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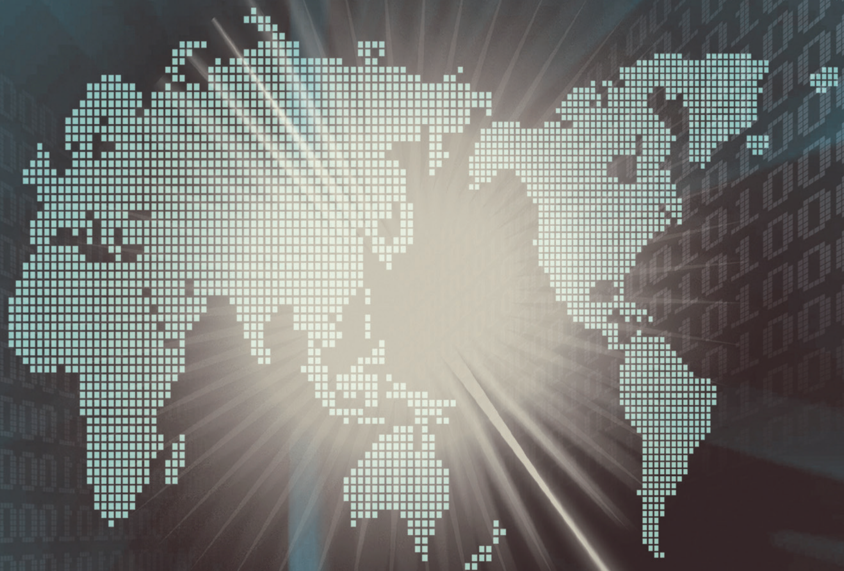

Chinese Taipei Pacific Economic Cooperation Committee (CTPECC)

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On Closing the Trade Finance Gap: How Digitalizing the Economy Can Contribute to Sustainable Development and More Equitable International Trade

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I.The Trade Finance Gap & Development

International trade has been a critical driver of the rapid economic growth that developed and many developing countries have experienced alike over the past several decades; however, there is an emerging trade finance gap that threatens the sustainability of current trade flows and prevents many developing countries from reaping the full economic benefits that globalization promises. Because of the disconnect in time between when an importer may be willing to provide payment for its purchase and when an exporter expects to receive payment for its sale, trade finance provides importers with loan instruments, letters of credit, or guarantees for prepaying exporters for their purchased goods.[1] By providing liquidity and cash flow, trade finance quite literally underpins the global supply chain and international trade as we know it.[2] The World Trade Organization estimates that 80 to 90 percent of international trade is funded through trade finance.[3]

Regrettably, due to stringent correspondent banking requirements imposed by international regulators after the 2008 financial crisis, the availability of trade

1 *See generally*, KATRIN KUHLMANN AND MARIO OSORIO HERNANDEZ, The Role of Law and Regulation in International Trade Finance: The Case of Correspondent Banking (July 2017), available at https://www.weforum.org/whitepapers/the-role-of-law-and-regulation-in-international-trade-finance-the-case-of-correspondent-banking.

2 *Id.*

3 Trade Finance, The World Trade Organization, available at https://www.wto.org/english/thewto_e/coher_e/tr_finance_e.htm (last visited May 18, 2021).

financing for importers in least-developed (LDCs) and low-income countries (LICs) has considerably declined.[4] In these countries, financing is typically provided by local banks operating on a regional or national basis who must rely on correspondent banking relations to fund cross-border transactions. However, multinational or investment banks with the requisite capital to provide trade finance have become increasingly wary and hesitant to enter into correspondent banking relations with their less-sophisticated counterpart banks that are unable to navigate and comply with complex international rules such as the 2009 Basel III Accords and the Financial Action Task Force Recommendations on anti-money laundering (AML) and "knowing-your-customer" (KYC) practices.[5] That is, because multinational banks are subject to higher capital, liquidity, and compliance requirements, their relative weaker financial positions compel them to become more risk-averse and less inclined to enter into correspondent banking relations with local banks in LDCs and LICs. As a result, banks in LDCs and LICs, and by extension the local businesses that rely on them for trade finance, are excluded from participating in global financial value chains. Such a deficiency in payment processes hugely affects the competitiveness of local business in LDCs and LICs.

In 2017, the trade finance gap was approximately $1.6 trillion (USD),[6] and the World Economic Forum estimates it could reach $2.5 trillion by 2025.[7] One recent estimate studying the effect of the COVID-19 pandemic on global economic trends suggests that the trade finance gap may reach $6.5 trillion should the crisis conditions continue to persist.[8]

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4 *See* KUHLMANN & HERNANDEZ, *supra* note 1, at 7-8.

5 *Id.*

6 KUHLMANN & HERNANDEZ, *supra* note 1, at 6.

7 Marc Auboin & Violeta Gonzalez Behar, Why Exporters Need to Mind the Trade Finance Gap, WORLD ECONOMIC FORUM (Feb. 10, 2020), available at https://www.weforum.org/agenda/2020/02/exporters-mind-trade-finance-gap/.

8 GLOBAL TRADE FACES A USD3.4 TRILLION FINANCING GAP, Standard Chartered Bank (Aug. 28, 2020). The COVID-19 pandemic has immensely limited access to trade finance, in particular by small and medium sized enterprises in LDCs and LICs. Due to the economic recession and general uncertainty in the markets, multinational banks have prioritized trade finance for their most established client relationships. While multilateral development banks may bridge the trade finance gap in the short-term during the pandemic, they should not be considered a long-term solution especially if we seek to promote sustainable development and compliance with international finance rules by local banks in LDCs and LICs. Matt Wreford & Nathalie Louat, T*he Digital Transformation of Trade Finance: An Urgent Present and a Bright Future*, WORLD BANK BLOG (Mar. 2, 2021), available at https://blogs.worldbank.org/trade/digital-transformation-trade-finance-urgent-present-and-bright-future.

II.Redesigning Trade Finance through Digitalization

Fortunately, trade finance is undergoing a period of accelerated digitalization (in no small part due to the effects of the ongoing pandemic), and multinational banks are increasingly embracing technology and are digitizing many of their internal processes with a view toward financial inclusion.

Generally, digitization allows banks to achieve better control over credit facilities, reduce fees, promote more transparent and greater flow of information, and facilitate streamlined credit collection processes.[9] Taken together, banks that rely primarily on digital infrastructure as opposed to paper files are able to improve cash flow forecasting and cash management and grow their transaction volumes without additional capital.[10]

Digitalization may be even more pertinent and hold greater promise in the trade finance context. Given that each trade transaction involves many entities, different products, and several locations internationally, digital document management should be particularly relevant in the trade finance context.[11] For importers in LDCs and LICs, a completely digital application process for obtaining trade finance may also allow them to work with banks beyond their local geography. Banks should further explore applications of cutting-edge high technology to achieve greater compliance with international finance rules. For instance, banks may seek to apply cutting-edge blockchain and distributed ledger technology to introduce greater transparency to financial transactions with importers in LDCs and LICs.[12] This should allow parties to compensate for the declining number of correspondent banking relationships and to overcome AML and KYC barriers to trade finance while also protecting against fraudulent activity.

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9 Paul Golen, *How digital trade finance is making it easier to exchange*, THE ASSOCIATION OF CORPORATE TREASURERS, available at https://www.treasurers.org/hub/treasurer-magazine/how-digital-trade-finance-making-it-easier-exchange (last visited May 16, 2021).

10 *Id.*

11 Dai Bedford et al., *How Digital Transformation is Redesigning Trade Finance, EY* (July 20, 2020), available at https://www.ey.com/en_us/banking-capital-markets/how-digital-transformation-is-redesigning-trade-finance.

12 *See* KUHLMANN & HERNANDEZ, *supra* note 1, at 12.

Further, an increased trend toward digitalization has brought several new financial technology (fintech) actors into the market and is introducing funding alternatives for importers unable to access traditional trade finance.[13] There have already been major private, non-bank fintech actors who are able to deliver effective cross-border payment services at cost. For instance, Ripple Labs provides cross-border remittance services for institutional clients, and WorldRemit does the same for consumer clients. When such alternative financing channels are extended to importers for the purposes of trade finance, the presence and function of non-bank private actors should encourage multinational and local banks alike to offer more accessible, transparent, and cost-efficient trade finance instruments.[14]

III.Conclusion

For too long, trade finance has been on the backburner of pressing international economic law issues despite the increasing trade finance gap in LDCs and LICs and its implications for international trade and global supply chains. While compliance with international finance rules should continue to be encouraged, we must acknowledge the lack of access to trade finance in LDCs and LICs as a consequence of compliance and seek digital solutions to overcome existing legal barriers. Current technologies, such as digital document management, are particularly relevant to trade finance provided the complex nature of and records that must be kept in trade transactions. Cutting-edge distributor-ledger and other technology may also be applied to facilitate more efficient and transparent trade financing. Ideally, the digitalization of trade finance processes will ultimately translate into sustainable international trade practices and contribute to economic development in LDCs and LICs.

13 KUHLMANN & HERNANDEZ, *supra* note 1, at 5
14 *See* KUHLMANN & HERNANDEZ, *supra* note 1.

Promoting Peace in Asia: the role of Japan

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Positive Peace and Japan

In recent years, Asia's relatively peaceful environment seems to be in fast decline. Geopolitical conflicts aside, since 2020, Asia is hit with new challenges. Outbreak of the COVID-19 pandemic has not only caused the loss of many lives and sufferings around the world, the pandemic also exposed the developmental gap among Asian countries – those with sufficient medical resources to combat the pandemic and those without. Currently, India, Indonesia, Philippines and Thailand are among the hardest hit countries globally. Meanwhile, democratic backsliding can be observed in many parts of Asia, particularly in Southeast Asia. In Thailand, for example, despite promises by Prime Minister Prayut Chan-o-cha to restore democratic elections, the country continues to be under military governance. In light of Thailand's dire situation with COVID, demonstrations have broken out across the country against the government's unsuccessful efforts at controlling the pandemic. In Myanmar, a coup d'etat led by the Tatmadaw overthrew ruling elites from the National League for Democracy and returned the country to military governance.

As Asia undergoes tumultuous changes, countries in the region seek leadership. Since the end of the Cold War, the United States (US) was traditionally looked upon by many Asian states as the undisputed leader. America's military presence in Asia not only provided security in the region, its consumer market was also the outlet for exports from Asia. Nonetheless, since the 9/11 terrorist attack and economic downturn caused by the subprime mortgage crisis in 2008, US status was greatly undermined, to the extent that discussions centered on so called "power transition" and rising powers heightened. While observers contended on the emergence of different powers, Japan – a country that has stepped down in the ranks of power in the post-Cold War period – began to re-emerge on the world stage again – this time as a leading peaceful power.

Despite Japan's inglorious past in the first half of the twentieth century, over time, Japan has developed into one of the strongest advocates for peace in the world. Although a major reason for Japan's advocacy may be the re-established Japanese Constitution in 1946 that strictly limits the use of force, such constraint can only be considered as a demonstration of so called "negative peace," or the passive prevention of conflict through non-action. As proposed by Johan Galtung, "positive peace" describes a more lasting peace that is built on sustainable investments in economic development and institutions, as well as societal attitudes that foster peace. In such regard, Japan has taken many actions towards making peace in Asia. In response to the US strategic retreat under the Donald Trump administration that opened up a leadership vacuum in the Indo-Pacific region, Japan essentially saved the Transpacific Partnership (TPP) by reincarnating the project as the Comprehensive and Progressive Agreement for Transpacific Partnership (CPTPP). In addition to the promotion of trade and provision of economic assistance, in recent years, Japan has made moves in the fields of vaccine, nuclear energy and education that expose its capability in taking the helm in establishing peace in and beyond Asia.

Vaccine Diplomacy

As of August 2021, the COVID-19 pandemic has already generated more than 2 billion cases of infection around the world and taken the life of more than 4.3 million people. In Japan, the numbers amount to 1.13 cases of infection and more than 15,000 deaths. On July 8, 2021, Tokyo announced an extended state of emergency in the country in relation to coronavirus, which kept the country under alert while the postponed Olympic Games carried on. Similar to countries around the world, the Japanese economy was hard hit and vaccination of the population remains a difficult issue in Japan.

Nonetheless, recovering from a medical response crisis when the pandemic first began to spread in 2020, Japan became a supplier of medical resources in the world in 2021 and reached out to countries in need of vaccines. On June 4, 2021, Japan announced the donation of 1.24 million doses of the Astra Zeneca (AZ) vaccine to Taiwan and commenced a series of vaccine donations to other southern neighbors. In the course of two months, Japan further donated vaccines to Vietnam, Philippines, Thailand, Malaysia and Indonesia while donating another two batches of vaccines to Taiwan, giving the latter a much needed boost amidst a global shortage of vaccines. In addition to direct donations, Tokyo has pledged to donate 11 million doses of AZ vaccines through the COVID-19 Vaccines Global Access (COVAX) sharing scheme to countries in need in Southeast Asia, Southwest Asia and the Pacific Islands. In July 2021, through COVAX, Japan began delivering vaccines to Cambodia, Laos, Iran, Bangladesh and Sri Lanka among others.

While many observers view Japan's actions as engaging in competition with China and Russia through so called "vaccine diplomacy," the implications for peace and human welfare should not be overlooked lightly. Through the donation of vaccines, Japan contributes to the fight against the pandemic across the world and seeks to improve the resource gap that has long divided developed countries in the global north and developing countries in the global south. In addition to the CPTPP, vaccine diplomacy gives Japan an opportunity to increase its leadership status in Asia, a region where Japan seems like an outsider due to historical baggage of the Second Great War. The action of reaching out to neighboring countries in need complements Japan's long term official development assistance (ODA) policy while strengthening its relationship with Asia. Vaccine diplomacy becomes a peace initiative when both donor and receiver alike recognize the fight against coronavirus is for a common good that transcends political and economic interests.

Peaceful and Responsible Use of Nuclear Energy

Since suffering the atomic bomb attack in 1945, the use of nuclear power has remained a controversial issue in Japan. While Japan has the capability today to develop weapons of mass destruction (WMD), the geopolitical environment of Asia is such that further advancement towards the development of WMDs by any country in the region would greatly destabilize regional security and give rise to a potentially intensive arms race. On the other hand, destruction to the Fukushima Daiichi Nuclear Power Plant in March 2011 caused by the Tohoku earthquake reinvigorated domestic discussions on nuclear energy in Japan. While nuclear power no doubt provides economic benefits for a resource poor country such as Japan, issues linked with the safe use of nuclear power emerged in the aftermath of the calamity. Taken together, qualms towards nuclear weapons and nuclear safety have encouraged Japan to adopt a generally pacifist position that advocates the limited use of nuclear power.

Despite dissenting voices and right wing activists that seek revisions to the constitution, especially Article 9, Japan has largely restrained itself from the military application of nuclear power. As Japanese security is secured by the US-Japan alliance and Washington's nuclear umbrella, a significant number of observers have argued for Japan to maintain its pacifist stance and focus on other developments under US security protection. In 1996, along with 71 countries, Japan signed the Comprehensive Nuclear Test Ban Treaty (CTBT) and took merely 10 months to ratify the treaty in the following year. Since adopting the CTBT, Japan has established a global image founded on peace and anti-nuclear proliferation and subsequently pushed Egypt, India and Kazakhstan among others to participate in the CTBT regime. In terms of energy use, following the Tohoku earthquake, more than half of the Japanese population think that nuclear power plants should be abolished immediately or phased out gradually. As of March 2020, out of 54 operable nuclear reactors in Japan, only 9 reactors are in operation, which demonstrates Japan's determined position on nuclear energy.

Peace Education

Being the only country in history to be attacked by the atomic bomb – an event that had its origin in Japanese militarism and imperialism in the 1930s – Japan has emphasized peace education as early as seven decades ago. Peace education is not only necessary in the sense that atrocities caused by Japanese militarism were felt throughout Asia, as exemplified by the comfort women issue, it is also necessary to educate Japanese citizens about developments and suppressions that led the nation onto the path of war. In contrast with controversies raised by right wing groups that support the use of history textbooks that downplay Japan's role in the Second Great War, peace education in Japan does not usually raise eyebrows outside Japan. Nonetheless, in Hiroshima, Nagasaki and Okinawa among others, peace education is greatly emphasized while museums and related public events help to promote the idea of peace. In Hiroshima and Nagasaki, a peace ceremony – attended by the prime minister - is hosted every year on the day of the bombing to remind citizens of the atrocities of war and commemorate the victims of war.

A number of institutions in Japan also help to promote the education and study of peace. Founded in 1988 by former Prime Minister Nakasone Yasuhiro, the Nakasone Peace Institute (NPI) is perhaps one of the most well-known institution dedicated to the promotion of peace in Japan. Founded in 1986, the Sasakawa Peace Foundation complements the NPI in promoting research and education in peace. In higher education, Hiroshima University, Hiroshima City University and International Christian University also conduct peace centered research and education through research centers and study programs. On the other hand, the Japan International Cooperation Agency (JICA), the official authority responsible for managing Japan's ODA, upholds and promotes the value of peace. Through the provision of scholarships to students from partner countries to study in Japan, not only does JICA seek to develop talent for other countries, it also seeks to promote bilateral cooperation and encourage the sponsored students to further spread the value of peace and improve Japan's global image.

Towards a Japanese Model of Peace?

While the constitution and historical baggage have constrained Japan from seeking the use of force, turning the country "non-normal" to some extent, such pacifism has in turn generated a peaceful national image that Japan can use to improve its leadership status in the global community. By emphasizing economic cooperation, responsible use of nuclear energy, peace education, and now, vaccine diplomacy, Japan is perhaps in the midst of not only establishing itself as an exemplar of a peace loving country in the world, but also suggesting a model that may be imitated and adopted by other countries as well. As the Japanese model of peace suggests, international relations does not necessarily have to revolve around security concerns and national interests, it could also have a shifted focus on non-traditional or human security concerns, peace and general human welfare. Such model provides opportunities for small and medium powers, and other neglected members of the global community to potentially participate in the world in a meaningful way.

Fungible NFT? - The Blockchain-based Identification and Fractional Ownership

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The NFT hype has brought the blockchain world to a new focus: The non-fungible token, known to distinguish crypto art or digital art from their copies. These tokenized contents can be from a tweet, the digital file of a song, to a piece of video game equipment. Once the original creator and/or the original IP issuer of the content generates an NFT, the digital file can be appropriately given with an identifier. Expectedly, the identifiers will immediately make digital collectibles possible and further generate the trading values thereof.

While demand for certification is evident with digital assets, physical assets in the real world also require a certificate or an identifier from the beginning before each transaction is made. When it comes to high-valued collectibles, be it jewelry, artworks, or NBA trading cards, proof of limited-edition certificate will only be reliable when it is endorsed by a third-party trusted authority after strict appraisal. That is why, AIS, Art Identification Standard, a not-for-profit organization, was recently organized for this need. Acting as a beacon in the modern art world, AIS can point to metadata stored in different institutes and help avoid the problem of multi-chain identities of one particular artwork with its potential as a cross-chain identifier.

With NFT's immutable, indivisible, and non-fungible (or non-exchangeable per se) attributes along with the blockchain's decentralization nature, NFT is by default a useful authentication tool in trading processes. And this further brings about its commercial potential, which should be easily applied to both digital and physical assets in the same logic. With the physical assets NFTs, we can even integrate various interesting concepts such as digitization and O2O (Online-to-Offline and Offline-to-Online) into it.

Undeniably, whether NFT is a necessity remains a debatable question. While it is imaginable that digitization can make trading or identifying processes more efficient and even keep the cost lower, whether we will need NFT to achieve this is still a question. After all, is decentralization always better? When speaking about authentication, what people are concerned about is the identification and endorsement from the original or official authority. Without proper certification procedures and legal work, an arbitrarily minted NFT won't be of any value. Our existing economic activities and governance require a centralized system and it is unlikely that decentralization can completely replace our need for a trusted central authority.

In fact, instead of delving more deeply into these endless debates around NFT, what interests me more is a potential functionality of the blockchain; that is the possibility to fractionalize ownership using the blockchain technology. The concept of fractional ownership is to allow multiple users to collectively claim their ownership of an asset in the token economy model, which can be applied with both physical and digital assets. This idea is surely not newly invented. We can see the same concept evident in real estate. For example, when a group of friends wants to buy a beach villa together, they can sign an agreement to define each person's share and user rights. Or they can even form a special purpose vehicle (SPV) entity and keep the entity the sole owner of the asset. As to the buyers, as long as they own shares of the entity and the property relatively, each owner will be able to own a piece of the asset together with their co-signers.

The blockchain can be a useful tool to digitize the abovementioned procedure. Once the agreed conditions are written in a smart contract, the targeted object and all the necessary data can be stored on the blockchain, and the token issued can be used as any form of the identifier to indicate the signers' ownership, beneficiary rights, and user rights. Not only the process as such can fulfill the purposes of collective ownership and management, but digitization will make the mechanism of trading, disposing, transferring and profit-sharing easier. Compared to the traditional process, a digitized procedure on the blockchain can make things more efficient and move it beyond the border restrictions.

Simply put, if we apply the SPV model on the blockchain, we only need to issue the equivalent amount of security tokens to enable fractional ownership. Plus, the entire process is very straightforward, as long as you believe in the blockchain and its immutable nature.

With the concept above, we can enable a unique and groundbreaking application in the art world. When multiple art collectors can own a piece of artwork simultaneously, we immediately lower the threshold of the originally high net worth market of artworks. One might argue about the definition of ownership given that these owners won't be hanging the art at their homes, but it is possible to provide various types of solutions to this. On the one hand, these collective collectors can apply similar approaches to the SPV model, and a voting system can be designed to decide who gets to hang the art at home. On the other hand, the fractional ownership concept can be combined with their limited edition print sales. Now that the owners actually have parts of ownership of the actual artworks, the art print they withhold will carry value beyond the traditional edition print concept, whether by using the most common archival pigment printing techniques known as giclée, or even more high-end carbon transfer wet prints and other printing methods. With this new model, we are adding a different layer of meaning to the limited edition print market that we used to know.

For sure, our proposed model needs to be designed specifically with procedures in detail. We need to test the water to find out whether it will be accepted by the market. And yet, we believe that the proposed application of the blockchain can create a more diverse and transparent market in the art world. Not only so, but we can also unlock an operational model that separates ownership and users' rights, and at the same time, commodify the artworks as well as enhancing their financial value.

Now we have another problem to tackle. If our goal is to fully leverage the advantage of the blockchain and enable fractional ownership, the type of tokens we are looking for might not be NFTs. Technically speaking, they wouldn't be ERC721 tokens, but they should be more like ERC20 tokens such as the ones issued in ICO and STO. In order to structure tokens as equities, it is necessary that the tokens issued from the same artwork can be exchanged with each other. Only when each share of an artwork is exchangeable, can they be fairly distributed and fulfill what can be achieved with SPV.

What will be the solution to this? We'd like to propose a simple, yet hopefully not too aggressive, solution. That is to build an ERC20 layer on top of ERC721. By doing this, we can separate the functionality we need of both NFTs and ERC20 coins and apply them simultaneously. And we will act as the governing party who distributes fractional ownerships and issue a new type of token that we call FNFT, Fungible Non-Fungible Tokens.

To sum up, NFTs are indeed a useful tool for asset securitization and digitization. They can be used as identifiers for verification and authentic rights. Moreover, they can efficiently reach more jurisdictions with fewer restrictions and create a comparatively convenient trading model. In order to open the doors of art trading to more people, we believe that selling fractional ownerships of artworks will be a feasible solution. By leveraging the benefit of the blockchain, we can apply a similar model of a traditional legal structure of the SPV to ERC20 coins. As to how we will write the smart contract to merge ERC721 and ERC20 tokens, it will be our next challenging adventure.

The Impact of ESG Index on Financial Markets

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As the issue of CSR has gained attention in recent years, Socially Responsible Investment (SRI), or Sustainable Investing, has flourished in the international financial investment market, with investors taking not only traditional financial information into account but also the Environmental, Social and Governance (ESG) aspects of the target companies while making investment decisions[1] . Consequently, the financial market will be competitive and financially stable in the long run, will also create positive social impacts, resulting in a win-win situation for both investors and firms. According to the United Nations Principles for Responsible Investment (PRI), there were just roughly 65 trillion US dollars of assets under management signed up to the PRI worldwide in 2016[2] . However, by 2019[3] there were over 2,500 investment institutions with nearly 85 trillion US dollars under management. Meanwhile, 83 insurance companies have signed up to the United Nations Principles for Sustainable Insurance (PSI)[4] , with more than $14 trillion assets under supervision. In addition, a study published by Bloomberg in 2019[5] found that socially responsible investment had reached $30.7 trillion, a 34% growth since 2016, indicating a strong demand for sustainable and responsible investment in the global capital markets.

1 Financial Analysts Journal, Amel-Zadeh, A. and Serafeim, G. (2018). Why and How Investors Use ESG Information: Evidence from a Global Survey. pp.87–103

2 UN PRI, Public signatory reports 2016, https://www.unpri.org/signatories/reporting-and-assessment/public-signatory-reports

3 UN PRI, Public signatory reports 2019, https://www.unpri.org/signatories/reporting-and-assessment/public-signatory-reports

4 UN PSI, Signatory companies, https://www.unepfi.org/psi/signatory-companies/

5 Bloomberg, Global Sustainable Investments Rise 34 Percent to $30.7 Trillion, https://www.bloomberg.com/news/articles/2019-04-01/global-sustainable-investments-rise-34-percent-to-30-7-trillion

Financial Times Stock Exchange (FTSE) applied the above concept of socially responsible investment to its indexing methodology. It launched the FTSE4Good Index Series in 2001, which tracks companies' performances that meet economic, environmental and social standards and are widely recognised as one of the essential reference benchmarks for socially responsible investment in the world. The MSCI also developed ESG index series based on different themes and SRI investment strategies. Moreover, in Asia, Japan released the "Japan SRI Index" in 2003, both Korea Exchange and the Shanghai Stock Exchange rolled out the "Korea Social Investment Index" and "SSE Social Responsibility Index" respectively in 2009, demonstrating all nations pay great attention to the issue of CSR and actively promote relevant measures to encourage enterprises to fulfil their social responsibility.

In 2020, the ESG concept swept the global financial markets, with mutual funds and exchange-traded funds (ETFs) that follow ESG as a stock selection principle raising a staggering amount of capital and reaching the $1 trillion cumulative asset size milestone for the first time[6] . However, as ESG has become a buzzword, many myths, misinformation and misconceptions about sustainable investing have also surfaced. In traditional investment concepts, 'social responsibility', 'energy efficiency' and 'sustainable development' are seen as 'good ideas, but not great value', meaning that the efforts and costs invested by companies are only for the sake of their social image and do little to help their profits and stock returns[7] . In recent studies, however, the exact opposite, sustainable investment strategies help companies demonstrate solid corporate resilience in the face of changing external conditions and industries, which is reflected in a more resilient share price[8] .

In the course of economic development, the impact of ESG has been identified. For instance, some companies are creating profits while causing significant damage to the global environment; in contrast, some firms that take social responsibility

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6 Morningstar, Sustainable Investing in 2020, https://www.morningstar.co.uk/uk/topics/172495/theme/sustainable-investing.aspx

7 The Journal of Investing, Abramson, L. and Chung, D. (2000). Socially Responsible Investing. pp.73–80

8 SSRN Electronic Journal, Hsu, P.-H., Lee, H.-H. and Yi, L. (2018). Corporate Social Responsibility and Firms' Resilience to External Disruptions.

seriously, which are more likely to win the trust of their customers and suppliers than a company that does not, and the government will also provide relevant incentives. From an investor's point of view, a company with a certain level of ESG score can significantly increase its value and financial performance without necessarily increasing its costs, for example, by constantly reducing costs due to efficient energy-saving solutions and without the costs of litigation and penalties. At the same time, a company that cares about social responsibility and good corporate governance will receive government incentives and gain the trust of other stakeholders. Therefore, there is no downside to investing in a company that takes ESG seriously[9] .

According to BNP Paribas Asset Management, incorporating ESG into investment decisions can help generate higher risk-adjusted returns. A study by the University of Oxford[10] , based on over 200 academic cases, showed that 90% of companies could reduce their cost of capital if they adopted robust sustainability standards. Furthermore, if companies adopted solid ESG measures, 88% could improve their operations. In addition, 80% of companies' share prices benefit from good sustainability practices. Furthermore, a report by Morningstar[11] looking at the performance of 4,900 European mutual funds over the period 2009-2019 also shows that sustainable funds have survived the last ten years at 72%, significantly better than the 46% of traditional funds in the same category.

However, Ho[12] and Vostrikova and Meshkova[13] argue that there are currently no standardised guidelines and criteria for the best practice in the use of ESG indices. Therefore, integrating ESG analysis into the investment process should be done in a way that best suits limited resources and dynamic circumstances. One of the main reasons for companies to undertake ESG analysis is to assess risk.

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9 The Journal of Investing, De, I., and Clayman, M. R. (2015). The Benefits of Socially Responsible Investing an Active Manager's Perspective. pp.49-72

10 BNPP AM & University of Oxford, "From The Stockholder To The Stakeholder", March 2015.

11 Morningstar, Sustainable Funds, https://www.morningstar.co.uk/uk/funds/default.aspx

12 Journal of Sustainable Finance & Investment, Ho, M. (2013). The social construction perspective on ESG issues in SRI indices. pp.360–373

13 Financial Journal, Vostrikova, E.O. and Meshkova, A.P. (2020). ESG Criteria in Investment: Foreign and Russian Experience. pp.117–129

Yet, very few investors use ESG analysis as a means of identifying investment opportunities. At the same time, Czerwińska and Kaźmierkiewicz[14] and Vannoni and Ciotti[15] indicate ESG analysis is a fundamental part of investment analysis and requires a rigorous, visible approach to the investment process. In the long term, as ESG analysis becomes more widely accepted as part of investment analysis, not only more professional investment institutions but also general investors are entering the field of ESG investment.

By looking at the statistics, it is possible to get a glimpse of a country's economy and compare the same indicators across countries to see how well they are performing. However, most studies use GDP, unemployment rate, Purchasing Manager's Index, interest rate etc., to determine the health of a particular regional financial market. Hence, this article envisages that if more and more investors are going to adopt ESG indices into investment decision in the near future, ESG indices might have the potential to serve as a benchmark for assessing the dynamics of financial markets.

While some investors have questioned that companies have invested heavily in improving their ESG scores in pursuit of ESG performance, resulting in more unsatisfactory financial performance; others have argued that the opportunity cost of higher returns will be lost by adopting an ESG investment strategy. Nevertheless, with the outbreak of the COVID-19, these doubts and assumptions are no longer valid. A study from Financial Times[16] looks back to the first four months of 2020, when the COVID-19 pandemic caused a downturn in global markets, the S&P 500 ESG index managed to beat the normal S&P index by more than 0.5% during this period. Meanwhile, in addition to the US region, the MSCI Emerging Markets ESG Leaders Index and the MSCI Asia ESG Leaders Index, both compiled by Morgan Stanley Capital International, are 0.5% and 3.8% higher than their respective regular indices.

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Using the MSCI ESG Index as the base, Lin[17] analyses four regions, namely Global, US, Europe and Emerging Markets, from 2013 to 2017, to examine the correspondence between the ESG Indices and the market indices in terms of fundamental quantitative analysis. The results of the study indicate that the ESG indices have a high degree of linkage to the regional market indices, and in general, the ESG indices do not differ significantly from the market indices on either the performance of returns or the characteristics of risk. On the other hand, Chou [18] applies a model to select the 30 companies with the highest ESG scores in Taiwan to form a portfolio for comparison with the Taiwanese stock market index. The results show that while the ESG portfolio underperforms the market in the short term but outperforms the market in the long run, and the longer the period, the higher the return exceeds the market.

Conclusion

Given the rising interest in environmental, social, and governance (ESG), this article provides several implications for different audiences. Firstly, this article confirms that there is a significant positive relationship between the ESG index and the stock market. Thus, for governments, if they actively promote ESG-related regulations and encourage companies to implement them, they can effectively provide the momentum for the country's economic growth. Furthermore, this study confirms that ESG indices outperform non-ESG indices during the pandemic period, which means that ESG indices are more resilient and have better investment potential. Therefore, for investors, investing in ESG-related commodities (e.g. indices, ETFs) has the opportunity to yield a better return on investment.

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