Has digital technology made central stock exchanges obsolete?

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ABSTRACT

Significant Stock Exchanges trade their securities, as do many other incorporated entities, illustrating that autonomous trading is a viable option. US off-market trading has increased from about a third of equities in 2009 to 42% in 2022. Alternative digital commodity trading platforms could be used to eliminate the complications, costs, and delays that arise from central exchanges introducing third parties who cannot create the securities traded nor directly control their proof of ownership for instant settlements. A crucial benefit for company directors is that they could require the continuous and instant disclosure of the ultimate beneficial owners and/or controllers of traded securities. Instant exposure of their share trading and/or other insiders improves price discovery and the opportunities for directors to trade shares ethically. So-called "public" stock exchanges typically keep beneficial control private unless the law requires disclosure, and this typically only arises when 5% or more of a firm's equity is involved. Any such disclosure may be delayed, leaving directors uninformed about who they are accountable. Sunlight trading allows any member of the public to report undisclosed unethical trading to frustrate, disinfect and minimize insider trading, brokers dealing ahead of their clients, money laundering, tax evasion, terrorist financing, bribery, short selling, dark pools, stock lending, and other forms of stock/option manipulation. Other self-regulating corporate governance options are identified to promote more efficient and ethical capitalism. The article recommends that regulators invite firms to introduce sunlight trading of their shares in regulatory sandboxes created to promote financial innovations.

Keywords: Autonomous trading; Counterparty disclosure; Dark pools; Ethics; Front running; Self-governance; Insider-trading; Money laundering; Self-listed firms; Sunlight-trading.

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1. Introduction

This article investigates if digital technology could allow corporations to trade their own shares more efficiently without the costs and unethical systemic dysfunctional governance processes introduced by Stock Exchanges? Half of the top ten Stock Exchanges in the world trade their own securities[1], as do many other types of firms, illustrating that autonomous trading is a common viable option.

There are now many electronic trading platforms for goods and service that have eliminated the need for either physical exchanges or brokers. Last century, investors and traders began executing their orders directly through the Internet in so called "dark pools" instead of using a stock exchange. Hughes, et al. (2022) reported that that US "off-exchange trading accounted for 42 per cent of all equity dealing volume". Elimination of centralized exchanges is a natural next step. A contribution of this article is to suggest how governments and their regulators could respond and/or lead such changes.

The efficient financial market hypothesis states: "asset prices reflect all available information". However, disclosure of all available information is denied by stock exchanges that routinely prohibit disclosure of the identity of share traders except when required to by law (WFE 2019c) [2]. While the WFE (2021a) states members "should pursue purposes that are in the public interest", this does not involve their members disclosing the identity of traders. The Australian Securities Exchange (ASX) routinely deny disclosures with provision for "Anonymity and pseudonymity" in its listing rules (ASX 2015).

[1] New York, NASDAQ, EURONEXT, Tokyo, and London. Others are Canada and Australia.

[2] The Head of Regulatory Affairs of the World Federation of Exchanges, Richard Metcalfe advised the author in an email of August 5, 2021, that he was the author of WFE (2019). He confirmed that the need to disclose data on the identity of share traders was not a requirement of being a WFE member.

The identity of traders can be price sensitive data to create opportunities for insiders to exploit. This creates both an inefficient market and covert illegal opportunities like insider trading, trading shares not owned (naked short selling), bribery, money laundering, tax avoidance, funding terrorists and many other undesirable activities.

In addition, stock exchanges accept and/or promote unethical systemic dysfunctional conflicts to confuse executives what is right and what is wrong as identified by Royal Commissioners Owens (2003) and Hayne (2019). Because the conflicts systemically poison business culture they have been described as "toxic" (ABEN 2021a, b). A view supported by Romano (2006) when describing the US Sarbanes-Oxley Act as "Quack Corporate Governance" and other earlier scholars like Bazerman et. al (1997), O'Connor (2004) and Turnbull (2004, 2014).

On the other hand, a stock exchange could introduce independent oversight to provide a check on corporations and/or their insiders or others manipulating shares for unfair advantages. This article reviews self-regulating process adopted in jurisdictions before laws were introduced to provide shareholders and directors with limited liability. Modern adaptations of these self-regulatory processes are suggested for testing in "regulatory sandboxes". A critical condition for self-listing could be the continuous public disclosure of the beneficial ownership and/or control of any publicly traded shares. The Australian Treasury (2022) has already invited public consultation on this matter. The Australian Securities and Investment Commission (ASIC 2021) recently enhanced its regulatory sandbox to promote such financial innovations. This could be used to test both the market and acceptable governance processes for self-listing.

A search of the Social Science Research Network archives with almost a million abstracts identified only a couple of dozen papers on self-listing. Examples are Aggarwal (2002), Burmaka and Zinchenko (2017), and Abukari and Otchere (2020). All are limited to the self-listing of Stock Exchanges. The ASX initiated the practice of Stock Exchanges listing their own shares in 1998. Within ten years seven other stock exchanges became listed. These included the largest like the New York Stock Exchange and NASDAQ. Together they trade around 44% in value of the $US90 Trillion of publicly traded equities in the world (Statista 2021a).

Christiansen and Koldertsova (2008) noted:

> The rise in alternative trading systems (ATS), first in the United States and then in Europe, have had a profound impact. Their existence has induced exchanges to cut fees and, in some cases, launch their own off-exchange trading platforms.

They also stated: “sharper competition has forced the question of whether there is a risk of a regulatory ‘race to the bottom’”. Dallas (2018) also shared this concern for the largest institutional investors in the world who are members of the International Corporate Governance Network (ICGN). The ICGN June 2020 *Annual Review* reported that its members “assets under management were in excess of $US54 trillion”.

This article supports their concern and suggests how self-listing could introduce superior disclosure and self-regulatory process while removing the current unethical and dysfunctional corporate governance practices. The largest investor in the world wants “A new model of corporate governance” to give voice and benefits to all stakeholders (Fink 2018).

To introduce some historical self-governance practices the development of corporate law, stock exchanges and their practices are reviewed. To provide evidence of the practicality of self-listing, a global review is made of both stock exchange traded, and autonomously exchanged securities. The word autonomous is used to include shares that are not “listed” but are redeemed or repurchased and/or reissued as occurs in employee-owned firms, mutual funds, cooperatives, and apartments owned by specified shares in a corporation.

The ability of regulators to approve the self-listing of stock exchanges as a co-regulator suggests that less rigorous conditions could be accepted for companies not responsible for regulating others. However, as identified in this article, self-listing could introduce superior self-regulating features that Stock Exchanges do not except for themselves and deny them for others. One result is that could stop Regulators enforcing and so making legal the unethical practices promoted and/or accepted by the ASX. Official endorsement of systemic conflicts confuses directors, executive and the public what is right or wrong.

There are now many online trading platforms/systems (ATS) that could be used to trade shares beside Stock Exchanges. Self-listing would remove the need and so costs of both stock exchanges and their brokers. This would eliminate the need for third parties in making share transfers and so the costs, risks, and time to achieve clearance and settlements. Many ATS's systemically introduce self-regulating features like customer feedback on the quality and performance of the goods or services traded as well as the integrity and reliability of those trading. These latter features are denied by the ASX. This situation provides a reason for regulators to accept any firm to become self-listed with superior standards.

The process of contracting out changes in corporate share registers is already a common practice with publicly traded companies (PTCs). Private firms may also contract out their share registry role to an external service provider. As pointed out by Mainelli (2021), as the Sheriff of London, one fundamental purpose of having a stock exchange is to create a change in the share register of company. The other purpose it to provide price discovery. This cannot be fairly of fully achieved if the identity of traders is not known and their nature could be price sensitive, or the trade was not reported as discussed below.

Private corporations with employee owners need to trade their own shares as employees join or depart. The numbers of private companies in the US who trade shares were 5,864 (ESOPs 2021). Their number exceeds the combined number of all firms publicly traded by both the New York Stock Exchange (NYSE) with 2,873 firms and NASDAQ with 2,987 firms (Statista 2021b). NASDAQ is an acronym for "National Association of Securities Dealers Automated

Quotations." It was established in 1971 as the world's first digital exchange and trades many technological firms. The ASX began automated trading for a limited number of companies in 1987.

There exists in the US and in other leading jurisdictions, markets described as "Dark Pools". Brokers facilitate their creation by arranging trades directly between Institutional investors without involving the relevant stock exchange. In this way trades may not be reported. To quote Budovsky (2021), "Australia has two exchange-integrated public dark pools: ASX Centre Point and Chi-X Hidden Liquidity. Together, they account for around 12% of continuous on-market trading in Australia". This activity and the US Over the Counter (OTC) markets illustrate the practicality of not being traded through a Stock Exchange.

There are just over 100 countries that possess one or more stock exchanges (World Bank 2019). The total number of listed firms has been mostly less than 100,000. The World Federation of Exchanges (WFE 2021a) represents both exchanges and clearing houses. Their affiliated exchanges have 46,919 listed companies with shares valued at $US109trillion. The World Federation of Stock Exchanges (WFSE 2021) has 71 members.

There are 20 exchanges that trade companies with aggregate market value more than US$1trillion (Statista 2019a). Australia is number 18 with around 2,000 firms listed. It is notable that in 2018 India had more publicly traded companies than the Euro area (Included UK), USA, Japan, or China (Global Economy 2019).

The US OTC market has around 12,000 firms. The market is created between security dealers (OTC2021) who have collaborated to establish Internet bulletin boards that record offer and buy bids. Most OTC firms have a low share price around a dollar. This allows investors to obtain a wide range of risks for a smaller outlay. US exchange traded shares typically have individual share prices ten or more times higher.

The total value of OTC firms is not significant being a minor fraction of one billion dollars. The OTC market is divided into three divisions based on the quality and quantity of information companies disclose. One division is for the best disclosure companies who still do not meet the standards of a stock exchange listing. Their trading code is OTCX. The other two markets are venture capital firms with an OTCB trading code and the" Pink market". The Pink market is for firms in distress or in bankruptcy.

Cooperative enterprises also trade shares, and their global impact is significant. The International Cooperative Alliance (ICA 2021) reports that 12% of the global population are members of their 3 million cooperatives and mutual associations. Another point of significance is that the trading of their securities is autonomous. A defining feature of most cooperatives is that only individuals can be members, not corporate entities or entities representing unknown persons. The trading and/or buy back and re-issue of shares are undertaken with known individuals.

The continuous exposure of the identity of who is buying and selling securities is describes as "Sunlight" trading. Sunlight is recognised as a disinfectant to inhibit the misuse or abuse of trading securities. For this reason, this article limits its consideration of autonomous trading to full and continuous public disclosure of the ultimate beneficial owners and/or controllers of any traded securities and any related derivates like options and/or indexes etc. Technology can now make this data routinely available with a click of mouse.

The next section two reviews some related implications of existing securities trading. The third section reviews conditions that may be required to make autonomous trading attractive for investors, firms, and their directors. Recommendations are presented in the fourth concluding section.

2. Aspects of exchange traded shares

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Share trading initially arose under the conditions of sunlight trading. Trading was typically carried out physically in a convenient public meeting place like a coffee house. The creation of Common Law companies, associations, or partnerships, with more than twenty individuals, was banned in the UK after the South Sea Bubble burst in 1720. But common law firms were still formed in Europe.

As a result, most equity interests in corporations were firms incorporated by a State legislature in the US (Grossman & Adams 1993) or in England by the Sovereign or an Act of Parliament. For example, the Van Diemen's Land Company formed in 1824, obtained a Royal Charter in 1825. In 1856 the colony originally named Van Diemen's Land changed its name to Tasmania where the company became publicly traded on the exchange of its capital city Hobart.

In the latter half of 19th Century groups of brokers formed independent stock exchanges in every Australian capital city and in some regional centers like Bendigo and Ballarat in the Victorian gold fields and Launceston in Tasmania. In 1937 the Association of Australian Stock Exchanges (AASE) was formed to introduce uniform listing rules.

In the 18th century and well into the 19th century shareholding voting around the world was on the democratic basis of one vote per investor (Dunlavy 1998). Because many companies were family dominated it was common practice to protect minority shareholders with sliding scale voting. The scale diluted the voting power of shareholders as the number of shares they held increased. In addition, a cap was placed on the total votes that any dominant investor(s) could obtain. This could be as low as 25% of all shares on issue. It was in the self-interest of both companies and their brokers to maintain minority shareholders. This was to obtain access to new share issues without a prospectus and secure a liquid exit for their investors. Another incentive was to avoid being taxed as a private firm at a time when this increased their tax.

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In previous centuries each Australian State had its own corporate laws. During 1960 to 1961 each State introduced uniform legislation adopted by the Commonwealth Government (MULS 2021). But it was not until 2001 that corporate law became national (Market Index 2021).

Brokers designed the AASE share trading rules. There was no government oversight. Each publicly traded company had a sponsoring broker who had close relationships to their sponsored companies. In this way brokers could obtain access to insider information with the opportunity to buy and/or sell shares ahead of clients. To hide such improper actions, it was in the interest of brokers to establish a rule that forbid their clients being informed of the identity of who they were selling shares to, or who they were buying shares from.

The opportunity for brokers acting against clients' interests was facilitated by stock exchanges being run like an unincorporated gentleman' club[3]. It would only meet as necessary, and this might not be every day or even a week in small regional exchanges. Stock prices were first broadcast in 1928. To overcome perceived secrecy of how prices were determined the Sydney Stock Exchange allowed the public and media to watch operators chalk up prices on a board at their new 1960 location. But this did not reveal who were the buyers or sellers. However, brokers would know which operators were buying or selling and whom they were most likely representing.

In 1972 National listing of securities was established. This was continued in 1987 with the ASX who introduced at this time limited automatic trading. In the following years the ability of investors and/or traders to execute share trades through an account with their broker was then introduced. By June 2001, over a million clients of Australian brokers obtained the ability to execute trades directly (RBA 2001).

[3] The first women member of the ASX was admitted in 1975 (ASX 2021).

Except in Europe where firms had issued bearer shares[4], share transfers in Anglo jurisdictions needed to be recorded in the register of members to become a valid transfer of entitlements and/or liabilities. Firms with unlimited liabilities were used to incorporate large partnerships and mutual funds to allow them to redeem their own shares without approval of a court.

Mutual funds provide an example of autonomous share trading. Your author created two public mutual funds this way in 1970[5]. This was at time before Australian law facilitated share buy-backs without approval of a court. Otherwise, it was illegal for a company to buy or fund the purchase of its shares directly or indirectly (like mortgaging its assets). The reason was to protect the maintenance of equity in the company to protect corporate creditors.

In 1967 your author became a co-founding member, with six other individuals[6], in Tjuringa Securities Limited. (TSL). During the following seven years TSL acquired shares to control and reorganize fourteen[7] public companies while making significant investments in other prospective acquisitions.[8]

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[4] Bearer shares created by a common law "Society Anonymous" (SA) before corporation laws were introduced in Europe to provide limited liability for investors. Directors avoided liability in common law firms by forming a supervisory board, so no director need become personally responsible either directly or as a partner in incurring a liability.

[5] The mutual funds were incorporated under the 1961 Companies Act of NSW as unlimited liability corporations. The First Australian Growth and Income Fund registered a prospectus on 10th February 1970 to issue 5,000,000 ordinary shares of nominal value of 10 cents each at a price of $1.00 plus applicable service fee. It immediately became so over-subscribed that on 13th March 1970 the management company, Equity Funds of Australia Limited (EFA), issued a prospectus for the Second Australian Growth and Income Fund. The author was joint CEO of EFA with a 25% shareholding. He retired from both positions in July 1970 after his newly acquired associated partners made related party investments.

[6] Gordon Barton and his IPEC transport and insurance partner Greg Farrell, Graham Cook a partner in legal firm Allen, Allen & Hemsley, Peter Wolf, a partner of stockbrokers, A B S White & Co, Bill Pursche, a tax partner of Peat Marwick Mitchell, and Neil Ohlson an entrepreneurial financier.

[7] The fourteen re-organized firms were: H. C. Heathorn & Co, Cooperative Motors, Charles Davis, South Coast Holdings, Direct Acceptance Corporation, Rigney Holdings, H. Beecham & Co, Australian Mercantile Land and Finance Woolstores, Simalex, Australian Mutual Growth Fund, Federal Hotels, Buckingham Holdings, Anthony Hordern & Sons, and Angus & Robertson.

[8] Investments in prospective acquisitions included firms such as: Dickson & Johnson, Deposit & Investment, York Motors, Trade Credits, Harden & Johnson, Mark Foys, Henry Jones & Co, and Antimony Nickel NL.

One such prospect was Antimony Nickel NL[9] (AN). It became listed on the ASX in February 1971 during a boom in mining shares. By March 1971 TSL had acquired 44% of all its issued shares. The directors of AN owned 51% and others held 10% (Kedzior 1988: 331). This meant that share market speculators who did own any shares had entered contracts to sell shares amounting to 5% of all shares on issue! This false and misleading practice described as "naked" short selling is illegal. A Parliamentary (1974: 475) inquiry identified that the short sellers were brokers who were members of the ASX committee. They had no rule to protect client's interests. Half a century later reports of improper short selling still occur (Keho 2020).

The ASX establishes its own rules subject to approval of ASIC and those of its Minister, the Treasurer of Australia. A fundamental rule of business, and required by law for financial advisers, is to know the identity of clients. An exception to this practice is the ASX (2015) rules that allows both "Anonymity and pseudonymity", when not otherwise required to by law. This means that public company directors cannot be advised automatically and publicly the identity of the shareholders to who they are accountable. Even when a company makes an entry in its shareholder register the ultimate beneficial owners and/or controllers can remain hidden behind nominee companies and/or trusts. A practice not anticipated in company law that requires companies to only recognize the nominated owner of record.

As result, describing a company as "public" has become misleading when ultimate beneficial ownership is kept private. The ultimate owners can include those with loyalties and interests foreign to those of the host jurisdiction. It also means that reference to companies being "publicly traded" is also misleading when the identities of those trading its shares are not disclosed. Likewise, the ASX does not meet the test of being a public exchange when covert

[9] A "No Liability" (NL) company is a unique Australian 19th century innovation for mining companies. https://en.wikipedia.org/wiki/No_liability

trading is required by it rules. Such "double speak" using the word "public" could create false comfort even with a financially literate public.

In the context of a foreigner like TSL, taking control of a US publicly traded firm[10], holding memberships of the New York and other US Stock Exchanges, the SEC required full disclosure of all the ultimate beneficial shareholders of TSL It is this type of disclosure that needs to be accepted for all publicly traded companies whether they are self-listed or not. This and other corporate governance processes are next considered.

3. Corporate governance implications of self-listing

In considering the ability of technology facilitating self-listing, concerns about market or firm efficiency appear to become a second order concern compared with the corporate governance issues. This section reviews the existing situation and considers concerns arising from firms being self-listed.

The ASX defends non-disclosure of the identity share investors and their connections so to provide investors with privacy. If investors wish to remain private, then this option is available with private equity investments. Private equity investors typically possess the resources to both discover private opportunities and as well put in place the necessary monitoring and protection arrangement that may be appropriate. For the less resourced retail investors it would seem desirable to reserve the privilege of public markets and investment safeguards to only those that are willing to disclosure their involvement. Sunlight trading enhances protection for retail investors as considered further in the last section.

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[10] Mitchum, Jones, Templeton Inc (MJT) was a publicly traded on the Pacific Stock Exchange in 1974 when the US Securities and Exchange Commission gave consent for TSL to make the first combined proxy solicitation and share bid in the US. A combined bid was required because the constitution of MJT authorized the directors to convert any voting common stock owned by any foreigner into non-voting preference shares. The offer documents disclosed the author's generous commission and his authority to become CEO with power of attorney to sign the offer documents for his six TSL partners. However, he declined to proceed because the oil shock at the time sent short-term interest to over 21% p.a.

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Stock Exchanges like the ASX, who trade their own shares, become profoundly ethically compromised. This is because the ASX establishes its own rules for corporate behavior as illustrated with Antinomy Nickel. To legitimize and extend their rules the ASX created what they describe as an "Independent" a "Corporate Governance Council" (CGC). The need to use the word "independent" immediately signals that such a status is desired. But using the word to describe either directors (Clarke 2007) or auditors (Bazerman, et. al 1997) as "independent" does not make them so. The word independent can frequently be misleading and deceptive or simply a lie. The significance of the CGC not being "independent" requires consideration.

The ASX (2021) Listing Rule 4.10.3 states:

> Under Listing Rule 4.10.3, ASX listed entities are required to benchmark their corporate governance practices against the Council's recommendations and, where they do not conform, to disclose that fact and the reasons why. The rule effectively encourages listed entities to adopt the Council's recommended practices but does not force them to do so. It gives a listed entity the flexibility to adopt alternative corporate governance practices.

Membership of the CGC is subject to the grace and favour of the ASX who also funds its operations. This makes its deliberations captive to ASX self-interests to maximise its profits and the powers of their directors rather than promoting a virtuous Australian business culture that can enrich both citizens and democracy. The lack of virtue in the Australian business culture has been revealed by numerous Public inquires and Royal Commissioners as mentioned above and in webinars held by the Australian Business Ethics Network (ABEN 2021a, b).

The ASX has an incentive to regulate listed firms to maintain and promote a self-serving form of governance without a division of powers or checks and balances and creditable processes for managing business risks (Turnbull 2019, 2020). The failure of ASX corporate governance principles to identify and manage risk was starkly revealed in two recent occasions.

The first occasion was when the CEOs of the largest banks in Australia agreed in 2017 to have a Royal Commission into their misconduct "to restore public faith" (Sweeny & Yaxley 2017). The opposite occurred to provide evidence that bank CEOs did not know the difference between what was right or wrong, and/or had no systems in place for knowing that their executives were ethically blind.

The second occasion occurred in 2019 when the oldest Australian bank incurred a record fine of $1.3 billion for not reporting the identity of foreign transactions. As a response it appointed an "independent" panel of highly experienced and intelligent company directors to advise them of what "good risk governance looks like" (Westpac 2020a). The panel answered the question by confirming in an oblique manner that the ASX principles were the cause of their problem by describing them as "mainstream". Specifically, the panel stated their "Board organised its general governance responsibilities was mainstream and fit for purpose". This also revealed that the Panel had no better ideas and so were part of the problem of not knowing right from wrong. As a result, later in the same year, the bank regulator introduced "enforceable undertakings" (Westpac 2020b). In 2021, the New Zealand Central Bank added a formal warning (Frost and Eyres 2021).

Any proposal for promoting self-listing needs to be tied to the adoption of corporate charters that: (a) Introduce sunlight share trading, and (b) Eliminate the most insidious systematic source of unfair, unethical and/or dysfunctional toxic behaviour.

The most toxic problem of Anglophone corporations is their reliance on a single governing body that possess what Monks & Sykes (2002: 9) describes as multiple "inappropriate powers". All these powers are not required for managing the businesses

(Turnbull 2021b). Systemic unethical conflicts of interest are created when the same individuals possess both the power to manage a business with the power to also control the corporation. Systemic conflicts arise from chairing and so controlling a shareholder meeting being held for shareholders to hold directors to account. Director conflicts also arise in considering director nomination/evaluation, director remuneration and auditing of the accounts presented by directors to become accountable to shareholders.

Australian Senator Andrew Murray (1998) recommended to the Australian Parliament in his Minority Report that shareholders of all PTCs elect a “governance” board. The governance board would take over the role of board committees that systemically introduce director and auditor conflicts. A governance board would also reduce directors’ duties and workloads by not needing to attend audit committees, nomination committees, remuneration committees, chair shareholder meetings or attend processes of self-evaluation. In addition, the governance board would provide a creditable independent manager for any perceived director conflicts of interest that may arise from business operations (Dallas 1997).

The Murray proposal would also remove systemic unethical conflict of interest for auditors whose role is to judge the accounts of directors. No judge in a law court would accept to make a judgement when being paid or controlled by the individual being judged. The governance board represents what Hatherly (1995) describes as a “Shareholder panel” to manage the auditor who is appointed by shareholders to report to shareholders, not the directors in the UK. This proposal was included as a non-binding model for corporate constitutions in the UK Companies Act of 1862 (O’ Connor 2004: 759).

A governance board should not be confused with a Supervisory board in Europe that is the only board elected by shareholders. As the Supervisory Boards appoints a management board, it remains conflicted with both the power to manage the business and the power to govern the corporation. The excessive powers of the European Supervisory Board were compelling illustrated by the failure of the Italian milk processing business Parmalat in 2003 (Melis 2005).

It is particularly compelling because Parmalat possessed a statutory independent shareholder elected audit board as proposed by Hatherly. However, unlike the Murray proposal voting for members of the audit board was on the same basis as voting for the Supervisory Board of one vote per share. This allowed the CEO, who committed the fraud that led to the failure of Parmalat, to control both boards. This outcome is removed by the Murray proposal. The Governance Board is elected democratically with one vote per investor[11] to protect minority shareholders from a dictatorship of the majority as referred to above in past centuries.

Parmalat also illustrates the arguments for a separation of powers (Persson, et. al 2006) and the words of Lord Action when arguing in 1887 against Papal infallibility:

> Power tends to corrupt and absolute power corrupts absolutely. Great men are almost always bad men, even when they exercise influence and not authority: still more when you superadd the tendency or the certainty of corruption by authority (Fears 1985).

The above statement strongly identifies the need to establish a division of power with checks and balances to avoid: "the certainly of corruption by authority". The application of this insight could be applied to all publicly traded firms as proposed by Murray. It is also worthy of application to any company that seek the status of being "public" with the implied connation that it promotes the public good.

The two fundamental conditions for regulators accepting autonomous public share trading by any company, other than corporations using company title for residences, would be the

[11] Murray modeled his proposals on the concept of a "Corporate Senate" (Turnbull 1988, 2000) established by author for a company he founded in the US during 1984 and transferred to Australia in 1986.

adoption of the Murray proposals combined with sunlight share trading. However, there could be several operational details that may need regulation as outlined in the following concluding section.

4. How might corporations manage autonomous share trades?

In this section we consider the need to test acceptance of autonomous share trading for any corporation that at least meets the two conditions identified in the previous section.

One of the advantages of sunlight share trading is that it increases the liquidity of share trading by directors, other insiders, and associates. Company imposed bans on insider trading are no longer required. The market becomes better informed with any misuse of insider trading judged continuously by the court of public opinion and/or by judges in court actions taken by mislead investors.

Sunlight trading creates an incentive for directors to introduce trading halts as may occur when listed on an exchange. However, a new dynamic arises as to who is responsible for declaring a trading halt. Is it the management board who typically are better informed than others or the board of governors? Courts may have to decide. But if governors become liable then they would need to establish indemnities from executives to keep them properly informed. Sunlight trading with a division of powers could introduce the useful disinfectant of self-regulating processes.

Similar self-regulating process existed with European common law firms in devising ways to protect directors and shareholders from liability. Shareholders were protected by firms becoming an association of anonymous members described as a Society Anomie (SA). Director avoided liability by creating a supervisory board that never directly became involved in occurring any liabilities. As a result, all liability was with the managers who incurred any liabilities. To protect and so attract managers who may include promoters, the constitution of common law associations provided managers the power to liquidate the business if the equity of investors was impaired by a specified amount. A typical trigger was 50%. Approaching this level could provide investors with the incentive to contribute additional funds.

Another way to encourage investors to contribute additional funds is the Australian innovation of No Liability incorporation. Rather than restrict the use of the NL form to high-risk mineral or oil prospecting firms, consideration could be given to extend its use to *any start up enterprises*. The incentive for investors to contribute additional funds is that investors, who do not contribute additional funds when required do not obtain a “free ride”. While investors have no liability to contribute, those that do not contribute have their shares auctioned off to those who do. In addition, there was a time when the full cost of NL shares became tax deductible.

To facilitate autonomous share trading some changes may be desirable in the prospectus provisions for firms making a public offer of shares. Your author obtained sufficient spread of investors privately to allow a firm he founded to become listed without an “Initial Private Offering” (IPO). This was achieved by the Sydney Stock exchange, a precursor of the ASX, accepting a “compliance” listing of existing shares. This situation can also arise with corporations with employee share ownership plans.

One dysfunctional and unfair process from the point of view of firms and most shareholders is computer driven speed trading. Sunlight trading would empower autonomous traded firms to reduce or even effectively eliminate this activity. One method would be to not allow any one client to submit more than on order a day to buy or sell. The right to change their order to sell or buy would only arise after their initial order was completed or at some other specified time.

Corporations with employee ownership need to maintain liquidity to maintain, attract and dismiss staff. The company then becomes the buyer of last resort. The creditability of offer prices made by insiders then becomes dependent upon the liquidity and viability of the firm. Another self-regulating process is established between using too heavily discounted share buybacks to degrade the value of employee ownership or too optimistic to encourage a run of retirements. Unlike a listed company that is delisted when distressed, a self-listed company could still allow trading like an OTC "pink" company described above.

This article has presented arguments of how sunlight trading could reduce market inefficiencies at the firm and market level. Beside the potential of reducing inefficiency sunlight trading could significantly reduce socially undesirable activities like broker front running, insider trading, bribery, corruption, tax avoidance, money laundering, financing terrorists and protecting other illegal, unfair and/or undesirable activities.

There are sufficient compelling reasons for governments and/or their regulators mandating sunlight trading for all so called "public" companies. Company directors and their companies would support it. Atkins (2022), as chair of Australian Institute of Company Directors (AIDC)[12] announced his support at its Annual General Meeting on 29 November. It allows directors to be informed to whom they are accountable, and it would allow firms to avoid the billion-dollar fines suffered by Westpac.

The introduction of self-listed firms would make the financial markets more resilient by not being dependent upon any single computer platform. The occasional failure the ASX computer has been a concern the Reserve Bank (Keho 2021). A new failure has since occurred (Henderson 2022) and the government approved ASX monopoly position in controlling the settlements and clearance of listed shares has concerned its regulators (RBA/ASIC 2022) and the government (Eyers 2022).

The degree to which firm and market efficiencies can be achieved is very much dependent on the efficacy of governance processes to protect and provide benefits for all relevant

[12] The AICD with 53,000 members is twice as large than like organisation in the UK and US with much larger populations. A driver for this size is the first educational qualification in the world for company directors initiated by the author who was a founding 1975 co-author and presenter.

stakeholders. CEOs of the US Business Round Table (BRT 2019) have stated that benefiting all citizens has become their purpose. However, this purpose cannot creditably be achieved with the existing unethical and dysfunctional system of corporate governance.

Ostrom identified a new model of governance that has achieved win-win solutions between competing interests like those between investors and other stakeholders for millenniums since premodern times. In her Nobel Prize acceptance speech Ostrom (2009) identified "polycentric" governance design principles to provide a process for the BRT to achieve its purpose. The first step in introducing polycentric governance is the recommendation by Murray to create two centers of power.

The second step is to enrich polycentric governance by providing additional forums and so voices for affected stakeholders to protect and further their interests. (Turnbull 2019, 2021a). A regulatory sandbox would provide a way for testing how to make self-listing firms a common good to promote both local and global common goods for all society. Suggestions need to be tested on how the design Principles identified by Ostrom (2009) for unincorporated organization can be adapted to redesign corporate constitutions to allow corporations to creditably promote benefits for all society (Turnbull 2020, 2022a, Turnbull and Poelina 2022).

The authors submission (Turnbull 2022b) to the consultation by the Australian Treasury (2022) included reference to this paper and its recommendations. The possibility of Australian governments taking some sort of action is supported by the report by Burton (2022) that "Identity a key priority for Gallagher and state digital ministers".

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