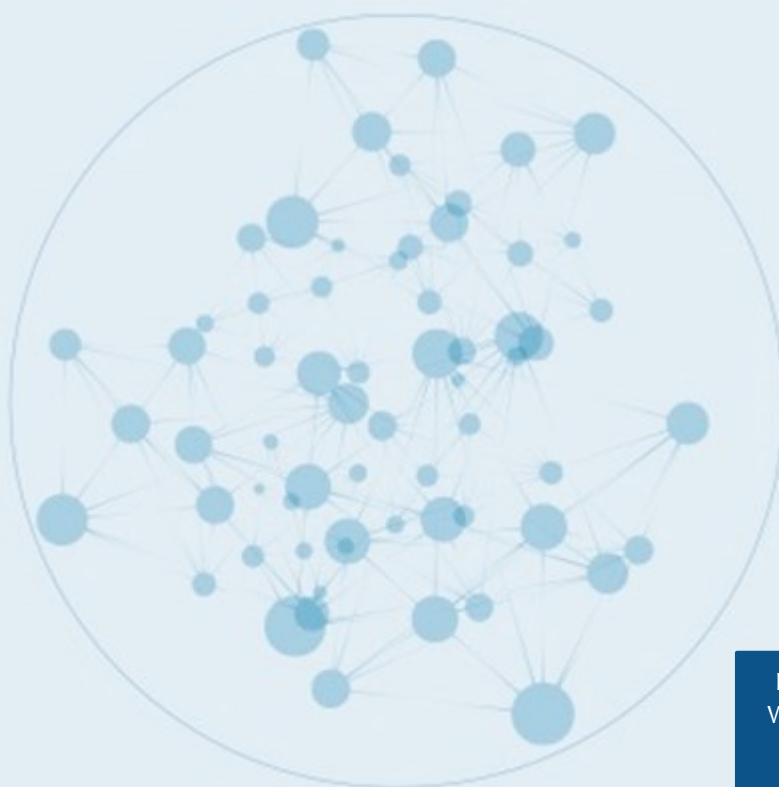




PERSPECTIVES ON REFORMING ELECTRONIC MARKETS AND TRADING

Report of the Ethical Markets
expert seminar



INQUIRY
WORKING
PAPER

15/12

December
2015

The UNEP Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme to advance policy options to improve the financial system's effectiveness in mobilizing capital towards a green and inclusive economy—in other words, sustainable development. Established in January 2014, it published its final report, *The Financial System We Need*, in October 2015.

More information on the Inquiry is at: www.unep.org/inquiry and www.unepinquiry.org or from: Ms. Mahenau Agha, Director of Outreach mahenau.gha@unep.org.

Ethical Markets Media

Ethical Markets Media is a Certified B Corporation promoting the emergence of a sustainable, green, more ethical and just economy worldwide. It promulgates new standards, including the Principles of Ethical Biomimicry Finance®, the Green Transition Scoreboard® and carries out research, assists and reports on new organizations: civic, non-profit and for-profit, as well as individuals working for the transition to the new economies of the dawning information-rich solar age. Ethical Markets Media is a signatory member of the Principles for Responsible Investment. Its 'Ethical Markets' and 'Transforming Finance' TV series are distributed globally to colleges and libraries at www.films.com.

More information from www.ethicalmarkets.com/

Hazel Henderson is President and Founder of Ethical Markets Media (USA and Brazil) and is a Fellow of Britain's Royal Society of Arts; Honorary Member of the Club of Rome and Fellow of the World Business Academy. She served as a science policy advisor in Washington, D.C. on the US Office of Technology Assessment Advisory Council; the National Science Foundation and the National Academy of Engineering Committee on Public Engineering Policy from 1974 until 1980. She also writes for the investment research platform Seeking Alpha (<http://seekingalpha.com/author/hazel-henderson/articles>).

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About this report

On 3 November 2014 Ethical Markets Media and the UNEP Inquiry convened an expert seminar in New York, bringing together securities market experts and traders to examine how the issues of electronic markets and high-frequency trading relate to the broader efficiency, effectiveness and resilience of financial markets in the face of environmental and social challenges, and to consider the potential of several market-based reforms. This paper documents the proceedings of this expert seminar, chaired by Ethical Market's Media founder, president and editor-in-chief, futurist and author Hazel Henderson.

Comments are welcome and should be sent to simon.zadek@unep.org.

Acknowledgements

We are grateful to all who attended the seminar and took part in the discussions, and to Cooley LLP law firm for hosting the meeting. Each section of the report represents the presentations given by individual participants, rather than the views of the UNEP Inquiry. We are grateful to John Ramsay, IEX; Dave Lauer, KOR Trading; Robert Zevin, Zevin Asset Management; Joe Saluzzi, Themis Trading; Stuart Valentine, Centerpoint Investment Strategies; Dennis Bushnell, NASA; Katherine Collins, Honeybee Capital; Michaela Walsh, Women's World Banking who are featured in the report as well as Erika Karp and Joel Beck, Cornerstone Capital Group, William Doll, Syneidesis Group, and Brad Katsuyama and Gerald Lam, IEX who also contributed to the event.

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1 INTRODUCTION

Hazel Henderson, Ethical Markets Media



Hazel Henderson is the founder of Ethical Markets Media LLC and the creator and co-executive Producer of its TV series. She is a futurist, evolutionary economist, worldwide syndicated columnist, consultant on sustainable development, and author of nine books including *Ethical Markets: Growing the Green Economy* (2006). She also writes for the investment research platform *Seeking Alpha*.¹ Previously she was on the board of Worldwatch Institute, Calvert Social Investment Fund, the Social Investment Forum and the Social Venture Network. She remains on the International Council of the Instituto Ethos de Empresas e Responsabilidade Social, Sao Paulo, Brazil.

www.ethicalmarkets.com

Computer-driven financial markets on unregulated electronic exchanges programmed by algorithms now dominate Wall Street, along with high-frequency trading (HFT). Electronic markets and high-frequency trading comprise over half of all securities trading on both public “lit” exchanges and “unlit” private exchanges (so called dark pools).² Sal Arnuk and Joe Saluzzi’s *Broken Markets*,³ Scott Patterson’s *Dark Pools*⁴ and Michael Lewis’s *Flash Boys*⁵ have all raised the alarm on the dangers of electronic front-running and other manipulative practices of HFT and the electronic exchanges on which they trade.⁶ We have already seen a number “flash crashes” such as the one in May 2010, where stocks in many pension funds suddenly fall to pennies before recovering in split seconds.⁷

Confidence among retail investors has dropped since the 2010 Flash Crash and 16% of small investors have fled. Hearings in the US Senate, on investor loss of confidence, conflicts of interest, high-frequency trading and maker-taker models saw academic experts and even insiders calling for reforms.^{8,9}

“Regulators are being out-gunned by the faster computers and technology of high frequency trading. Thus, people are looking to market-based reforms to help fill the gap, and prevent further “flash crashes” and loss of confidence.”

While HFT proponents defend microsecond-based trading as “providing liquidity”, this disappears quickly when markets become volatile. Furthermore, these electronic exchanges use “maker-taker” models (giving a transaction rebate to market makers providing liquidity (the makers); and charging a transaction fee to customers who take liquidity out of the market (the takers)). This has led to a race to the bottom where brokers who engage in these practices can then lower their execution fees – forcing others to follow suit.¹⁰

Today, public trust in markets is battered by news of fraud, insider trading, rigging of interest rates and huge fines on formerly admired banks, but lack of individual indictment of the responsible financiers.

A particular concern in relation to regulation of electronic trading is that since regulators, such as the US Securities and Exchange Commission have limited funds, and have to compete for staff with Wall Street firms, they are being out-gunned by the faster computers and technology of HFT.¹¹ Thus, people are looking to market-based reforms to help fill the gap, and prevent further “flash crashes” and market losses to retail and institutional investors.

HFT poses many new issues and risks for the ethical, responsible investor movement, which now accounts for US\$6.57 trillion invested according to SRI strategies in the US.¹² These firms rely, for their ethical investment strategies, on well-policed “lit” public markets for their screened portfolio strategies. Therefore, they must be able to trust that these markets are fair and uncorrupted.

“All the progress by investors in shaping more responsible corporate and financial practices can be undermined if the markets’ underlying plumbing and structure remain unsound. “

Public and NGO pressure on companies and governments have played a key role in enhancing regulation and encouraging and enforcing responsibility: reducing tax evasion, cancelling billions of un-repayable debts of poor countries, improving safety, pollution control, working conditions and minimum wages. Investor movements since the 1970s have sought to divest from companies involved in weapons, tobacco, alcohol, pollution, unfair working conditions and excessive executive

pay. Campaigns for human rights through divestment contributed to the ending of apartheid in South Africa and there have been many recent efforts to shift assets from fossil fuels to cleaner, renewable energy.¹³ All have reformed and continue to *transform finance*, along with all the new metrics forcing formerly “externalized” social costs back on to financial balance sheets.

However all the progress by investors in shaping more responsible corporate and financial practices can be undermined if the markets’ underlying plumbing and structure is unsound. Today’s broken markets are subject to new manipulations and misuse of computers and electronic platforms resting on global communications infrastructure: satellites, the Internet, fibre optics, the electromagnetic spectrum – all public goods funded by taxpayers.

2 Perspectives

John Ramsay, IEX



John Ramsay is Chief Market Policy Officer at the IEX Alternative Trading System. John has 26 years of experience in positions that concern the regulation and oversight of securities markets and intermediaries. While at the SEC since 2010, John led the staff's response to numerous significant market events, its participation in global regulatory initiatives, the development of new analytical tools for equity market oversight, and the proposal for Regulation SCI. He also led SEC efforts to implement significant elements of the Dodd-Frank Wall Street Reform and Consumer Protection Act, including the Volcker Rule and derivatives reform rules. From December 2012 to February 2014, John oversaw the Division of Trading and Markets, the group responsible for regulating broker-dealers and self-regulatory organizations, such as securities exchanges and FINRA.

www.iextrading.com

Publicized structural problems in our stock markets have damaged investor confidence and hindered the ability of our markets to efficiently allocate capital and promote economic growth. At IEX, we are working to improve the current equity market structure so that it better serves the interests of investors and public companies, not just exchanges and professional trading firms. To that end, we have created a trading market that is fully transparent, that combats the ability of certain trading firms to use structural inefficiencies to gain an advantage over investors, that avoids conflicts of interest which prevent brokers from achieving the best result for their customers, and that adopts a simplified structure of prices and order types. Apart from supporting private sector efforts to provide traders and investors with a better choice of trading venues, we think that it is critical that market participants be given much better comparative disclosure so that they can evaluate and make more informed choices among intermediaries and exchanges and other market venues. Exchanges need to be more transparent and accountable in terms of their various business lines and the associated inputs, costs, fees and other revenues, as well as the governance of critical market infrastructure.

The fact that we were able to create IEX without a change in regulations is a testament to the ability of innovative and constructive market-based solutions to arise within the current general regulatory framework.

Our requests of market stakeholders:

- **Standardize data:** When data is requested of participants, ensure that a clear and concise standard is established for how the data should be derived and presented. Require market systems, broker-dealers, market centres, including exchanges and Alternative Trading Systems, and SIPs to time stamp messages sent, received and used internally at a standard granularity of at least microseconds. Improve atomic clock synchronization from a one second tolerance to one millisecond or finer.
- **Disclose participant activity:** Public disclosure of an anonymous breakdown of subscribers by volume on any registered market centre, and an anonymous breakdown of message traffic and

“It is critical that market participants be given much better comparative disclosure so that they can evaluate and make more informed choices among intermediaries and exchanges and other market venues.”

message to trade ratio by subscriber on any registered trading venue (Alternative Trading Systems (ATSS) and Exchanges).

- **Disclose routing activity:** A complete audit trail of how client orders are handled, including both routing and trading information, available to the client upon request.
- **Disclose market operations:** Plain language rules and common use examples for proposed rules describing new products and services offered by exchanges. Require public disclosure of alternative trading systems' Form ATSS and subsequent products, services and pricing. Ensure an adequate amount of reporting between exchanges and brokers, as well as between brokers and clients – whereby execution data and routing data is standardized and available upon request. Define acceptable tolerances for trading, market centre and inter-market communication system performance to ensure there are no meaningful risks to the integrity of the system in the context of structural inefficiencies that could allow unfair advantages to certain market participants, disadvantaging others.

Solution in Focus: Markets designed to serve investors

IEX is an [alternative trading system](#), which opened in 2013. It is owned by a group of mutual funds, hedge funds and venture capitalists.

- **Just and Equitable Principles of Trade:** IEX aims, through the design and operation of its market centre, to exemplify the precept of the SEC Exchange Act of 1934 that exchanges should be operated to “promote just and equitable principles of trade”.
- **Market Stewardship:** Investor confidence depends critically on both the fact and perception that markets are designed and operated to serve investors. Market centres have a responsibility to safeguard the public interest and to seek wherever possible to improve the health of the markets. This includes providing a level playing field for investors and traders, and designing systems to be resilient and reliable.
- **Promote Natural Trading Interest:** Structural inefficiencies can, and do, lead to harmful phenomena, including order detection and anticipation, fading liquidity and price dislocation, which in turn can work against the interests of investors who seek to invest based on fundamentals and market factors.

www.iextrading.com/policy/testimony/

Dave Lauer, KOR Trading



Dave Lauer is President and Managing Partner of KOR Group LLC, specializing in Market Structure and Technology. Dave has extensive experience designing and building the infrastructure that underpins many modern electronic trading systems and several years of experience as a quantitative analyst and trader on high-frequency trading desks. Dave's current work focuses on massively scalable technology, predictive analytics, complex systems design and consultation for organizations working to better understand and navigate modern equity markets. He is Chairman and co-founder of Healthy Markets, a non-profit coalition of asset managers working to promote data-driven reforms to market structure. Healthy Markets has established Conduct Standards and Accreditation Programs.

www.healthymarkets.org/congressional-testimony-1/

Perspective on key factors defining the current state of financial markets and priorities for reform:

Federal Reserve Bank Policy: Questions about the withdrawal of Fed support from markets is leading to tremendous instability in financial markets, and will continue to do so. This factor dwarfs the others in terms of significance, although the resulting volatility is exacerbated by structural issues in markets.

HFT, algorithmic trading, electronic front-running is a key area of extreme concern. I do not demonize HFT, or even firms that engage in so-called electronic front-running (EFR). While EFR creates little to no value, and serves to destabilize markets, the only reason it exists in this form and is able to cause such problems is because of a broken regulatory framework that incentivizes speed over everything else, and leads to unnecessary complexity and intermediation. HFT is far too broad of a term to have much meaning, and is generally a valuable service in the market that is simply being driven along in a latency race by poor regulation and structural inefficiencies/incentives.

Investor loss of trust: While I have my doubts that market structure and structural issues are primary contributors to investor loss of trust and confidence, the complexity of markets, reports of problems, and resulting difficulty for investors to understand what is happening is certainly an additional factor in investor flight from capital markets. This factor is, of course, dwarfed by the extreme volatility in financial markets from the dot-com boom to the housing crisis.

Priority issues for reform and restoring trust include:

- **Encouraging private-market solutions** to structural problems and loss of trust such as IEX (US), Aequitas (Canada) and other efforts to promote better business models and governance structures.
- **'Best execution' accreditation** to ensure independent, third-party analysis and interpretation of execution and routing decisions.
- **Broadly pushing for third-party analysis and verification** of metrics from brokers, venues and asset managers.
- **Pushing for regulatory reform to simplify structure**, increase transparency, encourage more variety in displayed liquidity.

Solution in focus: Healthy markets, better metrics

The Healthy Market is a non-profit coalition of asset managers working to promote data driven

“HFT is far too broad of a term to have much meaning, and is generally a valuable service in the market that is simply being driven into a race by poor regulation and structural incentives.”

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