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Recent Innovations in Socially Responsible Investing (SRI): The Role of “Socially Responsible Bonds” in Spurring Sustainable Development

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While it has become clear that the global community needs to utilize partnerships between the public and private sectors to achieve broader economic and development goals, there has been less discussion about the potential role of investors in shaping and participating in this movement. Part of this may be due to familiarity with traditional methods such as official development assistance (ODA) and relatively less understanding about recent innovations in socially responsible investing (SRI), including social impact bonds and development impact bonds. As economies like Korea have begun to show greater interest in harnessing various investment strategies to achieve broader social goals, we find it critical to better understand what financial tools are available within the context of encouraging sustainable development. As such, this paper highlights the potential role investors can play in contributing to broader social issues both at home and abroad through an examination of recent innovations in SRI – specifically, the category of so-called “socially responsible bonds.”

Keywords: development impact bonds (DIB); financial innovation; social impact bonds (SIB); socially responsible bonds; socially responsible investing (SRI); sustainable development

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I. INTRODUCTION

When it comes to the question of whose responsibility it is to solve social problems, we have seen a wide range of arguments put forth in practice and in academic literature. The traditional expectation is that governments provide for citizens' safety, welfare and basic infrastructure via tax revenue. At the same time, it is clear that governments face real budgetary constraints in fulfilling these and an expanding scope of social needs, leading scholars such as Eggers and Macmillan (2013) to argue that "government alone can't solve society's biggest problems." This is particularly challenging in lesser economically-developed countries, resulting in efforts by more developed economies to aid the former's economic development and longer-term sustainability – noticeably through official development assistance (ODA).

In more recent years, there have been calls to examine the potential of partnerships in achieving broader social goals. In fact, Goal 17 of the UN Sustainable Development Goals (SDGs) specifically highlights partnerships between public and private sectors in achieving global sustainable development, or "the achievement of economic growth, social inclusion and environmental protection... to meet the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations 2016).

At the same time, partnerships as framed by the UN SDGs emphasize greater cooperation between the public and corporate sector, with little specific mention of the role of investors. Given that a growing segment of investors (i.e., socially responsible investors) actively seek to align financial returns with social impact (Renneboog et al. 2008; Sparkes 2002), greater attention should be paid to the potential role the investing community can play in spurring sustainable development at home and abroad. Indeed, we find that financial innovations such as social impact bonds (SIBs) and development impact bonds (DIBs) provide convincing support for this view.

To address this gap in the literature and provide useful insight to practitioners about recent innovations in SRI, this paper provides a comprehensive review of what we coin "socially responsible bonds." While this paper focuses on social impact bonds and development impact bonds, we will also examine the emergence of green bonds, health impact bonds, sustainability bonds, environmental impact bonds, blue bonds, gender equality bonds and humanitarian impact bonds. In addition, this paper will present data on Korea and recent trends in socially responsible bond investments. Lastly, this paper will conclude with final remarks and some directions for future research.

II. LINKING PARTNERSHIPS, SOCIALLY RESPONSIBLE INVESTING (SRI) AND SUSTAINABLE DEVELOPMENT

In the academic literature, scholars have pointed to partnerships between the public and private sectors (i.e., public-private partnerships) as tools to address growing social issues and needs (Austin 2000; Selsky and Parker 2005; Singh and Shakeel 2015). As such, concerted efforts have been made to generate successful partnerships between governments, private and non-profit sectors to generate effective solutions (Burand 2013).

More recently, we find this emphasis on partnerships within the framework of the UN Sustainable Development Goals (SDGs). With regards to the role of partnerships in finance, Goal 17 of the UN SDGs outlines five major areas where developing and developed economies can work together to promote sustainable development. These include: (1) strengthening domestic resource mobilization in developing countries with international support; (2) fulfillment of ODA commitments by developed countries; (3) mobilization of additional financial resources from multiple sources; (4) assisting developing countries to attain long-term debt sustainability; and (5) implementing investment promotion regimes for least developed countries.

TABLE 1. FINANCE-RELATED PARTNERSHIPS OF THE UN SDGS' (GOAL 17 EXCERPT)

Sub-Category	Description
Domestic resource mobilization	Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection
Fulfill ODA commitments	Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries
Additional resource mobilization	Mobilize additional financial resources for developing countries from multiple sources
Long-term debt sustainability	Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress
Investment promotion	Adopt and implement investment promotion regimes for least developed countries

With the exception of mobilizing “additional financial resources” from “multiple sources” and implementing “investment promotion regimes,” the UN SDGs framework focuses on partnerships at the state level. On the one hand, we can understand this emphasis given that the UN consists of member “states” and traditional methods for development assistance, namely official development

assistance (ODA), are still widely prevalent. Indeed, while there have been critical debates about the effectiveness of official development assistance (e.g., Doucouliagos and Paldam 2009; Rajan and Subramanian 2008), the sheer amount of ODA (refer to Table 2) and forward-looking analyses on how best to utilize aid and partnerships (e.g., Easterly and Pfutze 2008; Hynes and Scott 2013; Scheyvens et al. 2016) suggest that ODA will remain a central element of the sustainable development discourse going forward.

TABLE 2. BILATERAL AND MULTILATERAL ODA OF OECD DAC COUNTRIES

Nation	2010	2011	2012	2013	2014	2015
Australia	3,291	3,645	3,952	3,755	3,629	3,494
Austria	1,108	953	1,005	1,015	1,052	1,324
Belgium	2,690	2,348	2,052	1,950	2,063	1,904
Canada	4,513	4,394	4,539	4,035	3,644	4,277
Czech Republic	188	192	183	174	181	199
Denmark	2,537	2,454	2,378	2,486	2,532	2,566
Estonia	18	21	21	26	32	34
Finland	1,250	1,224	1,207	1,240	1,389	1,288
France	11,260	10,694	10,583	9,584	8,936	9,039
Germany	11,817	12,086	11,823	12,343	14,122	17,940
Greece	404	319	267	194	205	239
Hungary	97	113	103	108	122	156
Iceland	32	26	28	36	35	40
Ireland	838	786	733	733	716	718
Israel	156	209	190	195	189	233
Italy	2,653	3,595	2,427	2,909	3,373	4,003
Japan	8,038	7,457	7,210	9,588	8,459	9,203
Korea	1,276	1,359	1,649	1,746	1,767	1,915
Latvia	15	16	19	20	21	23
Luxembourg	375	345	356	366	355	363
Netherlands	5,493	5,214	4,841	4,552	4,663	5,726
New Zealand	357	393	407	398	426	442
Norway	3,634	3,434	3,445	3,988	3,883	4,278
Poland	324	340	368	413	380	441
Portugal	568	592	527	420	367	308
Slovak Republic	64	70	69	72	69	85
Slovenia	51	52	52	52	52	63
Spain	5,017	3,351	1,769	1,967	1,577	1,397
Sweden	4,152	4,570	4,415	4,675	5,177	7,089

Nation	2010	2011	2012	2013	2014	2015
Switzerland	2,464	2,776	2,941	3,047	3,331	3,529
Turkey	763	1,032	2,058	2,691	3,101	3,919
United Kingdom	13,912	13,923	13,932	17,826	17,991	18,545
United States	32,228	32,971	32,046	32,169	33,452	30,986
DAC Countries	120,630	119,673	115,308	121,838	123,946	131,555

Source: OECD

Note: denominated in USD millions

That being said, recent trends in global investment suggest that investors (in particular, socially responsible investors) may be able to play a growing and vibrant role in encouraging sustainable development. At a basic level, both traditional and socially responsible investors aim to generate acceptable financial returns. However, socially responsible investors have the additional goal of achieving specified social returns that generally fall within environmental, social and/or governance (ESG) issues. Given this explicit mandate to make investment decisions in consideration of broader environmental and social concerns, it is not surprising that we have seen the emergence of financial innovations that target these spheres. In the following section, this paper explores the emergence of so-called “socially responsible bonds,” with a focus on social impact bonds (SIBs) and development impact bonds (DIBs) for analysis.

III. A SURVEY OF “SOCIALLY RESPONSIBLE BONDS”

As presented in the previous section, both traditional and socially responsible investors aim to generate acceptable financial returns. With regards to investment products such as bonds, investors lend capital and can generate financial returns through the receipt of coupons (or periodic interest payments) and receive the initial lending amount (principal) at the end of the investment period. In other words, bonds provide a source of steady (or fixed) income for the investor throughout the investment period.

Since 2007, multilateral institutions such as the European Investment Bank and World Bank Group began issuing green bonds. In terms of structure, green bonds are very close to conventional bonds in that investors receive periodic interest payments over the investment duration as well as the initial principal at the end of the investment period. The major difference is that bond proceeds are invested exclusively in green projects that generate climate or other environmental benefits (refer to Table 3). In 2017, the green bond market totaled \$83.2 billion, representing roughly 0.13% of the global bond market (European Commission 2017).

TABLE 3. COMPARISON OF SOCIALLY RESPONSIBLE BONDS (PART 1)

	Conventional Bonds	Green Bonds	Social Impact Bonds	Health Impact Bonds	Sustainability Bonds
Launch (Country)	First Official Government Bond: 1693 (England)	2007 (multilateral institutions: European Investment Bank & World Bank)	2010 (United Kingdom)	2013 (United States)	2014 (Netherlands)
Definition	A fixed income investment in which an investor loans money to an entity which borrows the funds for a defined period of time at a variable or fixed interest rate. Bonds are used by companies, municipalities, states and sovereign governments to raise money and finance a variety of projects and activities. Owners of bonds are debtholders, or creditors, of the issuer.	UNDP (2016): Green bonds are innovative financial instruments where the proceeds are invested exclusively (either by specifying the use of the proceeds, direct project exposure, or securitization) in green projects that generate climate or other environmental benefits, for example in renewable energy, energy efficiency, sustainable waste management, sustainable land use (forestry and agriculture), biodiversity, clean transportation and clean water.	GOV.UK (2012): a commissioning tool that can enable organisations to deliver outcomes contracts and make funding for services conditional on achieving results. Social Investors pay for the project at the start, and then receive payments based on the results achieved by the project.	A health-related social impact bond.	A hybrid of a green bond and social impact bond.
Characteristics	Par Value: the amount of principal that a bondholder will receive at maturity; the value that a bond is issued for at the time that a company or government first sells them. Coupon: the interest rate the issuer agrees to pay its bondholders. Maturity: the date at which the bond's principal comes due and must be repaid to lenders in full.	Standard fixed income instruments where the proceeds are exclusively for environmentally focused projects. Projects include renewable energy, energy efficiency, green buildings. Green bonds offer the same credit risk as the issuer as most bonds are standard recourse to the issuer debt obligations. Green bonds trade in line with non-green bonds in the issuer's yield curve U.S. dollar and euro are main currencies.	Performance-based payment schemes. A promising new financing model to accelerate social innovation and improve government performance.	Generates investment capital for evidence-based health interventions. Principal and interest are returned based on share-of-savings achieved.	Each sustainability bond has different characteristics. Starbucks (United States), Australian Catholic University (Australia), BNG Bank (Netherlands), Banobras (Mexico), Development Bank of Japan (Japan), Grupo Rotoplas SAB (Mexico) and North Rhine-Westphalia (Germany) are known as issuers of sustainability bonds.
Market Size (Capital Raised)	Global bond markets outstanding: \$92.2tn in 2015 (Securities Industry and Financial Markets Association)	Total amount issued (2017): \$83.2bn. Green bonds represent 0.13% of the bond market (European Commission, 2017)	Capital raised: \$392mn (as of March 2018)	\$660,000	Roughly \$3bn

	Conventional Bonds	Green Bonds	Social Impact Bonds	Health Impact Bonds	Sustainability Bonds
Main Actors	Governments, corporations and municipalities: issuing bonds when they need capital Issuers Bondholder (Investor) Dealers or Banks: acting as underwriters or intermediaries between the issuer and investors	Issuers: entities with green projects needing funding or refunding Underwriters: financial institutions arranging issuance of the green bonds External reviewers: verifying the "greenness" of the underlying projects including rating agencies Index providers Intermediaries: stock exchanges Investors: those with a mandate to invest in green assets	Payer (public or private sector) Intermediary Service provider Independent agency Investors	Same as Social Impact Bonds	Same as Social Impact Bonds (may vary depending on nature of bond)
Key References	Campiglio (2016) McHugh et al. (2013)				

Following the introduction of green bonds, we have seen the emergence of more so-called socially responsible bonds that aim to mobilize investor capital to address broader environmental, social and development issues. The first social impact bond (SIB) was launched in 2010 in the United Kingdom with the aim of reducing the recidivism rate for prisoners in the Peterborough area (Disley et al. 2011; Schinckus 2015; Warner 2013). Again, the rationale is that given governmental budgetary constraints, it is difficult for the government to solve pressing social problems on its own. This is especially the case as governments normally incur costs prior to a project's launch, regardless of the project's actual success.

Within the SIB model, investors pay for the project at the start and then receive payments (by the government or designated institution) based on whether the project achieves its pre-determined goals. In other words, SIBs represent a performance-based payment scheme by which investors may generate acceptable financial returns if the project succeeds – or lose their initial investment if the project fails. In this sense, the social impact bond (and several ensuing socially responsible bonds) is not a traditional bond. In exchange for the prospect of meaningful social impact, investors bear much greater risk when investing in social impact bonds.

Despite the higher risk inherent in social impact bonds, we have seen SIBs issued in markets such as the United States, Canada, Australia and New Zealand (Cooper et al. 2016, Glahn and Whistler 2011) and concerted efforts to define key elements and goals of SIBs (refer to Table 4). This paper notes that to date, over two-thirds of OECD DAC member countries have either launched or are currently developing social impact bonds (refer to Table 5). While there may be several reasons for the rapid proliferation of SIBs, one primary explanation may be its innovative nature (Burand 2013; Butler et al. 2013). For example, the Obama administration recognized SIBs as an innovative way of partnering with philanthropic and private sector investors to create incentives for service providers to deliver better outcomes (White House 2012) and proposed a \$100 million to fund seven pilot programs in 2012 (Greenblatt and Donovan 2013). In addition, governments have clear incentives to participate as the outcomes-based contract between public sectors (especially government agencies) and private investors allows for private investors to offer upfront funding for interventions to improve targeted social issues, rather than depleting state budgets prior to the project's launch (Davies 2014; Nicholls and Tomkinson 2013; Warner 2013). In this sense, there is a clear incentive for governments as much of the risk effectively shifts to the private sector.

TABLE 4. PROMINENT DEFINITIONS OF SOCIAL IMPACT BONDS (SIBs)

Country/Organization	Definition	Source
Social Finance	A financial mechanism in which investors pay for a set of interventions to improve a social outcome that is of social and/or financial interest to a government commissioner.	https://www.socialfinance.org.uk/sites/default/files/news/press-release-first-social-impact-bonds-to-return-investor-capital.pdf
UK (Cabinet Office)	A new tool that can enable organizations to deliver outcomes contracts and access to tailored project finance, along with additional management support from socially-minded investors.	https://data.gov.uk/sib_knowledge_box/home
United States (White House)	Pay for Success Bonds - leveraging philanthropic and other private investors to provide services for a target population that measurably improve the lives of individuals while also spending taxpayer dollars wisely.	https://obamawhitehouse.archives.gov/administration/eop/sicp/initiatives/pay-for-success
Australia (Office of Social Impact Investment in NSW Government)	Social Benefit Bonds - a financial instrument that pays a return based on achieving agreed social outcomes and a special type of payment-by-results contract, where private investors provide working capital to a service provider to deliver an intervention.	http://www.osii.nsw.gov.au/initiatives/social-benefit-bonds/
Canada (Government of Ontario)	An innovative social policy tool that bring together different groups - governments, corporations, private investors, foundations, service providers and social enterprises - to deliver effective and prevention-focused solutions to the toughest issues facing communities.	https://www.ontario.ca/page/social-impact-bonds
New Zealand (Ministry of Health)	Social Bonds - an innovative way for private and not-for-profit organizations to partner in delivering better social outcomes - and be rewarded by Government.	http://www.health.govt.nz/our-work/preventative-health-wellness/social-bonds-new-zealand-pilot
Korea (Seoul Metropolitan Government)	An innovative project that stimulates cooperation of the public and private sectors in order to create change in society and reduce social costs by preventing social problems.	http://english.seoul.go.kr/seoul-implementing-sib-first-time-asia/
OECD	An innovative financing mechanism in which governments or commissioners enter into agreements with social service providers, such as social enterprises or non-profit organizations, and investors to pay for the delivery of pre-defined social outcomes.	OECD (2016)

TABLE 5. SOCIAL IMPACT BOND SURVEY IN OECD DAC MEMBER COUNTRIES

No.	Country	SIB Launched	SIB in Development	OECD DAC Membership
1	Australia	O	O	O
2	Austria	O		O
3	Belgium	O	O	O
4	Canada	O	O	O
5	Czech Republic			O

No.	Country	SIB Launched	SIB in Development	OECD DAC Membership
6	Denmark		O	O
7	European Union			O
8	Finland	O	O	O
9	France	O	O	O
10	Germany	O	O	O
11	Greece			O
12	Hungary			O
13	Iceland			O
14	Ireland		O	O
15	Italy		O	O
16	Japan	O	O	O
17	Korea	O	O	O
18	Luxembourg			O
19	The Netherlands	O		O
20	New Zealand	O	O	O
21	Norway		O	O
22	Poland			O
23	Portugal	O	O	O
24	Slovak Republic			O
25	Slovenia			O
26	Spain		O	O
27	Sweden	O	O	O
28	Switzerland	O	O	O
29	United Kingdom	O	O	O
30	United States	O	O	O

Note: as of April 2018

Based on the SIB model, Social Finance (which designed the first SIB model with the UK government) developed and proposed development impact bonds (DIBs) with the Center for Global Development in 2013 (Social Finance 2016). According to Social Finance UK, DIBs may be used to attract finance for and improve services offered by business development service providers in developing countries (Center for Global Development and Social Finance 2013) – a goal that aligns well with achieving sustainable development via partnerships as outlined by the UN SDGs (refer to Table 6).

TABLE 6. COMPARISON OF SOCIALLY RESPONSIBLE BONDS (PART 2)

Launch (Country)	Development Impact Bonds	Environmental Impact Bonds	Blue Bonds	Gender Equality Bonds	Humanitarian Impact Bonds
India (2015)	UNDP: A public-private partnership that allows private (impact) investors to upfront capital for public projects that deliver social and environmental outcomes. If the project succeeds, the investors are repaid by the Government (Social Impact Bonds) or an aid agency or other philanthropic funder (Development Impact Bonds) with capital plus interest. If the project fails, the interest and part of the capital is lost. While commonly referred as a “bond,” the solution replicates in essence a payment-for-result scheme. It cannot be compared to commercial bonds, green bonds or other impact bonds as an instrument.	A pay-for-performance (PFP) contract that addresses an environmental issue.	Approved in 2017 (Seychelles, World Bank)	2017 (Australia)	2017 (governments of Belgium, Switzerland, Italy, the UK and Spanish charity La Caixa Foundation)
Definition	<p>(Seychelles). The Blue Bond is expected to mobilize public and private investments to finance the Seychelles sustainable fisheries transition and contribute to achieving the country's Blue Economy Strategy. The Strategy aims to sustainably manage and protect the Seychelles' marine resources, ensure food security, diversify the economy and create high-value jobs.</p> <p>A social bond for companies that are trying to foster greater equality between men and women at work.</p> <p>Legally known as the Pro-gram for Humanitarian Impact Investment and not a “bond” but a private placement.</p> <p>It is a development impact bond for a rehabilitation or a humanitarian purpose.</p>				
Characteristics	<p>Social impact bonds in developing countries.</p> <p>An actual bond, specifically a tax-free bond.</p> <p>A “monetization” of future costs savings, whereby investors are paid a return based on the amount of cost savings generated by a particular project.</p> <p>It is the first use of the Pay</p>	<p>Long-term investment (Seychelles, more than 30 years) with a focus on marine resource management.</p>	<p>Financing or re-financing organizations that the Workplace Gender Equality Agency cites as Employers of Choice for Gender Equality, and that meet the requirements of NAB's social bond framework (Bollag, 2017) “because the QBE Insurance Group plan to issue the bond, with domestic or third-party fun-</p>	<p>A type of results-based financing, payment-by- results basis, payment-for-success financing.</p> <p>More closely resembles development impact bonds (Bollag, 2017) “because the outcome funders are non-domestic or third-party fun-</p>	

	Development Impact Bonds	Environmental Impact Bonds	Blue Bonds	Gender Equality Bonds	Humanitarian Impact Bonds
		for Success model in the water space.		the ADB issuing a gender bond in 2017.	ders (donors or foundations). ²⁵
Market Size (Capital Raised)	India, Rajasthan (girls' education): \$0.27mm raised India, Rajasthan (maternal and neonatal mortality rates): \$3.5mm raised Cameroon (eyecare): \$2mm raised Congo (physical disability): \$27mm raised Colombia (workforce): \$0.75mm raised Peru (indigenous livelihoods and rainforest protection): \$0.11mm raised	\$2.5mm	\$20mm	\$500mm AUD (roughly \$384mm USD)	\$27mm
Main Actors	Payer (public or private sector) Developing countries as partner country Intermediary Service provider Independent evaluation agency Investors	Same as Social Impact Bonds			Same as Social Impact Bonds
Key References					

While DIBs can be seen as both similar to as well as derivative of SIBs, we can distinguish the two products in terms of scope and payment structure. Regarding scope, DIBs focus on developmental issues in developing economies while SIBs target specific social issues regardless of the country's economic development. At least with respect to scope, DIBs can be viewed as SIBs in developing economies. In terms of payment structure, DIB investors are repaid by an aid agency or other philanthropic funder with capital plus interest if the project succeeds. Upon success of an SIB project, payment would be provided by the government.

As noted by Dear et al. (2016), 59 SIBs and one DIB have been issued between 2010 and 2015 by over fifteen different countries, aimed at improving a variety of social issues. But because the DIB model is newer than that of SIBs, we have yet to see widespread adoption of DIBs while some confusion between the two models abound (OECD 2016). In addition, another issue that may be addressed going forward is whether investment in development impact bonds by a government or government-related agency would count as official development assistance. We believe that the answer to this question may have a meaningful impact on the future proliferation of DIBs.

In addition to social impact bonds and development impact bonds, this paper highlights the emergence of environment-related products such as environmental impact bonds and blue bonds (the latter of which focuses on projects related to marine resources) and products targeting specific social issues, such as health impact bonds, gender equality bonds and humanitarian impact bonds. As more than one-half of the products presented in this paper were launched on or after 2015, we believe future analysis of the adoption of socially responsible bonds and actual impacts are crucial to the development of this field.

IV. COUNTRY FOCUS: KOREA AND SOCIALLY RESPONSIBLE BONDS

In addition to presenting a survey of recent innovations in social finance, this paper highlights data on Korea's engagement with investment and sustainable development. We note that current data illustrates the primacy of official development assistance (ODA) in encouraging sustainable development overseas. According to Table 7, Korea's bilateral official development assistance has increased roughly four-fold between 2006 and 2015.

TABLE 7. KOREA'S BILATERAL OFFICIAL DEVELOPMENT ASSISTANCE (ODA) BY SECTOR

Sectors	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Social Infrastructure & Services	403.09	413.01	702.73	406.91	905.81	696.03	768.32	1313.95	967.08	1,119.07
Education	135.15	160.92	114.28	141.37	324.4	199.17	127.53	337.05	228.75	260.29
Health	38.56	112.02	240.34	151.42	131.31	158.83	187.65	306.96	292.65	273.67
Population & Reproductive Health	0.5	1.56	20.68	3.77	5.06	3.01	11.04	23.76	5.6	31.99
Water Supply & Sanitation	80.76	74.73	270.42	70.93	283.15	172.13	187.39	365.25	225.35	251.86
Government & Civil Society	141.61	57.23	43.68	25.88	153.73	143.64	228.42	241.81	167.58	175.83
Others	6.51	6.55	13.32	13.56	8.15	19.25	26.29	39.13	47.15	125.44
Economic Infrastructure & Services	170.95	402.86	544.77	876.63	610.36	597.45	488.26	563.27	812.93	760.22
Transport & Storage	99.54	235.89	268.34	641.19	370.53	315.4	324.78	311.57	771.3	600.89
Communications	65.25	88.24	91.53	114.86	49.3	73.22	103.51	87.14	25	46.62
Energy	4.98	74.6	182	119.18	184.84	206.12	56.85	159.82	8.84	97.96
Banking & Financing Services	0.43	3.12	1.97	0.86	2.6	1.41	1.63	1.51	5.12	9.49
Business & Other Services	0.75	1.01	0.93	0.55	3.1	1.32	1.48	3.23	2.66	5.26
Production Sectors	33.5	129.7	78.69	58.51	100.43	159.01	291.15	142.23	256	141.01
Agriculture, Forestry & Fishing	11.8	107.61	48.93	38.98	91.7	128.81	268.73	115.99	219.19	98.19
Industry, Mining, Construction	17.36	12.43	19.59	17.08	6.55	21.96	15.74	16.51	24.64	32.02
Trade Policies & Regulations	4.14	5.79	9.65	2.1	1.9	7.81	5.47	8.64	9.55	9.21
Tourism	0.2	3.87	0.52	0.36	0.28	0.43	1.22	1.08	2.61	1.6
Multi-Sector/Cross-Cutting	9.16	32.51	25.13	59.21	117.57	58.59	102.63	74.84	149.32	108.29
Commodity Aid/General Prog. Assistance	0.22	0.34	1.55	0.08	-	1.9	1.98	0.02	1.06	1.99
Acting Relating to Debt	-	-	10.33	-	2.36	-	-	-	-	-
Humanitarian Aid	24.62	35.63	56.08	14.39	20.72	21.21	16.64	36.84	72.92	44.19
Administrative Costs	25.31	31.54	31.51	27.76	38.39	53.6	59.4	57.26	56.91	65.63
Unallocated & Unspecified	8.65	7.69	4.19	5.92	13.94	35.84	24.61	49.8	62.13	71.27
Total	675.49	1,053.27	1,454.97	1,449.41	1,809.59	1,623.63	1,752.99	2,238.20	2,378.33	2,311.67

Source: OECD

Note: denominated in USD million

More recently, however, we have seen the emergence of green bond and social impact bond development and investment. While ODA focuses on Korea's efforts towards sustainable development in developing countries, green bonds and social impact bonds (SIBs) focus on social needs and sustainable development of the local market. Green bonds have already been issued by government-related banks such as the Export-Import Bank of Korea (KEXIM) and companies such as Hanjin International Corp. While Korea's green bond offering totaled roughly \$700 million in 2017, this accounted for just 1% of global green bond sales of \$92.7 billion (Bloomberg 2017). That being said, the country's focus on environmental issues – particularly with ultra-fine dust from China and related health damages – is likely to continue, and institutional investors (both local and foreign) who choose to invest in the environment may find green bond issuances in Korea to be attractive investments. As such, we may expect further expansion of the local green bond.

TABLE 8. INVESTMENT FOCUS: KOREA

	ODA	Green Bonds	Social Impact Bonds
Launch (Year)	2006*	2013	2016
Scale (USD)	\$2,458 million (2016)	\$900 million (2016)	\$1 million (2016)
Leading Sectors	Public	Public, Private	Public, Private
Source of Funds	Government funds (tax)	Government-related banks, companies, institutional investors	Individuals, companies, institutional investors
Focus	Social and economic infrastructure and services, production sector	Environmental issues	Social issues (education, workforce development)
Goal	Promotion of economic development and welfare in developing countries	Promotion of environmentally-friendly companies and/or products	Welfare promotion of vulnerable groups

*Note: While Korea became a donor in 1963 by inviting public officers in developing countries to provide a training program, data provided by the Creditor Reporting System for OECD. Stat begins from 2006.

In the case of social impact bonds, two major projects have been announced. The first, launched in July 2016, was announced by the Seoul Metropolitan Government and Pan-Impact Korea with the goal of improving intellectual and social development of target children over the course of three years (see Table 9). A total of KRW 1.11 billion was raised to target 100 BIF (borderline intellectual functional) children and slow learners, with predefined targets including improvement in both Intelligence Quotient (IQ) and sociality. While this marked the country's first foray into the social impact bond market, we have yet to see major follow-up via official channels.

TABLE 9. SEOUL SIB OVERVIEW

Category	Description
Social Issue	Education and care
Launch Date	July 2016
Duration	3 years
Maximum Outcome Payments	KRW 1.43 billion
Investors	Merry Year Social Company People and Peace Link UBS Securities Pte. Ltd. Seoul Branch
Outcome Funder	Seoul Metropolitan Government
Service Provider	Daekyo Consortium
Intermediary	Pan-Impact Korea LLC
Capital Raised	KRW 1.11 billion
Target Population	100 BIF (borderline intellectual functioning) children or slow learners
Predefined Targets	I. Improvement in Intelligence Quotient (IQ) level Measured twice in total by Korean Wechsler Intelligence Scale for Children-IV (K-WISC-IV) Children with BIF to reach IQ level above 84 at completion Children with mild intellectual disability to reach IQ level above 70 at completion II. Improvement in Sociality Measured twice a year (6 times in total) Improvement in the average score of last 4 measurements compared to the average score of the first 2 measurements
Success Payments	Investment Size: KRW 1.11 billion Maximum Rewards Condition: 42% of target population meets both predefined targets Principal Repayment Condition: 33% of target population meets both predefined targets

Source: Pan-Impact Korea (2018); Social Finance (2018)

Following the 2016 SIB launch by the Seoul Metropolitan Government, a second SIB was announced by the Gyeonggi Provincial Government regarding a project to target workforce development and welfare exit. As shown in Table 10, the SIB successfully raised over \$1 million in funds, including investment by charitable foundations, institutional and individual investors, private equity and crowdfunding. The two-year Gyeonggi SIB aims to enhance workforce development of 800 recipients of national basic living security (welfare) grants, with the ultimate goal of achieving welfare exit of 20%. This means that for the first year, 80 out of 400 welfare recipients should exit welfare (with 77 out of the 80 persons maintaining this status in the second year), and an additional 80 out of a new target group of 400 welfare recipients should exit welfare status in the second year. Principal repayment is based on the SIB's success rate, with 100% of the principal to be repaid should 12% of the target group exit welfare status (see Table 11).

TABLE 10. KOREA (GYEONGGI PROVINCE) SIB INVESTMENT OVERVIEW

Investor		First Year	Second Year	Subtotal
Equity Capital		42,000,000	0	42,000,000
Dasomi Foundation		200,000,000	0	200,000,000
Korea Securities Depository		75,000,000	75,000,000	150,000,000
Easymove		0	200,000,000	200,000,000
Daraeworld		0	50,000,000	50,000,000
Ohmycompany		0	465,000,000	465,000,000
Wooseo Cultural Foundation		3,000,000	0	3,000,000
Crowdfunding		80,000,000	0	80,000,000
Individual Investors	Lee	50,000,000	0	50,000,000
	Sung with 5 others	90,000,000	0	90,000,000
	Youn	10,000,000	0	10,000,000
	Ryu	20,000,000	0	20,000,000
	Choi	10,000,000	0	10,000,000
	Kim	20,000,000	0	20,000,000
	Lee	20,000,000	0	20,000,000
ARK Impact Asset Management		30,000,000	0	30,000,000
Total		650,000,000	790,000,000	1,440,000,000
Additional amounts (A-B)		110,000,000	2,560,000	112,560,000
Target amount (A)		760,000,000	792,560,000	1,552,560,000

Source: Park (2016)

Note: translated by authors; denominated in Korean won; data as of January 5, 2017

TABLE 11. GYEONGGI SIB OVERVIEW

Category	Description
Social Issue	Workforce development
Launch Date	March 2017
Duration	2 years
Maximum Outcome Payments	KRW 1.770 billion
Investors	Refer to Table 10
Outcome Funder	Gyeonggi Province
Service Provider	Social Cooperative NAEILRO
Intermediary	Korea Social Innovation Finance (KSIF)
Capital Raised	KRW 1.550 billion
Target Population	800 recipients of national basic living security (welfare) grants
Predefined Targets	I. Welfare exit for 20% of the target population for each year (while maintaining this status for the first year's target population) Year 1: 80 persons (out of a total of 400 target persons for Year 1)

Category	Description		
	Year 2: additional 80 persons (from new target of 400 persons for Year 2), in addition to maintaining this status for 77 of the 80 persons from Year 1 (total: 157 persons for Year 2; 237 persons for Years 1 and 2 combined)		
Success Payments	Success rate of target population (%)	Payment rate	Note
	$X \leq 11\%$	0% ~ 91.3%	Principal repayment rate will be based on the success rate.
	$X = 12\%$	Principal 100%	Principal 100% will be repaid.
	$13\% \leq X \leq 20\%$	Principal 100% + Rewards(1~10%)	Per 1%pt increase in success rate, 1.4%pt additional rewards will be given.

Source: Gyeonggi Province (2015); Social Finance (2018)

As there have only been two official SIB announcements in the local market, it is too soon to comment on the mainstreaming of SIBs in Korea. At the same time, recent movements suggest that major stakeholders in the local market are taking a serious look at partnerships in innovative finance as an additional solution to addressing broader social issues and sustainable development. As such, we expect that stakeholders will be active in designing effective investments models and better understanding actual impacts.

V. CONCLUDING REMARKS

Although partnerships between the public and private sectors have been emphasized to achieve social and economic development through initiatives such as the UN Sustainable Development Goals (SDGs), there has been little direct discussion about the potential role of investors within this framework. This is despite the fact that recent innovations in socially responsible investing (SRI) have resulted in a rapid increase in products available to local and global investors.

To address this gap in the academic literature and provide some insight to practitioners, this paper highlighted recent SRI tools within the context of sustainable development. These included green bonds, social impact bonds, health impact bonds, sustainability bonds, development impact bonds, environmental impact bonds, blue bonds, gender equality bonds and humanitarian impact bonds. In addition, this paper also provided an overview of investment tools utilized in Korea as a preliminary country study and found that in addition to a relatively longer history of official development assistance (ODA), more recent efforts have been made to expand investments in green bonds and social impact bonds.

On the one hand, rapid development of so-called socially responsible bonds suggests strong demand for such products. Underlying this development may well be optimism surrounding the potential benefits of socially responsible bonds. On the other hand, many of these bonds are still quite new and there has been little rigorous research as to actual social and financial impacts. As such, we suggest prudence when making investment decisions and call for greater study on potential trade-offs between financial and social returns. While we may need more time to understand the long-term impact of socially responsible bonds, we believe this paper has provided a well-needed spotlight on the potential role of investors within the dialogue of sustainable development and anticipate meaningful contributions going forward.

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