Instruments Directive

The “Markets in Financial Instruments Directive” (MiFID) has now replaced the ISD, coming into effect in April 2004. It will have to be applied by investment firms and regulated markets in November 2007. MiFID regulates market transparency, order routing requirements and best execution, as well as other areas such as record-keeping, codes of conduct, organisational requirements and operating conditions for investment firms and regulated markets.

Trading venues are classified by the MiFID into “Regulated Markets”, “Multilateral Trading Facilities (MTF)” or “Systematic Internalisers”:

- Regulated Markets were already defined in the ISD of 1993 and correspond to the existing exchanges’ trading set-ups. In MiFID they are defined as “a multilateral system operated and/or managed by a market operator, which brings together or facilitates the bringing together of multiple third-party buying and selling interest in financial instruments – in the systems and in accordance with its non-discretionary rules – in a way that results in a contract, in respect of the financial instruments admitted to trading under its rules and/or systems, and which is authorised and functions regularly ...”.

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67 Gomber, Peter, and Markus Gsell, Discussion-Paper 02/2006.

- MTFs represent a new category in European securities legislation: an MTF is defined as “a multilateral system, operated by an investment firm or a market operator, which brings together multiple third-party buying and selling interests in financial instruments - in the system and in accordance with non-discretionary rules - in a way that results in a contract ...”, aligning the definition with that of ECNs in the US.
- A Systematic Internaliser is defined as an “investment firm which, on an organised, frequent and systematic basis, deals on own account by executing client orders outside a Regulated Market or an MTF”.

MTFs can either be operated by an investment firm or by an operator of a regulated market, while Systematic Internalisers are operated by investment firms.

MiFID permits competition between exchanges. Member states will no longer be permitted to privilege traditional exchanges against other trading venues via concentration or default rules.

At the same time, MiFID regulates all trading venues with the aim of creating a level playing field between the three types of trading functionalities and to assure the same level of investor protection with respect to all trading venues. In this context, key MiFID regulations concern order routing, market transparency and best execution requirements:<sup>68</sup>

- Pre-trade transparency requirements for MTFs and regulated markets require both to “*make public current bid and offer prices and the depth of trading interests at these prices*” for shares admitted to trading on a regulated market (Article 29 and Article 44). MiFID Articles 29(2) and 44(2) permit “competent authorities” to waive the obligation for MTFs and regulated markets to publish pre-trade information, depending on the market model, type and size of the order, in particular for transactions that are large in scale compared with normal market size for the share. Articles 26 and 28 apply corresponding post-trade transparency requirements for ATs and regulated markets.
- Where Systematic Internalisers are concerned:<sup>69</sup>
  - Article 27 requires Systematic Internalisers to publish firm quotes “on a regular and continuous basis during normal trading hours” in the shares admitted to trading on a regulated market, for which they act as Systematic Internalisers, for which there is a “liquid market”, and for orders up to a “standard market size”.
  - Article 27 furthermore requires Systematic Internalisers to execute their clients’ orders at the price quoted when receiving the order. Orders from professional clients may be executed at a better price, provided that such a price falls within a range close to market conditions and the orders are of a size bigger than customarily undertaken by retail investors.

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<sup>68</sup> Gomber, Peter, and Markus Gsell, Discussion-Paper 02/2006.

<sup>69</sup> Anolli, Mario, and Giovanni Petrella, “Internalization in the European Equity Markets Following the Adoption of the EU MiFID Directive”, *Journal of Trading*, Volume Spring 2007, Number 23701.

- To prevent exposure to credit risks from unknown counterparties, Article 27 finally permits Systematic Internalisers to choose “on the basis of their commercial policy” which investors should have access to their quotes, provided they proceed “in an objective non-discriminatory way”, although discrimination within the same category of clients (i.e. retail or professional) is not permitted.
- MiFID places the following obligations on investment firms processing client orders:<sup>70</sup>
  - Client orders must be executed on terms most favourable to the client. The best execution principle in Article 21(1) requires that investment firms “*take all reasonable steps to obtain ... the best possible result ... taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to the execution of the order.*” In determining the relative weight of these factors, the status of the client (retail or professional), the nature of the order (size and type), the characteristics of the relevant financial instrument, and the characteristics of the venue to which that order can be routed are relevant.
  - Article 22 addresses client order handling rules. Client orders must be executed in a “*prompt, fair and expeditious*” way, relative to other client orders or the trading interests of the investment firm. A client limit order on securities traded on a regulated market, where not immediately executed, has to be immediately exposed on a regulated market or an MTF in order to maximise its likelihood of execution.
  - Article 28 imposes post-trade disclosure obligations, requiring investment firms “*which, either on own account or on behalf of clients, conclude transactions in shares admitted to trading on a regulated market outside a regulated market or MTF, to make public the volume and price of those transactions and the time at which they were concluded*”. Article 28 also specifies: “*This information shall be made public as close to real-time as possible, on a reasonable commercial basis, and in a manner which is easily accessible to other market participants*”.
  - Furthermore, investment firms that execute client orders must:
    - Put in place “arrangements” including an “execution policy” so as to take all reasonable steps to obtain the best possible result for the execution of their client orders;
    - Obtain client consent to the execution policy; and
    - Be able to demonstrate on a client’s request that they have executed the client’s order in compliance with their execution policy.

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Anolli, Mario, and Giovanni Petrella, “Internalization in the European Equity Markets Following the Adoption of the EU MiFID Directive”, *Journal of Trading*, Volume Spring 2007, Number 23701. Committee of European Securities Regulators, “Best execution under MiFID”, Public Consultation, February 2007. Ferrarini, Guido, and Fabio Recine, “The Markets in Financial Instruments Directive (MiFID) and Internalization”, *Investor Protection In Europe: Corporate Law Making, The MiFID and Beyond*, G. Ferrarini, E. Wymeersch, eds., Oxford University Press, 2006.



- All investment firms must also:
  - Disclose “appropriate information” to clients about the firm’s (execution) policy;
  - Monitor their compliance with the execution approach and correct deficiencies;
  - Monitor whether their execution approach is allowing them to obtain the best possible results for clients, and if not, correct deficiencies; and
  - Review their execution approach as a whole and the execution venues or entities they use on a regular basis, whenever a material change occurs and at least annually, to ascertain whether the approach is delivering the best possible results for the execution of client orders.