Principles for Responsible Investment

EVOLVING BUSINESS MODELS AND NEW APPLICATIONS OF TECHNOLOGY BY STOCK EXCHANGES

A DISCUSSION PAPER

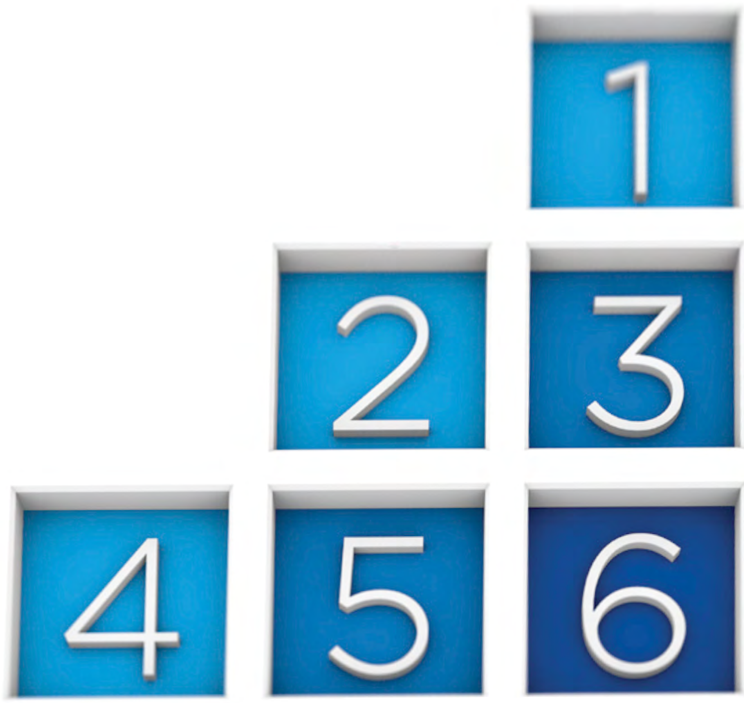
UNEP FINANCE INITIATIVE
United Nations Global Compact
An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

THE SIX PRINCIPLES

PREAMBLE TO THE PRINCIPLES

As institutional investors, we have a duty to act in the best long-term interests of our beneficiaries. In this fiduciary role, we believe that environmental, social, and governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time). We also recognise that applying these Principles may better align investors with broader objectives of society. Therefore, where consistent with our fiduciary responsibilities, we commit to the following:

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the Principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the Principles.
6. We will each report on our activities and progress towards implementing the Principles.



PRI's MISSION

We believe that an economically efficient, sustainable global financial system is a necessity for long-term value creation. Such a system will reward long-term, responsible investment and benefit the environment and society as a whole.

The PRI will work to achieve this sustainable global financial system by encouraging adoption of the Principles and collaboration on their implementation; by fostering good governance, integrity and accountability; and by addressing obstacles to a sustainable financial system that lie within market practices, structures and regulation.

EXECUTIVE SUMMARY

Evolving business models is not a new topic to stock exchanges. Historically, most exchanges were self-regulated, mutual bodies serving their broker members, and revenues were driven primarily by annual membership dues. Exchanges charged traders a fee to buy and sell stocks on a physical trading floor.

The first wave of demutualisations began with the Stockholm Stock Exchange in 1993 and included the Bombay Stock Exchange in 1995 and Bursa Italia in 1997. Demutualisation was followed by a second stage in which exchanges became publicly traded and profit-seeking companies listed on their own exchange, with the Australian Securities Exchange being the first to follow this model in 1998. Under this new model, non-brokers could be owners and the brokers were no longer obliged to be owners. Revenues of the new exchanges were now driven primarily by fees for a range of activities, including trading, listing, clearing, settlement, depository, custody and nominee services. Next came revenue streams of market data, analytics or information fees.[1]

Today, most stock exchanges have become for-profit corporations and they derive revenue through a variety of ways, including listings and issuer services, trading, technology and software, and market data sales. The share of revenues from listing new companies and issuer services, which consists of new listing fees and fees paid by existing listed companies, dropped from 14% in 2004 to 8% in 2014. During the same period, revenues from derivatives trading and over-the counter (OTC) markets increased by almost half of total revenues in 2014. This made income from trading (cash, capital markets, derivatives and OTC) the largest source of revenue, with a total share of 48% in 2014.[2]

Undoubtedly, global stock exchanges will continue to evolve their business strategies. The purpose of this paper is to share examples of how new approaches from stock exchanges and related entities could potentially disrupt the status quo of current stock exchange practices. Through a series of brief studies, the paper examines three potential disruptions, which include a shifting focus on long-term investors, applications for blockchain technology and mobilizing capital for positive impact.

The paper complements the ongoing work of the Sustainable Stock Exchanges (SSE) initiative, for which PRI acts as co-organizer, alongside UNCTAD, UN Global Compact and UNEP FI. The examination of the uses of new technology builds on the PRI's recent megatrends survey with Willis Towers Watson, which found that institutional investors rated technology advances as having an 'extremely significant impact', and the PRI primer on the emergence of blockchain technology. The latter explored some of the ways in which blockchain could transform the financial system and the implications this may have for investors. The adaptation of exchange business models and technology to drive capital towards social and environmentally focused projects and funds builds on the SSE's 2016 Report on Progress, which examined ways in which stock exchanges were contributing towards the UN's Sustainable Development Goals (SDGs).

Ultimately, the aim is to prompt readers to further engage with stock exchanges and securities regulators on how to create more resilient financial markets that contribute to the broader objectives of society, as suggested in the preamble to the PRI's Six Principles.

The case studies featured in the paper are not intended to be exhaustive, but rather as primers to facilitate discussion. The first of these will take place as a PRI organized side-event hosted by Bloomberg LP during the 2018 PRI in Person annual conference. A transcript and summary of the event will be available for those unable to attend.

1 Sustainable Stock Exchanges (2012). Report on Progress.

2 OECD (2016). Changing Business Models of Stock Exchanges and Stock Market Fragmentation.

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FOCUSING ON LONG-TERM INVESTORS

While traditional stock exchange business models can pull revenue from diverse sources depending on the exchange, companies listing on the exchange are often considered the primary client. One disruption playing out in the United States concerns exchanges taking a deeper focus on the needs of institutional investors.

IEX

The Investors Exchange, or IEX, was formed by Brad Katsuyama, who sought to open a window into the alleged complexity of order types and opaque system of rebates that make up the plumbing that underlies the US market structure. IEX states that 'every investor has the right to trade on equal and fair terms, on every trade'[3].

There has been ongoing debate on whether the emphasis on speed of routing and rebates is allowing some to profit at the expense of longer-term investors. Some question whether exchanges are overly focused on catering to high frequency trading (HFT) firms.

In practice, high frequency traders are able to buy and sell stock microseconds ahead of other investors, skimming fractions of a penny off each trade. Critics of this practice argue that profits generated from this practice come at the expense of other investors in the market, particularly retail investors[4]. There have also been complaints against HFT firms for conducting predatory strategies and studies have attributed their trading to causing and exacerbating flash crashes[5]. Some studies have also shown that HFT is positively correlated with stock price volatility; however, other studies have found the evidence to be inconclusive[6]. Proponents of HFT say it has increased liquidity, narrowed the bid offer spreads for investors and generally made the market more efficient for investors[7].

While existing US exchanges and high-frequency trading firms fought IEX's application to become an exchange, arguing that IEX's speed bump violated the rule that quotes must be immediately accessible, in 2016 IEX won approval from the US Securities and Exchange Commission (SEC) to officially launch as a US stock exchange.

IEX was created as a dark pool, which is a private venue that can match large orders away from the public markets. To finance the venue, IEX raised money from investment firms who have expressed concerns about investor fairness in financial markets.

IEX built its model largely around the idea of a speed bump to slow down HFT firms, who were jumping ahead of customer orders. The so-called 'magic shoebox' consisted of 38 miles of coiled cable, creating a 350-microsecond delay to prevent high-speed traders that had faster data feeds from executing resting orders on IEX's matching engine at a stale quote. In addition, IEX invented D-Peg, a new order type to protect investor orders while the quote is changing. The idea is that investors avoid paying (or selling at) a worse price to a predatory strategy that is aware of quote changes ahead of them. IEX also does not offer or sell colocation services to trader and brokers, which allows them to put their servers closer to the matching engine.

In June 2018, an economist at the SEC published a research paper showing that since IEX's launch as an exchange, market quality, as measured by quoted, effective and realized spreads, actually improved for stocks trading on IEX.[8]

Another difference in its model is that IEX is not paying rebates to brokers. The industry practice dubbed 'maker-taker' involves exchanges paying brokers and dealers up to 28 cents per 100 shares for placing bids and offers, and then charging other brokers and dealers up to 30 cents for accessing those bids and offers. The difference between the make or taker fee is what the exchanges keep as profit. Opponents of exchanges paying rebates argue that it creates a conflict of interest for brokers, while proponents contend that it is an important tool to maintain the liquidity of equity markets.

In March 2018, the SEC announced plans to launch a pilot programme to test the effects of lowering stock exchange fees, following criticism that the current pricing system ultimately hurts investors.[9] Nasdaq, the New York Stock Exchange (NYSE) and Cboe all came out publicly against this pilot programme, citing increased costs for investors and companies as well as questioning the legality of the pilot

3 IEX Boilerplate. IEX Trading

4 Jonathan and Durbin (April 2014). The Sydney Morning Herald. High-speed trading costs investors $2 billion a year, say industry super funds.

5 Mayer, Bullock, & Rennisson (January 2018). Financial Times. How high frequency trading hit a speed bump; Financial Conduct Authority (June 2018). How do participants behave during Flash events? Evidence from the UK equity market.

6 Zhang (December 2010). Yale University working paper. High Frequency Trading, Stock Volatility and Price Discovery. Swedroe, BAM Intelligence (March 2016). High Frequency Trading's Impact. Parlington, Philip and Kwan (2015). Is High Frequency Trading Beneficial to Market Quality.

7 Note, trading volume is not necessarily a reliable indicator of market liquidity, especially in times of significant volatility. The automated execution of large orders by institutional investors, which often use trading volume as the proxy for liquidity, could help trigger excessive price movement and extraordinary losses. Source: Financial Analysts Journal.

8 Hu (June 2018). SEC. Intentional Access Delays, Market Quality, and Price Discovery: Evidence from IEX Becoming an Exchange.

9 McCrank (March 2018). Reuters. US Regulator Approves Pilot Program to Cut Exchange Fees, Rebates.

itself. However, a number of major pension plans and asset managers, including California Public Employees' Retirement System, Ontario Teachers' Pension Plan, BlackRock and Vanguard, have all come out in support of the SEC's pilot test.[10] While IEX has also been vocal in its support of the pilot programme, in 2018 IEX proposed a new 'Enhanced Market Maker' program, that would give a one cent per 100 share discount when meeting certain requirements, including disqualifying the use of client order flow from earning the discount.[11] IEX has confirmed its view that this is not a rebate, but rather a discount that would help align the incentives of key stakeholders, investors, companies, brokers and market makers. It should be noted that the PRI has also publicly supported the pilot.

Illustrating a potentially growing trend, in 2017 the NYSE announced that its NYSE American market would implement a speed-bump on incoming and outgoing orders and on proprietary market data.

The NYSE, which is owned by the Intercontinental Exchange, said that NYSE American will have the same type of speed bump with a 350-microsecond delay, except that it will have electronic market makers to ease the trading of NYSE-American listed stocks. In contrast to IEX's position on rebates, then NYSE COO Stacey Cunningham, now CEO, made the case that rebates are critical for reducing the cost of capital and share price volatility for its issuers. The rebates NYSE is paying to market makers on its NYSE American exchange are among the highest in the industry, which could pose a challenge for IEX.

NYSE has said that it launched the delay to give investors choice, while IEX stated that the Investors Exchange was meant to level the playing field for investors.
It remains to be seen how much market share IEX or NYSE America will attract. In July 2018, IEX had an average market share of 2.435%[12]. While the debate around the impact HFT and use of rebates has on the market continues, two new exchanges have opened in the US to meet what they deem as a market need.

LONG TERM STOCK EXCHANGE

IEX and NYSE are not the only stock exchanges to experiment with a new business model to address the needs of long-term investors.

In Silicon Valley, Eric Reiss, an entrepreneur and author of *The Lean Startup*, is working on a proposal to apply to the SEC for approval to operationalize a new concept for a stock exchange.[13] His start-up, which is backed by investors and venture capitalists, is working on the concept of creating a stock exchange with governance rules to reward long-term shareholding and help public companies make decisions that promote long-term value creation.

The aptly named Long Term Stock Exchange (LTSE) is looking at overhauling the process used by US technology firms to list their shares and reduce the pressures that public companies face from high frequency trading, cynical activists and the short-term incentives of quarterly earnings results. Reiss's view is that high frequency trading, short selling and quarterly investor pressures dominate share trading and hinder the growth of the underlying businesses whose shares are traded on exchanges.

There is strong evidence that short-term thinking has stymied innovation and had a negative impact on corporate growth. Companies that operate with a long-term outlook have consistently outperformed their industry peers since 2001 across almost every financial measure including revenue, earnings and job creation. However, research shows that companies will forego efforts to create long-term value because of pressure to meet short-term objectives.[14] Studies have also pointed to a roughly 50% decline in the number of public companies from 1996 to 2016[15], a triple digit increase in CEO compensation from 1978 to 2014[16] coupled with pay totals that were poorly aligned with total shareholder return performance[17], and an increased emphasis on ESG issues among both activist and institutional investors.[18]

In order to reorient companies and investors around long-term thinking, the LTSE plans to reinvent the public company experience with different approaches to executive compensation, shareholder voting, disclosure practices, board and stakeholder policies, and community governance.

10 Osipovich (May 2018). Wall Street Journal. Exchanges Blast SEC for Plan to Rein in Rebates. CNBC (May 2018). NYSE comes out swinging in SEC pricing test, pitting itself against major pensions and fund managers. NYSE. SEC Transaction Fee Pilot: Understanding the impact to investors and listed companies.

11 IEX (January 2018). Designing a Market Making Program for IEX.

12 IEX (July 2018). Market Stats

13 Reiss (October 2017). The Long Term Stock Exchange Comes to Life.

14 PRI. UN Global Compact. Coping, Shifting, Changing 2.0.

15 Credit Suisse Report. The Number of U.S. Stock Listings Continue to Decline.

16 Economic Policy Institute (June 2014). Issue Brief 380.

17 Marshall and Lee (2016). MSCI ESG Research. Are CEOs Paid for Performance?

18 Sawyer and Treviño (April 2018). Sullivan & Cromwell LLP. Review and Analysis of 2017 U.S. Shareholder Activism.

Among the key differences of the LTSE from traditional exchanges are: 1) Shareholder voting power based on tenure, meaning that a shareholder's vote would be proportionally weighted by the length of time the shares have been held. 2) Listed companies would agree to mandated ties between executive pay and long-term business performance. 3) Disclosure requirements that help companies to better understand their long-term shareholders and assist these shareholders in knowing what investments the company is making.

The LTSE has suggested that playing a proactive role in creating long-term markets is one way that exchanges can attract listings and increase financial performance.

By creating a new stock exchange that allows companies to focus more on their customers than quarterly revenues, the LTSE believes it can address pressures that have kept companies from going public. However, building a new exchange from scratch involves the challenge of attracting investor activity to provide liquidity and fair prices.

The LTSE has put forward a new concept for exchanges, investors, companies and regulators to consider: by playing a more proactive role in creating long-term markets and exchanges, and by leveraging their role as intermediary between companies and investors, they have a valuable opportunity to reshape their thinking.

APPLICATIONS FOR BLOCKCHAIN

For the past few years, financial institutions have been investing in blockchain technology with the idea that it could reduce the cost and complexity of many of its processes, ranging from payments and settlements to tracking shareholder assets.

As the recent PRI paper on blockchain pointed out, much discussion has focused on cryptocurrencies, rather than the underlying blockchain technology which has the potential to reshape the investment industry, offering significant opportunities as well as generating potential risks to system stability. Blockchain could facilitate secure decentralised transactions, reduce incidents of fraud, and increase transparency and efficiency in multi-party transactions.

Indeed, blockchain's ability to store information on a shared network of computers, spread across the Internet and synced without the need of a trusted third-party, has also drawn the interest of stock exchanges. Many exchanges are looking at blockchain as a way to overhaul the complex procedures that govern their operations including pre-trade, trade, custody, settlement and shareholder services. These multi-layer processes can be costly, time consuming, duplicative and error prone.

While there are numerous cases of stock exchanges using blockchain technology, the case studies below were chosen to illustrate two different applications for blockchain in an attempt to spur greater discussion on how stock exchanges could diversify their business models with the use of this technoloyg.

LONDON STOCK EXCHANGE GROUP

In 2017, the London Stock Exchange Group (LSEG) plc teamed up with IBM to build a blockchain-based platform to digitally issue shares of small and medium size enterprises in Italy.[19] The project was built and tested by Borsa Italiana, which is part of the LSEG.

Traditionally, information for shareholders of SMEs was held manually on spreadsheets, or even on paper-based records, with each shareholder holding their own version of the information. Conversely, information recorded on a shared digital ledger can be viewed by everyone on the network and can only be changed if each party agrees.[20] By establishing a golden source of data, this can reduce the need for reconciliation of information held by different companies.

Storage of shareholder information on a shared digital ledger should make it easier for SMEs to interact with their shareholders and provide more transparency to investors on their ownership. Another benefit could be that blockchain helps the SMEs gain greater access to credit.[21]

This could also be an important step towards being able to digitize the actual shares, as well as future debt. The impact on company financing could be immense, particularly small, private companies. Improved liquidity could make these investments more attractive to investors and the exchange itself could have lower administration costs and more transparent oversight.

The role of stock exchanges in supporting SME growth was explored in a recent WFE-UNCTAD report. In the report it was noted that SMEs face significant constraints, including lack of access to finance. The World Bank suggests that 70% of SMEs in emerging markets lack access to credit.[22] The WFE-UNCTAD report goes on to note that the initial and ongoing compliance requirements and costs of traditional equity markets may represent a barrier to SME listing. This has prompted policymakers, regulators and exchanges to develop regulatory regimes and platforms that are appropriate to SMEs. Some earlier literature is critical of the success of these 'junior exchanges' due to low take-up and the low amounts of capital raised. However, the number and scale of SME platforms has grown significantly over the last 12 years, and at end 2016, there were over 7,000 companies listed on various SME platforms across WFE member exchanges in over 40 countries. SME markets promote and support SME listings, not just by facilitating access to capital, but also by providing an environment that enables SMEs to thrive, including eliminating or reducing listings fees, offering business development assistance and ensuring less frequent reporting requirements.[23]

By testing new applications for blockchain technology, the LSEG could help contribute to the further growth of SMEs' listings on stock exchanges and improve their access to the necessary capital for growth.

19 Irrera (2017). Reuters. London Stock Exchange Group tests blockchain for private company shares

20 Hackett, Fortume (2017). Why Big Business is Racing to Build Blockchains. One of a blockchain's distinguishing features is that it concatenates (or "chains") cryptographically verified transactions into sequences of lists (or "blocks").

21 The LSEG suggested that usage of a particular type of blockchain, the Hyperledger Fabric released by Hyperledger Group - an open-source project run by the Linux Foundation whose members include IBM and LSEG - could help SMEs access credit.

22 World Bank (September 2015). Small and Medium Enterprises (SMEs) Finance

23 WFE and UNCTAD (September 2017). The Role of Stock Exchanges in Fostering Economic Growth and Sustainable Development,

NASDAQ

In 2015, Nasdaq chose blockchain startup Chain for a pilot to test the trading of shares in private companies, which do not trade on an exchange and entail a lot of paperwork. In October of 2015, Nasdaq unveiled Linq, a solution allowing private companies to digitally represent share ownership using blockchain-based technology.[24]

Chain's open-source blockchain platform enables financial institutions to transfer money and other digital assets, securely and almost instantaneously. The goal was to test blockchain in the Nasdaq Private Market, a marketplace for pre-IPO trading of private company shares. Nasdaq conducted the pilot with five clients.[25] At the time, Nasdaq officials said that the manual process of tracking shares could be overwhelming and expensive.

Going a step further, in May 2015, Nasdaq teamed up with Citi to announce an integrated payment solution using a distributed ledger to record and transit payment instructions based on Chain's blockchain technology. This meant that investors in private securities on Nasdaq could use Citi's cross-border payments facility and blockchain to buy, sell and settle transactions.[26] The integration can allow exchanges like Nasdaq to address the liquidity challenges of private securities by streamlining payment instructions between multiple parties.

Meanwhile, Nasdaq has been at the forefront of a number of additional blockchain initiatives.

In 2015, Nasdaq also voiced interest in developing an e-voting system on its Tallinn Exchange in Estonia using blockchain technology.[27] Nasdaq worked with the government of Estonia to pilot blockchain-based e-voting for shareholders to express themselves at corporate annual general meetings (AGM). Known as proxy voting, this describes a process whereby shareholders cast votes at an AGM without actually attending the meeting. Selecting as its partner Chain's open-source blockchain platform, Nasdaq also leveraged digital identification solutions used by the Estonian government to issue ID cards to foreigners through their e-Residency Program.

Later, in 2017, Nasdaq successfully completed a test that allowed investors who own shares on the Tallinn exchange to vote online during AGMs or transfer their voting rights to a proxy.

As a result of the project, Nasdaq now has a working PoC (proof-of-concept) that can identify citizens based on their Estonian digital ID – either their Estonian ID card or e-Residency card.

What motivated the project? According to Nasdaq's report, AGMs are typically high-cost events with, on average, low shareholder participation. As cross border investments grow, there is more demand for a secure, cost-effective and flexible solution that can facilitate shareholder voting from a distance.[28] While some investors might delegate their proxy voting to a custodian bank, they are not 100% certain that their vote was placed as they wished. Thus, Nasdaq saw blockchain as an opportunity to improve corporate-investor interactions. In addition, the creation of a low-cost, easier-to-access solution would allow cross-border shareholders to exercise their voting rights, potentially leading to further growth in cross-border listing, trading and settlement activity. By leveraging blockchain's secure technology, exchanges could give voters more control over their voting rights and easier access to their voting history.[29]

DECENTRALISED EXCHANGES AND THE IXO FOUNDATION

For the purpose of discussing the future of traditional, centralized stock exchanges, it is worth examining the approach the South African ixo Foundation is taking to leverage blockchain technology to optimize sustainable development impact. The Foundation is developing a protocol that allows data about projects — such as when a child has been vaccinated— to be recorded on a blockchain.[30] With a blockchain-based system, a decentralized impact exchange is used to create verified impact claims, essentially 'proof of impact'. This proof can be used to access social impact bonds and government subsidies, and drive down the cost of evaluation. The data from these impact claims becomes a part of a global impact ledger, an open data common that organizations, governments and researchers can access to make informed decisions and optimize impact initiatives.

24 Shin (2015). Forbes. Nasdaq Selects Bitcoin Startup Chain to Run Pilot in Private Market Arm.

25 In 2016 Nasdaq put the Linq pilot out there with pilot customers. Most of these companies were involved with blockchain. The first participants to use Linq will include Chain.com, ChangeTip, PeerNova, Synack, Tango and Vera. Source: Nasdaq. (2016). Building on the Blockchain.

26 Groenfeldt (2017). Forbes Blockchain Moves Ahead with Nasdaq-Citi Platform, Hyperledger and Ethereum Growth

27 Irrera (2017). Reuters Nasdaq successfully completes blockchain test in Estonia

28 Demarinis, Uustalu, Voss (2017). Is Blockchain the Answer to E-Voting? Nasdaq Believes So

29 Ibid.

30 Ibid.

Using the innovative protocol, the Foundation partnered with a local UNICEF backed non-profit to provide evidence that a project related to pre-school attendance in South Africa could have legally agreed upon targets that could be tracked and digitally recorded using blockchain. In this example, as the claim of impact is authenticated, a cryptographic token is issued, which becomes a new asset class that could become the basis of a new regulated, investing asset.[31]

This approach could be of interest to the investment community as the lack of measurement and certification standards may be holding back capital flows into the social and green bond sector in particular. Current methods of measuring impact have been found to be inefficient, expensive and prone to error and even fraud. This case demonstrates one example of how the application of blockchain could be built upon and taken to scale to leverage greater measurable impact.[32]

Estimates demonstrate that evaluating the impact of development projects costs as much as 5%-7% of the overall budget.[33] Specifically examining social impact bonds – where public agencies connect with investors and service providers to deliver a certain outcome, such as reducing prison recidivism or improving childhood literary – they are reported to be more expensive to validate, with evaluation rates sometimes as high as 30% of the bond cost.[34]

The question therefore arises: could blockchain become the panacea? There is increasing recognition that blockchain, a distributed ledger technology that tracks bitcoin, could be utilized to record and measure proof-of-impact. While the full potential of this technology is not yet market read, the tokenization of information related to impact has immense potential to provide a tangible method for investors to ensure capital flows in ways that have a measurable impact on the UN's SDGs.

31 Ibid.

32 Schiller (2018). Fast Company This New Blockchain Protocol Wants to Create Accountability for Social Impact.

33 Ibid.

34 Ibid.

MOBILIZING CAPITAL FOR IMPACT

Traditional stock exchanges are evolving their business practices to find more innovative ways to increase capital flows to sustainable companies and projects through both listed equity and bonds. In addition, there are also new platforms that are building on the traditional stock exchange model but focused solely on investments in companies or projects that are focused on fixing social or environmental challenges.

While stock exchanges have existed for centuries to handle financial transactions and match buyers and sellers, social or impact stock exchanges are a relatively new phenomenon. Some have launched and either changed course or been dissolved; however, others have been gaining traction.

This may be due to the increased demand markets are seeing for delivering impact alongside returns. According to the Global Impact Investing Network (GIIN), investors they surveyed committed $22.1 billion to projects that deliver both social, financial and/or environmental purpose in 2016.[35] Across the world, impact investing is expected to reach $650 billion by 2020.[36] There may also be demand for leveraging exchange models and technology to improve access to more philanthropic focused funds.

CANADA: SOCIAL VENTURE CONNEXION

Building on the idea of investing in the public markets, Canada's Social Venture Connexion (SVX)[37] launched in 2013 at the Toronto Stock Exchange (TSX). It set out to provide investment opportunities in the exempt market, or a section of the capital markets that are not available on public exchanges like the TSX. Its aim was to create a social stock market; a place where entrepreneurs and organizations seeking to tackle pressing problems could connect with investors seeking social and/or environmental impact alongside financial returns.

The idea for SVX came about following the global financial crisis, when SVX's founders saw a need for capital to solve problems such as inequality and climate change. However, SVX did not immediately launch a secondary market for trading of impact investments, where shares change in value. It wanted to examine the technological, regulatory and moral implications of a secondary market.

Today, SVX connects investors with qualified social enterprises that are not listed on a stock exchange but can raise money through private placements or crowd funding.

In order for companies to raise money on SVX, the impact of their products and services are first assessed.[38] Today, they work across sectors including cleantech, health, work and learning, food, and social inclusion, providing support to enterprises focused on early cancer detection to community power co-operatives producing renewable energy. Below are the key updates since its launch:

- 149 ventures have participated in SVX investment readiness programmes and on the SVX 1.0 platform;
- SVX ventures and funds have raised over $100 million;
- SVX is registered to operate in Ontario, Québec, Alberta, British Columbia and Saskatchewan;
- Over 1,500 investors, entrepreneurs, and community members have attended in-person workshops, demo days, events, and other educational programming hosted by SVX.

SVX is registered as an Exempt Market Dealer (EMD) with the Ontario Securities Commissions (OSC). As an EMD, it can offer a variety of options to investors looking for private market deals, from equity crowdfunding to private placements, for accredited investors. They are overseen and report to the OSC. As of 2016, Canadian regulations have changed to allow retail investors, not only accredited investors, to take part in investing in private enterprises through SVX's crowdfunding options.

SVX is supported by the MaRS Centre for Impact Investing, in close collaboration with TMX Group and with support from the Government of Ontario, Torys LLP, KPMG, RBC, the J.W. McConnell Family Foundation and a host of other partners. Though SVX is primarily focused on Ontario-based private offerings, it eventually plans to become a trading exchange open to the general public.[39]

SINGAPORE: IMPACT INVESTMENT EXCHANGE

Another example found in Singapore's Impact Investment Exchange (IIX) is also a great example of global collaboration. IIX is the brainchild of Durreen Shahnaz, a former social entrepreneur and investment banker.[40]

IIX is focused on connecting underserved communities to the Wall Streets of the world by raising capital and bringing solutions to build a sustainable foundation for women empowerment, climate action and community resilience. To date, IEX's work has spanned 40 countries and impacted the

35 The GIIN (2017). Annual Impact Investor Survey.
36 Ibid.
37 Ibid.
38 SVX approves issuers (social ventures, impact funds, non-profits) based on several criteria including assessing social/environmental criteria using the B Corporation Standard.
39 Borenstein (2015). Around Wall Street: Social Stock Exchanges
40 Field (2012). Forbes. Singapaore's Social Enterprise Stock Exchange to Launch Soon

lives of over 15 million disadvantaged people by raising over $75 million in investment from the private sector.

IIX is building an ecosystem for impact investing that incudes finance and business development, a platform for private placements and crowdfunding and eventually a listing on the public stock exchange.

In 2013, Singapore's IIX was launched jointly with the stock exchange of Mauritius in order to reach African as well as Asian social enterprises and investors. [41]

Initially, the exchange was only open to accredited investors, so initially, IIX was not open to retail.

Companies had to comply with listing parameters, such as having a social or environmental goal, and regularly publish social impact assessments. Trading took place online through a partnership with PhilipCapital Group, one of Southeast Asia's largest brokerage firms.

While many of the social investing initiatives started out as portals listing companies to connect them with investors, Singapore's IIX is the only one on which publicly listed companies are traded.[42]

However, there is also the sense that social stock exchanges are still transitioning from private placement platforms to fully-fledged public stock exchanges.

While IIX was founded to develop the first public exchange for impact investment companies, it spends most of its time on other impact investment projects such as a private placement platform, working with Asian banks on fundraising and making impact companies 'investment ready'.[43] One of its initiatives was creating the $8 million Womens' Livelihood Bond. The bond funds impact enterprises and microfinance institutions, with the aim of growing their businesses. In effect, this was the world's first listed bond, with a dual focus on social impact and financial returns, helping to empower over 385,000 women in South East Asia.[44] IIX has also launched the Women's Health Bonds and Sustainable Fisheries Bonds. Furthermore, in July 2018, during a speech at the 72nd UN General Assembly, Ms Shahnaz announced that IIX was launching the Innovative Finance for Sustainable Peace Initiative.

This is a five-year initiative to unlock $1 billion in capital to create sustainable peace efforts through systemic economic resilience across the globe in post-conflict countries with a high risk of violence. The economic impact of violence on the global economy was $13.6 trillion in 2015. This is on top of the $5 trillion to $7 trillion estimated to be needed annually to meet the United Nation's SDGs. These figures may seem overwhelming; however, IIX believes that by harnessing the power of financial markets, which globally total $210 trillion, the sums involved can become more manageable. The initiative aims to achieve three underlying objectives:

1. To effectively use financial markets to drive sustainable peace across the world by creating 'business-worthy' companies, equal communities and a resilient planet for all;
2. To embed a gender-lens into the global peace dividend and shift the narrative from viewing women as victims of war to recognizing women as solutions to peacebuilding;
3. To galvanize key stakeholders from the public, private and philanthropic sectors to jointly create innovative financial products for peace.[45]

BRAZIL: BOLSA DE VALORES SOCIAIS

The Socio-Environmental Investment Exchange (BVSA in Portuguese) exemplifies a partnership that utilizes the model and brand of a stock exchange to mobilize the financial market to support the SDGs. Originally launched in 2003 as a pioneering model among stock exchanges, in 2016 the BVSA began classifying projects according to their potential to impact the SDGs.

Building on the growing understanding of the Brazilian stock exchange (B3) growing understanding that social disparities are a significant obstacle to sustainable economic development, BVSA was linked to its core business from the start. It was inspired by the belief that the stock market is essentially a value creation environment, in which corporations and investors meet to trade shares that add value for both parties. By the same token, this environment is well placed to host the selling and buying of shares, where non-governmental organizations (NGOs) as investees return investments in the form of social profits.

41 Motter (March 2014). Forbes. Stock Exchanges for Social Enterprises? Here's Where You Can Find Them.

42 Borenstein (February 2015). http://aroundwallstreet.com/2015/02/social-stock-exchanges/

43 Noonan (March 2018). Financial Times Young Asians pursue impact investing that makes profit at home.

44 Ibid.

45 Shanaz (July 2018). Iix foundation. Innovative Finance for Peace Speech at 72nd UN General Assembly

Unlike impact investing, returns on investment do not go to the investors in the form of financial profits and dividends. Instead, their investments yield beneficial impacts for the sustainable development of Brazil. Capital obtained through the BVSA helps listed NGOs implement, expand or maintain a variety of projects: a shrimp farming school for the next generation of artisan fishermen to remedy the depletion of shrimp stocks and thereby protect the livelihood of their community; a family restructuring programme that helps children repeatedly hospitalized with conditions such as pneumonia and their families to break the vicious cycle of poverty and disease; and a cultural centre in one of the poorest and most violent neighbourhoods of São Paulo, among other projects.

Investors can track the project's progress and monitor its results in the reports available on the BVSA's website. This is a transparent process, based on the model for B3 trading practices. Thus, organizations pass through a rigorous selection process to list projects on the BVSA. Furthermore, when the fundraising period has ended, the BVSA monitors the use of these funds to guarantee that they are going towards the previously established objectives.

On average, each year there are 650 applications and 20 projects chosen to be listed. Each receives R$50,000 in seed capital from the Brazil Foundation and will be able to raise up to an additional R$50,000 via BVSA. Since its launch, BVSA has raised R$19.1 million for 208 projects, of which 188 have completed funding and 20 more are in the active funding stage.[46] Since 2014, B3 has combined competencies and efforts, and formed a social joint venture with the Brazil Foundation.

In addition to co-funding, the Brazil Foundation takes on the selection, assessment, training and monitoring of projects listed on the BVSA. Similarly, UN agencies such as UNDP and UNESCO provide support to the programme, as do brokerage houses and civil society. Donations made by credit card or bank slip pay discounted bank service fees thanks to partnerships with financial institutions. The B3 Institute guarantees that all raised funds are transferred entirely to the NGOs.

The BVSA's impact goes beyond merely the capital raised. It has served as a conduit for dialogue between investors and NGOs, business and community, rich and poor. It bridges the divide between these groups, because it offers an environment for people who normally do not speak to one another to begin to understand each other's worlds. In addition, the BVSA gives them a new vocabulary that facilitates connections between their distinct realities. At the same time, it also improves B3's image, and therefore its business. Sonia Favaretto, Managing Director, Media Relations, Sustainability, and Communications, BM&FBOVESPA, was recognized as one of the Global Compact's ten Local SDG Pioneers in 2016. Thanks in part to her work on BVSA, Sonia and other BM&FBOVESPA officials have remained committed to this kind of initiative as part of the role of exchanges and capital markets in creating just and sustainable societies. They intend to use this as an example to spark the imagination and commitment of other exchanges to launch similar initiatives.To invest, a person has to register on www.bvsa.org.br, choose the project theme, target audience or region – and build the donation portfolio.

INDIA: BIOMASS EXCHANGE PLATFORM

Governments in certain regions are partnering with technology providers to develop an exchange mechanism to solve problems such as waste treatment. In Delhi, UK-based GMEX Technologies, a provider of exchange technology, is collaborating with the Centre for Ganga River Basin Management and Studies (CGanga) to launch a waste trading platform and exchange venture to address major pollution problems in the Indian Ganga River Basin.[47] Solid waste being dumped in the river is a huge challenge for the government of India. [48]

The exchange solution will include technology to deliver market data, warehouse receipts, and finance and trading, including auctions, quoting and continuous trading facilities. A contact database will run in parallel on blockchain technology to include a distributed registry and contract database for tracking thousands of product suppliers.

The new trading platform will provide a ready spot market for trading waste, and drive a sustainability model for the usage of biomass. [49] Commodity investors and traders are looking to back this new Biomass Exchange platform, as it will lead to process and product standardization, effective biomass price establishment, and clear and equal rules for all participants.

46 BVSA Website (Aug 2018).

47 GMEX signs collaboration agreement with CGanga to launch a Biomass Exchange in India

48 Every day 68 million tons of waste is generated in India and only 19% is treated. This latest initiative is addressing a key challenge to provide efficient and cost-effective collection and segregation methodology, which is entirely market-driven.

49 Generators of waste can bring their waste to collection centers, and get paid on the spot based on quantity and quality. This will create a supply-chain, as every individual will be seen as a resource delivering on a 'waste-to wealth economy'.

CREDITS

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The Principles for Responsible Investment (PRI)

The PRI works with its international network of signatories to put the six Principles for Responsible Investment into practice. Its goals are to understand the investment implications of environmental, social and governance (ESG) issues and to support signatories in integrating these issues into investment and ownership decisions. The PRI acts in the long-term interests of its signatories, of the financial markets and economies in which they operate and ultimately of the environment and society as a whole.

The six Principles for Responsible Investment are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice. The Principles were developed by investors, for investors. In implementing them, signatories contribute to developing a more sustainable global financial system.

More information: www.unpri.org

PRI Principles for Responsible Investment

The PRI is an investor initiative in partnership with UNEP Finance Initiative and the UN Global Compact.

United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI is a unique partnership between the United Nations Environment Programme (UNEP) and the global financial sector. UNEP FI works closely with over 200 financial institutions that are signatories to the UNEP FI Statement on Sustainable Development, and a range of partner organisations, to develop and promote linkages between sustainability and financial performance. Through peer-to-peer networks, research and training, UNEP FI carries out its mission to identify, promote, and realise the adoption of best environmental and sustainability practice at all levels of financial institution operations.

More information: www.unepfi.org

UNEP FINANCE INITIATIVE

UN Global Compact

The United Nations Global Compact is a call to companies everywhere to align their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption, and to take action in support of UN goals and issues embodied in the Sustainable Development Goals. The UN Global Compact is a leadership platform for the development, implementation and disclosure of responsible corporate practices. Launched in 2000, it is the largest corporate sustainability initiative in the world, with more than 9,500 companies and 3,000 non-business signatories based in over 160 countries, and more than 70 Local Networks.

More information: www.unglobalcompact.org

United Nations Global Compact