



Private market impact investing firms: Ownership structure and investment style[☆]

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ABSTRACT

Impact investing and ESG investing are specific “ethical” investing types integrating social, environmental, and moral values with financial goals. Despite receiving heightened scholarly attention, the difference between impact and ESG investing is largely unexamined, and it is not clear how they differ from conventional investment. To explain the differences between ESG, impact, and conventional investing, this paper draws on a dataset of over 8000 private market investment (PMI) firms. It compares impact, ESG, and conventional investment across firm characteristics, investment preference, and ownership. Results show that impact investors are more likely to be owned by the government, focusing on agriculture, cleantech, and education while avoiding “sin” industries like gambling and tobacco.

1. Introduction

The “raison d’être” of financial intermediaries and whether they act in the best interest of their clients has been challenged in the aftermath of the global financial crisis. In response, impact investing and, more broadly, the sustainable finance agenda has emerged as a strategy of the financial sector to regain societal trust through the financing of projects and companies that deliver environmental and/or social outcomes in addition to financial outcomes for savers (Agrawal & Hockerts, 2019a; Benedikter & Giordano, 2011). Impact investing is an emerging, evolving field and one of the fastest-growing asset classes with a year-on-year growth rate of about 20% (Agrawal & Hockerts, 2019a; Clark, Emerson, & Thornley, 2014; Clark, Feiner, & Viehs, 2014; LeClair, 2014), having been introduced as a formal term as recently as 2007 at a

conference organized by the Rockefeller Foundation (Agrawal & Hockerts, 2019a; Höchstädter & Scheck, 2015). The impact investing trend is deeply rooted in the post-World War II Anglo-American economies. The state retreated from providing different forms of infrastructures and environmental and social benefits and shifting its responsibilities onto market agents and other tiers of government authority (Biehl, Hoepner, & Liu, 2012; Clark, 2000).

Impact investing, like other forms of investing that integrate environmental, social, and governance (ESG) aspects into the investment process (e.g., responsible investing), has (i) social and environmental as well as (ii) financial aims. However, impact investing differs from other forms of ESG investing in the prioritization of its multiple objective functions. For instance, investors who signed the United Nations Supported Principles for Responsible Investing (PRI) committed to the PRI’s

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principles on six ESG ambitions only were “consistent with their fiduciary responsibilities,” as is clearly stated in the principles’ preamble (PRI, 2015).¹ This allows many PRI signatories to recognize ESG objectives as subordinate to fiduciary/financial objectives,² contrasting them with impact investors who set financial and societal aims on par. Hence, we define impact investing following Hebb (2013) as the sub-set of environmental, social, and governance (ESG) investing, which does not focus on return for risk as the single primary objective but exhibits a dual objective function by aiming to deliver simultaneously (i) social and environmental benefits and (ii) financial returns for a desired investment risk level.³ This is consistent with recent evidence by Barber, Morse, and Yasuda (2019), indicating that impact investors balance both objectives and hence display a willingness to forgo return for social good.

As a growing number of impact and ESG investors demonstrate a greater commitment to environmental and social good. Academics started to assess the link between ESG or impact factors and financial returns. For example, a study from the Wharton Social Impact Initiative (WSII) conducted a survey of 53 impact investing private equity funds worldwide to examine whether investors give concession on financial returns in exchange for pursuing a social or environmental impact. Results show that impact funds achieve their targeted returns while also preserving portfolio companies’ missions. Impact funds did not have to make concessions in order to preserve the social mission (Gray, Ashburn, Douglas, & Jeffers, 2015). Research on ESG investing present similar evidence. For example Clark, Emerson, & Thornley, 2014, Clark, Feiner, and Viehs (2014) find that corporate sustainability standards can be a critical factor in lowering the cost of capital, which comprises cost of debt and cost of equity. Kim and Li (2021) find a positive effect of ESG factors on corporate profitability, and the effect is more pronounced for larger firms. Notably, studies such as Hartzmark and Sussman (2019) find that being classified as sustainable leads to significantly positive fund flows and is hence very profitable for the asset management firm. While such a study on impact classification fund flows does not exist to the best of our knowledge, private market firms engaging in impact investing appear to aim for a similar positive fund flow effect.

It is estimated that the assets under management under impact investment strategies would surpass US\$2tn in the US alone by 2025 (Roundy, Holzhauer, & Dai, 2017), which is evidence of the fact that faith in market-based solutions has extended towards the expectation that these address global societal problems, as financial intermediaries have become the key actors to allocate capital over the last fifty years (Knight, 2011). Despite the exponential growth and increased attention towards impact investing, the growth in the number of studies on impact

¹ The second paragraph of the Principles’ preamble reads: “We also recognize 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” <https://www.unpri.org/pri/an-introduction-to-responsible-investment/what-are-the-principles-for-responsible-investment>

² It is important to note that PRI signatories can interpret their fiduciary duties like impact investors if two conditions are fulfilled. First, “act with due care, skill and diligence, investing as an ‘ordinary prudent person’ would do”. Second, they have to establish that their actions (i.e. the dual objective function of social/environmental and financial aims) are (explicitly) in the interest of their beneficiaries (PRI, 2015: 11). The latter of the two conditions is practically the harder one to fulfil, especially for institutional investors representing a diverse group of beneficiaries which might share different interests. Consequently, impact investing aligned with the PRI’s fiduciary duty-based preamble is substantially easier if the beneficiary is an individual person (or family) instead of thousands if not millions of pension fund beneficiaries.

³ Our definition of impact investing focuses on the smallest common denominator of the currently existing impact investing approaches. By utilizing such a low complexity definition, we recognize that the “definition of impact investing has been evolving since 2005, and will [likely] evolve further as more studies are published.” (Agrawal & Hockerts, 2019a: 11)

investing has been surprisingly low (Agrawal & Hockerts, 2019a). There are many ambiguities in the definitions and terminologies of impact investing (Agrawal & Hockerts, 2019a; Goldman & Booker, 2015). In addition, it is not clear what types of impact investors can be differentiated, what characteristics they have as well as how does their investment strategy varies towards delivering impact from those investors who brand themselves as either conventional (i.e., with no sustainability focus) or ESG, by integrating environmental, social and governance considerations in their investment processes (Tekula & Andersen, 2019).

Existing literature differentiates impact investing from other types of ethical investing conceptually, arguing that impact investment is unique in its intentionality (intentionally contributes to social and environmental objectives)(Hockerts, Hehenberger, Schaltegger, & Farber, 2022). Studies reveal that impact investments can be made across asset classes, and impact investors are committed to measuring and reporting the social and environmental performance. However, not a single study has empirically examined how impact investors and other investors differ in firm characteristics, investment preferences, and ownership. Cities and regions such as London, Geneva, Silicon Valley, and Southern Africa are developing vibrant impact investing communities and becoming known as advanced regions of impact investment (Roundy, 2019). In contrast, there are regions with underdeveloped impact investing sectors with few investors. The regional unbalance poses another question: is the difference between impact investment and other investments still held within each region?

Hence, we seek to investigate the differences between impact investors and other investors, *particularly to answer four underexplored research questions:*

1. *How do impact investors differ from ESG and conventional investors in firm characteristics (e.g., firm age and size)?*
2. *How do impact investors differ from ESG and conventional investors in investment preferences?*
3. *How do impact investors differ from ESG and conventional investors in ownership?*
4. *How do these differences (firm characteristics, investment preferences, and ownership) vary across the countries?*

When referring to ESG investors in these research questions and the following text, we mean ESG investors whose primary objective is to achieve a competitive return for the risk they take on. In other words, we isolate impact investors with their dual objective function from the remaining single objective ESG investors to compare and contrast the characteristics of dual objective impact investors with ESG investors for whom social and environmental objectives are secondary to financial objectives. To investigate our research questions, we draw from the emerging body of literature on impact investing (Agrawal & Hockerts, 2019a, 2019b), the more established field of ESG investing (Eccles & Viviers, 2011; A. G. F. Hoepner, Majoch, & Zhou, 2019; Kim & Li, 2021), and the literature concerned with inter-organisational collaboration towards societal goals (Doblinger, Surana, & Anadon, 2019; Vestergaard, Murphy, Morsing, & Langevang, 2019).

Using a dataset from Preqin of 8903 private markets investment (PMI) firms worldwide and complementing this dataset with in-depth website and press release searches, we can differentiate between impact, ESG, and conventional private markets investment (PMI) firms. This allows us to unveil differences in firm characteristics (firm age and firm size), investment preferences, ownership, and the geographical distribution of firms that pursue to deliver impact in addition to financial returns. We find that impact investing firms tend to be younger than their peers and more likely to be owned by governments. We also show that investment firms targeting the agriculture and cleantech sectors are strongly related to the probability that the firm is an impact investor. Both impact and ESG investors are more likely to invest in agriculture, cleantech, and education than conventional investors. Although waste management has been identified as an impact investment theme by

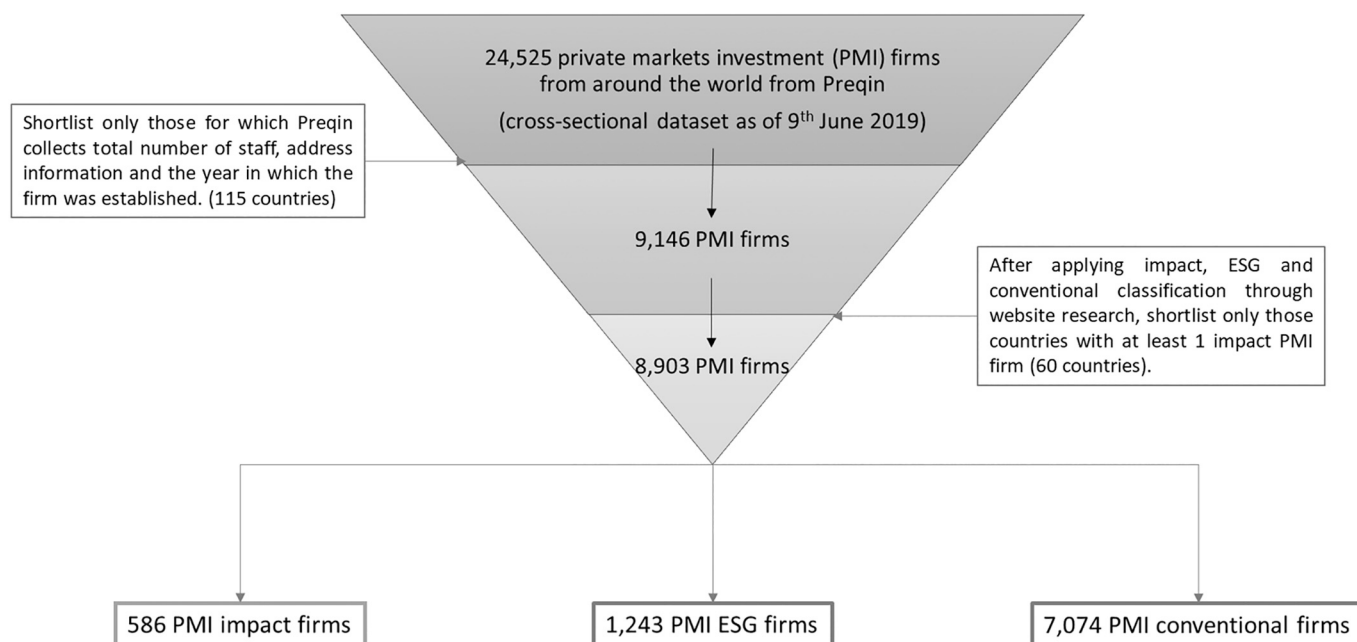


Fig. 1. Shortlisting methodology of private market investment firms included in dataset. Source: Authors with data from Preqin.

Table 1

Distribution of impact, ESG and conventional PMI firms across the world. Countries displayed are only those with >5 impact firms and sorted by number of impact firms. Source: Authors with data from Preqin.

Country	Impact	ESG	Conventional
US	221	421	3398
UK	69	130	433
France	28	93	103
Canada	23	35	202
Netherlands	22	31	82
South Africa	18	21	27
India	16	25	112
Switzerland	14	19	69
Singapore	14	18	79
Germany	13	63	200
Australia	11	36	76
Denmark	9	10	29
Spain	8	24	82
Norway	8	10	28
Sweden	6	26	62
Israel	6	13	81
Finland	6	16	40
Brazil	6	20	68
Mauritius	5	7	8
Japan	5	11	100

practitioner publications (GIIN, 2019; PRI, 2018), we find that it is conventional investors that are more likely to target the sector than either impact or ESG private market investors.

Surprisingly, we show that ESG investors in private markets are more likely to target fossil fuel investments than either conventional or impact investors. Our study further provides evidence that impact investors are the least likely to target “sin” industries such as gambling or tobacco (no impact investor in our dataset has tobacco as a target industry). We find that the PMI firm domicile countries positively related to the impact investing model are in developing countries such as South Africa, Kenya, Nigeria, or Costa Rica, but negatively associated with countries and regions in Asia such as China, Hong Kong or Japan. In Western Europe, Denmark and Netherlands feature as the most likely domicile for impact investors compared to their ESG or conventional peers.

In this way, our paper contributes to the emerging literature on impact investment (Agrawal & Hockerts, 2019a, 2019b; Arjaliès,

Chollet, Crifo, & Mottis, 2019; Roundy, 2019) by conducting the first comparative quantitative study investigating the differences between impact, ESG, and conventional investors in private financial markets (Barber et al., 2019; Crifo & Forget, 2013). Our work also adds to the literature on the preferences of impact investors (Barber et al., 2019; C. Geczy, Jeffers, Musto, & Tucker, 2017; C. C. Geczy, Jeffers, Musto, & Tucker, 2020) by illustrating the ‘actual’ industries targeted by impact investors. Finally, our study provides evidence across different geographies (Africa, Asia & Australasia, Europe, and North America), which helps us understand the characteristics of impact investors in their geographical contexts.

The paper is structured as follows. Section 2 provides the literature review and theoretical background behind our main hypotheses. We focus on the definition of impact investing and the distinction from other concepts such as ESG investing on firm characteristics, investment preferences, and ownership. Section 3 outlines our empirical model, data collection, and preparation. Section 4 provides descriptive statistics of our panel dataset, while Section 5 summarizes the results of our empirical investigation. Section 6 discusses our results in relation to theory and provides implications for theory development and practice. As explained in Section 2.1, for our paper, we define impact investors as those investors that aim to deliver both financial outcomes and environmental and/or social outcomes through their investment activities in private financial markets (Agrawal & Hockerts, 2019a; Höchstädter & Scheck, 2015) and ESG investors, as those who consider environmental, social and governance considerations in their investment process without explicitly seeking to deliver improved social/environmental outcomes (Crifo & Forget, 2013; Eccles & Viviers, 2011).

2. Theoretical background and hypotheses development

2.1. Firm characteristics

Impact investment has emerged in the literature as the asset class through which investors intend to achieve both financial returns and societal impact (Roundy et al., 2017). Impact investing is generally related to ‘blended return’ or ‘a bundle of financial and social returns’ (Agrawal & Hockerts, 2019a; Roundy et al., 2017). Besides the dual aims of financial returns and non-financial returns, two other aspects are salient in qualifying impact investing: the non-financial returns have to

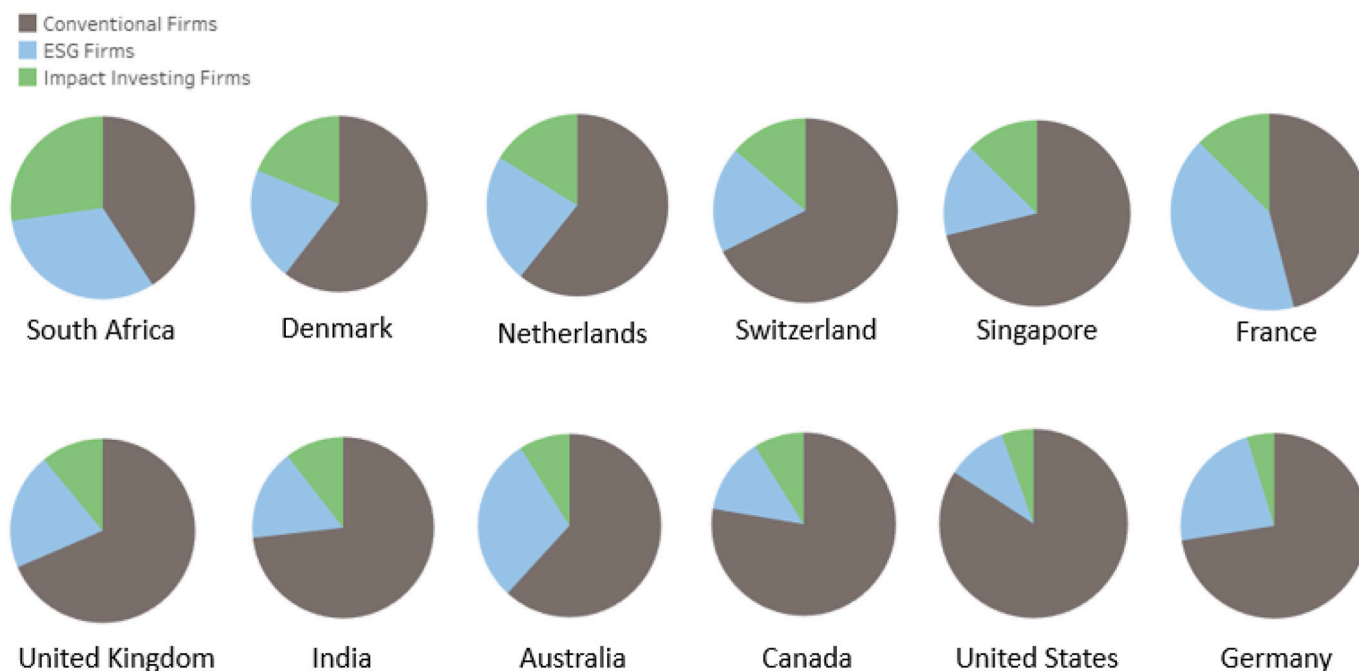


Fig. 2. Top 12 countries sorted by the percentage of impact PMI firms as a percentage of total PMI firms, for countries with >9 impact firms.

be intentional (Höchstädter & Scheck, 2015), and the non-financial impact should be measurable (O'Donohoe, Leijonhufvud, & Saltuk, 2010). Investments creating social impact purely coincidentally (as an unintended side effect) should obviously not be considered impact investing (Hockerts et al., 2022). For impact investees, the aim of a positive social impact is fundamental to the company's existence rather than a side effect of the primary business goal (Höchstädter & Scheck, 2015; Simon & Barmeier, 2010).

Though impact investment shares similarities with terminologies like 'sustainable investing' or 'ESG investing,' 'philanthropy' and 'social finance', impact investment is different from these concepts in many ways (Andrikopoulos, 2020). ESG investing refers primarily to investment incorporating environmental, social, and governance considerations in the investment decision-making process. These factors can enhance investment returns and/or reduce investment risk. An ESG investing lens does not necessarily consider the impact of the investment decision in delivering positive environmental or social outcomes, since it is mainly concerned with how environmental and social change can impact investment risk and return (Crifo & Forget, 2013; Eccles & Viviers, 2011). On the other hand, impact investment is a more proactive investment in enterprises and projects whose mission is to create both social and commercial value (Agrawal & Hockerts, 2019a). Hence, for our paper, we define impact investors following Hebb (2013) as those ESG integrating investors seeking to achieve a dual objective: to deliver both financial and environmental and/or social outcomes through their investment activities in private financial markets. We hereby contrast impact investing from other forms of ESG investing in the prioritization of its multiple objective functions. For instance, many investors sign the PRI principles on six ESG ambitions only where "consistent with their fiduciary responsibilities" (PRI, 2015, p. 10), as they are bound by financial fiduciary duties and hence cannot expect to receive inferior returns for risk (Hawley, Hoepner, Johnson, Sandberg, & Waitzer, 2014). In other words, conventional ESG investors tend to recognize ESG objectives only as subordinate to fiduciary/financial objectives, while impact investors set financial and societal aims on par.

Another practical differentiator is that the single primary objective of ESG investing is typically associated with investments in publicly traded bonds, stocks, or funds, often termed secondary financial markets where issuers have already fundraised the amount, and trading occurs between

investors. On the other hand, impact investing is primarily related to primary financial market investments, often through the private debt or equity asset class (Clarkin & Cangioni, 2016). The level of engagement among impact investors with investee companies is generally higher than ESG investors (Agrawal & Hockerts, 2019a), primarily due to the fact that private financial markets are much more labor-intensive for investors (Bachher, Clark, Monk, & Sridhar, 2014), which in turn is partly driven by a lack of disclosure requirements and information opacity concerning both financial and sustainability outcomes of privately-held ventures or projects (Crifo & Forget, 2013).

Impact investing is a relatively recent term, adopted in 2007 (Agrawal & Hockerts, 2019a, 2019b). Busch et al. (2021) reviewed how the sustainable investment approaches had evolved from 1.0 to 2.0 and 3.0 and indicated that Sustainable Finance 3.0 was re-originated around impact investment. With environmental and social aspects being a prominent topic in financial markets, a clear shift towards considering actual impact was observable in Sustainable Finance 3.0 (Busch et al., 2021). Given the relatively recent emergence of the impact investing industry, we expect that impact investment firms are much younger than their ESG or conventional counterparts. However, given the additional objectives to search for, collect data for and ultimately deliver extra financial benefits in addition to financial returns, impact investors have a more labor intensive business model than that of other private financial markets investors (Agrawal & Hockerts, 2019a). This labor intensiveness is further illustrated by how impact investors engage with policymakers and broader stakeholders to help remove barriers for the entrepreneurs they are backing. For example, in the US, venture capital houses such as Khosla Ventures or KPCB have engaged in lobbying towards a favorable policy regime for sustainable energy issues (Center for Responsive Politics, 2018; Pacheco, Dean, & Payne, 2010). Hence, we hypothesize that:

H1a. Impact investors are much younger than ESG or conventional PMI firms.

H1b. Impact investors are larger in firm size than ESG or conventional PMI firms.

Table 2

Firm characteristics: firm size, firm age, asset class focus and country model.

Model variables	Model 1a Impact = 1 Conventional & ESG = 0	Model 1b Impact = 1 Conventional = 0	Model 1c Impact = 1 ESG = 0	Model 1d ESG = 1 Conventional = 0
Log (Total Staff)	0.342*** (0.035)	0.374*** (0.036)	0.223*** (0.046)	0.216*** (0.030)
Log (Firm Age)	-0.084 (0.062)	0.005 (0.065)	-0.385*** (0.079)	0.387*** (0.051)
PE Focus	-0.028 (0.171)	-0.127 (0.172)	0.272 (0.264)	-0.288** (0.133)
Real Estate Focus	-0.428** (0.190)	-0.377* (0.198)	-0.495* (0.266)	0.195 (0.144)
Natural Resources Focus	0.676*** (0.164)	0.862*** (0.179)	-0.004 (0.191)	0.904*** (0.149)
Infrastructure Focus	-0.190 (0.252)	-0.519* (0.276)	0.486 (0.316)	-1.030*** (0.257)
Austria	-1.055 (1.063)	-1.031 (1.063)	-1.069 (1.081)	-0.179 (0.426)
Bahrain	1.195 (1.125)	0.776 (1.129)	NO ESG PMI Firms	NO ESG PMI Firms
Belgium	0.129 (0.610)	0.038 (0.616)	0.237 (0.678)	-0.143 (0.419)
Brazil	-0.220 (0.538)	-0.283 (0.545)	-0.050 (0.579)	-0.397 (0.324)
Bulgaria	0.756 (1.127)	0.351 (1.154)	NO ESG PMI Firms	NO ESG PMI Firms
Canada	0.025 (0.393)	-0.218 (0.407)	0.707 (0.444)	-1.078*** (0.279)
Chile	-0.860 (0.951)	-1.117 (0.905)	-0.847 (1.101)	-0.189 (0.572)
China	-3.608*** (0.668)	-3.913*** (0.673)	-1.764** (0.746)	-2.266*** (0.266)
Colombia	1.043 (0.837)	1.418 (0.894)	0.039 (0.862)	0.852 (0.671)
Costa Rica	1.938** (0.854)	2.240** (0.945)	1.137 (1.051)	1.039 (1.029)
Denmark	0.982** (0.484)	0.871* (0.505)	0.884 (0.563)	-0.177 (0.441)
Egypt	0.584 (0.808)	0.283 (0.837)	1.419 (1.297)	-1.543 (1.127)
Finland	0.250 (0.533)	0.212 (0.540)	0.153 (0.576)	-0.113 (0.363)
France	0.411 (0.383)	0.665 (0.404)	-0.133 (0.413)	0.710*** (0.259)
Georgia	2.481 (1.529)	2.118 (1.539)	NO ESG PMI Firms	NO ESG PMI Firms
Germany	-0.633 (0.432)	-0.852* (0.445)	-0.337 (0.463)	-0.441* (0.263)
Ghana	1.262 (0.804)	1.221 (0.823)	0.955 (1.060)	0.214 (0.862)
Guatemala	3.226** (1.293)	2.824** (1.285)	NO ESG PMI Firms	NO ESG PMI Firms
Model variables	Model 1a Impact = 1 Conventional & ESG = 0	Model 1b Impact = 1 Conventional = 0	Model 1c Impact = 1 ESG = 0	Model 1d ESG = 1 Conventional = 0
Hong Kong	-1.494* (0.785)	-1.523* (0.790)	-1.611** (0.821)	0.041 (0.315)
India	0.388 (0.422)	0.206 (0.433)	0.647 (0.480)	-0.472 (0.311)
Ireland	0.026 (0.814)	-0.313 (0.837)	0.735 (1.015)	-1.276* (0.692)
Israel	-0.148 (0.536)	-0.356 (0.546)	0.488 (0.618)	-0.865** (0.363)
Italy	-0.824 (0.676)	-1.137* (0.689)	-0.053 (0.736)	-1.020** (0.411)
Japan	-1.024* (0.580)	-1.396** (0.595)	0.238 (0.674)	-1.768*** (0.390)
Jersey	1.745** (0.836)	2.246** (1.042)	0.994 (0.958)	1.393 (1.108)
Jordan	2.952*** (0.988)	2.570*** (0.986)	NO ESG PMI Firms	NO ESG PMI Firms
Kenya	1.642* (0.915)	2.833** (1.353)	0.430 (0.926)	2.356** (1.118)
Lebanon	1.224	1.079	1.140	0.276

(continued on next page)

Table 2 (continued)

Model variables	Model 1a	Model 1b	Model 1c	Model 1d
	Impact = 1 Conventional & ESG = 0	Impact = 1 Conventional = 0	Impact = 1 ESG = 0	ESG = 1 Conventional = 0
Luxembourg	(1.152) -0.115 (0.658)	(1.183) -0.197 (0.707)	(1.428) -0.093 (0.701)	(1.222) -0.230 (0.431)
Madagascar	2.780** (1.269)	No Conventional PMI Firms	1.099 (1.196)	No Conventional PMI Firms
Malaysia	0.506 (0.687)	0.477 (0.693)	0.398 (0.873)	-0.003 (0.516)
Mauritius	1.407** (0.585)	1.479** (0.657)	0.637 (0.651)	0.922 (0.653)
Mexico	-0.341 (0.804)	-0.326 (0.814)	-0.785 (0.914)	0.191 (0.428)
Morocco	1.106 (1.188)	2.035 (1.416)	0.096 (1.161)	1.943 (1.337)
Myanmar	1.878 (1.243)	No Conventional PMI Firms	0.213 (1.289)	No Conventional PMI Firms
Namibia	1.388 (1.231)	2.010 (1.583)	0.366 (1.311)	1.698 (1.325)
Netherlands	0.878** (0.398)	0.803* (0.412)	0.812* (0.444)	-0.090 (0.298)
Nigeria	1.337** (0.640)	1.261* (0.675)	1.083 (0.755)	0.238 (0.670)
Norway	0.775 (0.517)	0.682 (0.533)	1.069* (0.597)	-0.485 (0.407)
Poland	0.442 (0.611)	0.373 (0.618)	0.273 (0.687)	-0.008 (0.446)
Portugal	0.470 (0.717)	0.360 (0.724)	0.888 (0.896)	-0.616 (0.559)
Russia	-0.845 (0.727)	-1.163 (0.732)	-0.491 (0.820)	-0.657 (0.455)
Saudi Arabia	1.006 (0.863)	0.911 (0.895)	1.048 (0.989)	-0.097 (0.696)
Model variables	Model 1a Impact = 1 Conventional & ESG = 0	Model 1b Impact = 1 Conventional = 0	Model 1c Impact = 1 ESG = 0	Model 1d ESG = 1 Conventional = 0
Singapore	0.518 (0.436)	0.373 (0.444)	0.820 (0.508)	-0.534 (0.338)
South Africa	1.597*** (0.425)	1.777*** (0.453)	1.051** (0.467)	0.728** (0.356)
South Korea	-1.001 (0.676)	-1.353** (0.687)	0.014 (0.782)	-1.583*** (0.439)
Spain	-0.063 (0.496)	-0.163 (0.511)	-0.048 (0.558)	-0.227 (0.321)
Sweden	-0.154 (0.546)	-0.143 (0.566)	-0.260 (0.593)	-0.044 (0.315)
Switzerland	0.595 (0.443)	0.411 (0.464)	0.880* (0.498)	-0.517 (0.347)
Thailand	1.121 (0.930)	0.766 (0.933)	NO ESG PMI Firms	NO ESG PMI Firms
Tunisia	0.589 (1.105)	0.415 (1.106)	0.894 (1.351)	-1.094 (1.015)
Turkey	0.001 (1.070)	-0.019 (1.083)	-0.420 (1.124)	0.089 (0.638)
UK	0.281 (0.349)	0.155 (0.364)	0.471 (0.382)	-0.470** (0.233)
US	-0.404 (0.333)	-0.722** (0.347)	0.519 (0.362)	-1.343*** (0.217)
Ukraine	-0.075 (1.062)	-0.416 (1.078)	0.911 (1.399)	-1.592 (1.103)
United Arab Emirates	-0.217 (0.808)	-0.394 (0.827)	-0.056 (0.885)	-0.401 (0.514)
Vietnam	0.694 (1.223)	1.062 (1.200)	0.489 (1.300)	0.137 (0.762)
Constant	-3.060*** (0.404)	-2.845*** (0.419)	-0.923* (0.482)	-2.095*** (0.274)
Observations	8901	7656	1817	8292
Pseudo R-squared	0.107	0.139	0.0574	0.132
Log-likelihood	-1926	-1773	-1068	-3037

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. We employ a logistic regression model. Note: we display those countries which had at least one statistically significant result across any of the models 1a-d. Several countries have been omitted from the regression due to multicollinearity.

Table 3
Firm characteristics models across regions.

	Model 2a Africa	Model 2b Asia & Australasia	Model 2c Europe	Model 2d North America
Model variables	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0
Log (Total Staff)	1.613*** (0.417)	0.063 (0.107)	0.361*** (0.091)	0.134** (0.065)
Log (Firm Age)	-1.967*** (0.579)	-0.248 (0.252)	-0.435*** (0.133)	-0.308*** (0.117)
PE Focus	All PE firms have impact focus	-0.454 (0.768)	0.802 (0.510)	0.041 (0.359)
Real Estate Focus	No Real Estate Firms have impact focus	0.177 (0.725)	-0.559 (0.500)	-0.490 (0.373)
Natural Resources Focus	0.558 (0.783)	0.990 (0.688)	0.259 (0.345)	-0.266 (0.276)
Infrastructure Focus	No Infra firms have impact focus	-0.175 (0.825)	0.268 (0.576)	0.599 (0.494)
Constant	-0.011 (2.247)	-0.763 (1.059)	-2.603** (1.153)	0.072 (0.517)
Country Controls	YES	YES	YES	YES
Observations	76	237	706	700
Pseudo R- squared	0.228	0.132	0.0741	0.0163
Log-likelihood	-40.15	-116.4	-398.7	-447.6

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. We employ a logistic regression model.

2.2. Investment preferences

The current practice of ESG integration by numerous financial market participants, particularly across public equities and bonds, has been preceded by the socially responsible investing movement (SRI), which was deeply influenced by religious, social, or environmental movements (Biehl et al., 2012; Hoepner, 2013). Hence, historically, one of the most popular investment strategies, particularly among investors with religious motivations, was to avoid investing in ‘sin stocks,’ which included companies active in the tobacco, alcohol, gambling, and firearms manufacturing industries (Cronin, 2004). The exclusionary approach to ‘sin stocks’ has more recently extended to the fossil fuel industry (Cojoianu, Ascuí, Clark, Hoepner, & Wojcik, 2021; Rockefeller Foundation, 2015), with financial institutions such as Ireland’s and Norway’s sovereign wealth funds divesting from fossil fuels, in addition to numerous other asset owners, universities, endowments as well as cities. ESG investors do not necessarily exclude controversial sectors or industries with significant environmental externalities, as they often only overweight their portfolios towards more responsible sectors or simply choose the companies with the best ESG credentials from each sector (also termed as a best-in-class strategy) (Sparkes & Cowton, 2004).

The philosophy that underpins the impact investing movement, namely delivering both financial returns and positive environmental/social benefits to the broader society, is likely to significantly influence asset allocation across industries by exclusively focusing on industries that provide positive externalities. So far, the Principles for Responsible Investment (PRI) Association, one of the most important international responsible investment initiatives (Hoepner et al., 2019), and the Global Impact Investing Network (GIIN), one of the most prominent non-profits facilitating knowledge exchange, data and tools for impact investors, have proposed their impact investing taxonomies, which map different sectors with the positive environmental or social impact they are aligned with (GIIN, 2019; PRI, 2018). They converge in recognizing that the following industries have the potential to generate significant positive

externalities: agriculture and forestry, clean technologies, healthcare, education, affordable and green real estate, inclusive finance, water, and waste management. O’Donohoe et al. (2010) cite the financial services (e.g., microfinance), cleantech and energy, housing, and agriculture as more developed impact investing sectors. Höchstädter and Scheck (2015) find the common sectors of impact investing include agriculture, cleantech, energy, education, healthcare, financial services for the poor/microfinance, housing, and water. Hence, we hypothesize that:

H2a. Impact investors are more likely to target industries that generate positive environmental or social outcomes than ESG or conventional PMI firms.

H2b. Impact investors are less likely to target harmful or controversial industries than ESG or conventional PMI firms.

2.3. Government ownership of impact investing firms

Most prior work on the ownership of impact investors has identified several ownership types of investment firms active in impact investing. These include non-profit foundations, institutional investors, and banks (Barber et al., 2019; Lehner, Harrer, & Quast, 2018; Wilson & Sager, 2016). However, none of these studies highlight which ownership type is most prevalent in impact investing and whether these are significantly different from the ownership structure of single primary objective ESG or conventional investment firms. In this section, we argue that government ownership of private equity firms, which so far, to our knowledge, has not featured in the impact investing literature, is a strong determinant of the likelihood that the firm pursues an impact investing strategy.

Clark (2000) asserted that one of the main factors driving the emerging societal expectation that financial institutions deliver environmental and social outcomes is that many Western governments gradually retreated from providing different forms of infrastructure as well as environmental and social benefits and shifted their responsibilities onto market agents and lower tiers of a government authority. That being said, governments around the world still have a strong mandate to ensure economic, social, and environmental well-being (OECD, 2010), through their policy regime, but also through the activities of the government’s investment arms (e.g., sovereign wealth funds, government-owned private equity, and venture capital funds) as well as corporations which are majority-owned by the government (Clark, Dixon, & Monk, 2013; Karolyi & Liao, 2017; Li & Zhang, 2010). One such example is the setup of green investment banks, which are publicly capitalized entities to facilitate both public and private investment in domestic between sectors such as clean energy, water, and waste management (OECD, 2017). Green investment banks feature at the level of national governments (e.g., Australia, Japan, UK), state-level (e.g., California, NY, Rhode Island) or even city-level (Masdar, UAE). This is the direct investment channel in which the government achieves its economic, environmental, and social agenda by imposing a clear mandate on its captive investment arm to generate social and environmental returns in addition to economic and financial benefits (Calza, Profumo, & Tutore, 2013; Dam & Scholtens, 2012; Li & Zhang, 2010). However, even in cases where governments are majority owners of private equity investment arms but do not explicitly state this objective, there is an underlying incentive for the investment firm to align its objectives with the government, given the public accountability of the latter (Li & Zhang, 2010; Mohd Ghazali & Weetman, 2006).

Captive investment arms of government can also shape impact investing policy by engaging within government towards providing favorable legislation, credit guarantees, or even initial capital towards impact investing (Chen, Li, Zehong, & Zou, 2014; Hargadon & Kenney, 2012; Tekula & Andersen, 2019). Government-owned impact investors may also be privileged in that many of the impact sectors they target have been within the remit of governments historically (e.g., waste management, education, housing), and hence government-owned

Table 4
Investment preference models.

Industry focus variables	Model 3a Impact = 1 Conventional & ESG = 0	Model 3b Impact = 1 Conventional = 0	Model 3c Impact = 1 ESG = 0	Model 3d ESG = 1 Conventional = 0	Ordered Probit Robustness (Conventional = 1, ESG = 2, Impact = 3)
Impact Industries					
Agriculture and Forestry	1.138*** (0.125)	1.257*** (0.131)	0.763*** (0.145)	0.579*** (0.109)	0.517*** (0.050)
Cleantech	0.741*** (0.123)	0.848*** (0.127)	0.361** (0.147)	0.526*** (0.096)	0.390*** (0.045)
Education	0.255* (0.134)	0.370*** (0.138)	0.062 (0.147)	0.270*** (0.097)	0.161*** (0.047)
Food and Nutrition	0.171 (0.122)	0.207* (0.126)	0.015 (0.143)	0.150 (0.096)	0.098** (0.045)
Healthcare	0.002 (0.110)	-0.079 (0.113)	0.050 (0.127)	-0.013 (0.079)	0.015 (0.037)
Waste Management	-1.493* (0.808)	-1.861** (0.939)	-0.831 (0.657)	-1.420** (0.680)	-0.842*** (0.287)
Water	-0.447 (0.734)	-0.529 (0.859)	-0.364 (0.588)	0.359 (0.637)	-0.063 (0.262)
Fossil Fuel Industries					
Extractives and Fossil Fuel Energy	0.068 (0.123)	0.063 (0.127)	-0.093 (0.150)	0.200** (0.092)	0.076* (0.043)
“Sin” Industries					
Gambling	-1.926* (1.094)	-1.836 (1.133)	-1.870* (1.039)	-0.049 (0.389)	-0.314 (0.199)
Tobacco	No Impact Investing Firm Involved in Tobacco	No Impact Investing Firm Involved in Tobacco	No Impact Investing Firm Involved in Tobacco	-0.049 (0.663)	-0.406 (0.320)
Weapons	-1.182 (1.085)	-1.174 (1.125)	-1.199 (1.084)	-0.384 (0.506)	-0.421* (0.253)
Constant	-3.034*** (0.422)	-3.410*** (0.406)	-1.070** (0.492)	-2.017*** (0.287)	
Parameter 1 ordered probit					0.974*** (0.140)
Parameter 2 ordered probit					1.788*** (0.142)
Country Controls	YES	YES	YES	YES	YES
Firm Age and Size Controls	YES	YES	YES	YES	YES
Asset Class Controls	YES	YES [^]	YES	YES	YES
Observations	8884	7645	1811	8292	8903
Pseudo R-squared	0.166	0.211	0.0837	0.157	0.144
Log-likelihood	-1797	-1623	-1036	-2950	-4855

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Logistic regression model.

[^] All asset class controls have been included: real estate, natural resources and infrastructure, but PE dummy has been omitted in this case due to model convergence issues. For robustness, we have also included an ordered probit model where Conventional PMIs =1, ESg =2 and Impact = 3.

impact investors may benefit from the accumulated knowledge of the government in delivering economic, environmental and social returns (Tang, Yang, & Boehe, 2018). Therefore, we hypothesize that:

H3. Impact investors are more likely to be government-owned than ESG and conventional investors.

2.4. Cross-country differences of impact investment

Impact investing can span geographies (Addis, McLeod, & Raine, 2013). Previous research examined the geographical location of impact investing (e.g. Addis et al., 2013; Höchstädter & Scheck, 2015). Impact investing is mainly associated with investments in developing and emerging markets (Harji & Jackson, 2012). In contrast, other studies show that it can also target beneficiaries in the developed world (Höchstädter & Scheck, 2015; Narain, Schmidt, Geggio, Gelfand, & Pease, 2012). Agrawal and Hockerts (2019a, 2019b) observe a greater number of country-specific studies on impact investing from 2014 onwards, for example, Rajan, Koserwal, Keerthana, and Palmieri (2014) explore the impact investing sector in India and its promise in creating profitable outcomes for its investors from a market position; Glänzel and

Scheuerle (2016) study the impact investing sector in Germany, and Castellas, Ormiston, and Findlay (2018) examine its growth and application in Australia. These studies are location-specific and consider the effect of both the government policy and the markets (Agrawal & Hockerts, 2019a, 2019b). Although these studies are still early work, they strongly indicate the impact of geographies on impact investing (Agrawal & Hockerts, 2019a, 2019b). Mersland, Nyarko, and Sirisena (2020) find that host country macroeconomic conditions directly affect the ability of impact investors to balance the trade-off between their social and financial goals. When selecting international markets, impact investors consider the country-level factors such as level of development, institutional strength, and country risk (Mersland et al., 2020). They target countries where they have the opportunity to balance the competing demands of their dual institutional logics (Mersland et al., 2020). Roundy (2019) argues that the intensity of impact investing is associated with the ecosystem of social entrepreneurship in a region. He compared the regions with vibrant impact investing communities and regions with underdeveloped impact investing sectors with few investors from a geographical perspective. He suggests that regional variations in the intensity of impact investing influences the amount and

Table 5

Investment preference models across regions. Comparison between impact and ESG investing firms.

	Model 4a Africa	Model 4b Asia & Australasia	Model 4c Europe	Model 4d North America
Industry focus variables	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0
Impact Industries				
Agriculture and Forestry	1.177 (0.740)	1.013** (0.505)	0.852*** (0.255)	0.967*** (0.225)
Cleantech	0.406 (0.770)	0.039 (0.469)	0.205 (0.247)	0.528** (0.242)
Education	-0.663 (1.188)	-0.367 (0.491)	-0.101 (0.243)	0.521** (0.229)
Food and Nutrition	1.471* (0.858)	-0.407 (0.542)	-0.049 (0.239)	-0.059 (0.226)
Healthcare	-0.948 (0.866)	-0.264 (0.438)	0.126 (0.207)	0.089 (0.189)
Fossil Fuel Industries				
Extractives and Fossil Fuel Energy	0.136 (0.684)	0.268 (0.509)	0.184 (0.258)	-0.312 (0.243)
“Sin” Industries				
Gambling	No Gambling	No Gambling	No Gambling	0.547 (1.297)
Tobacco	No Tobacco	No Tobacco	No Tobacco	No Tobacco
Weapons	No Weapons	No Weapons	No Weapons	-1.233 (1.146)
Constant	-0.459 (3.176)	-0.948 (1.420)	-2.717** (1.152)	-0.177 (0.568)
Country Controls	YES	YES	YES	YES
Firm Age and Size Controls	YES	YES	YES	YES
Observations	76	229	696	698
Pseudo R-squared	0.308	0.168	0.100	0.0640
Log-likelihood	-35.98	-109.6	-384.1	-425.1

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Logistic regression model. Waste and Water sector dummies have been excluded as collinear with country dummies.

^ All asset class controls have been included.

viability of regional social entrepreneurship activity and the vitality of a region's impact investing ecosystem (Roundy, 2019). Regions with vibrant impact investing exhibit diversity in impact investors and impact investment opportunities. Given the effect of location on the intensity, vibrancy, ecosystem, and opportunities of impact investing, we hypothesize that:

H4. The differences between impact investors from ESG and conventional investors (e.g., firm characteristics, investment preferences, ownership) vary across the geographies.

3. Data and methodology

3.1. Dependent variables

We start with a list of 24,525 private markets fund management firms collected from the Preqin database as of 4th June 2019. From these, we select only those that Preqin contains total number of staff, address information, and the year in which the firm was established. We conduct additional internet searches for address and year of establishment to ensure robustness. This shortlisting step results in 9146 private markets fund management firms worldwide. Preqin is one of the top global providers of robust data on private financial markets, which is increasingly used in academia (Ang, Chen, Goetzmann, & Phalippou, 2018; Barber et al., 2019; Harris, Jenkinson, & Kaplan, 2014; Nadauld,

Sensoy, Vorkink, & Weisbach, 2019).

Preqin classified the firms into two categories: (1) those with an environmentally or socially responsible ethos and (2) those without such an ethos. The firms not tagged by Preqin as environmental or social ethos fall into the “conventional” firms in our research. Among the 1887 firms with an environmental or social ethos, we further split them into “ESG” firms and “impact” firms by researching their website and publications.

We manually read descriptions on each firm's website or relevant publications and particularly look at the emphasis on the financial and positive impact objectives. We label the firms that explicitly state a dual objective as ‘impact investor’, for example, “We create wealth aligned with positive impact”; “Our goal isn't only profit, but also a positive impact on social and the environmental issues ...”; “... for great returns and the greater good”; “We emphasize the balance between delivering financial returns and solid social impact.”

We only include the impact, ESG, and conventional PMI firms from countries with at least one impact PMI firm for our final sample. This results in a dataset of 586 impact investment firms, 1243 ESG firms, and 7074 conventional PMI firms across 60 countries. Comparing our impact firm identification result with the 159 funds identified in 2015 by Barber et al. (2019) in an equivalent process shows just strongly the impact investing asset class has been growing in recent years. (See Fig. 1.)

We further build four dependent binary variables as follows: i) Conventional – which takes the value of 1 if the private market investment firm is a firm that does not engage in either ESG or impact investing and 0 otherwise; ii) ESG – which takes the value of 1 if the investment firm is tagged as having either an environmental or social ethos by Preqin (i.e., takes into consideration environmental, social and governance considerations in their investment process but excludes impact funds) and 0 if the firm is either conventional or an impact firm; iii) Impact – which takes the value 1 if the firm is an impact firm and 0 otherwise and iv) Impact vs. ESG – which takes the value 1 if the firm is an impact firm and 0 if the firm is ESG only.

3.2. Independent variables

3.2.1. Investment preferences

Preqin collects data about the main asset classes that the firm invests in, which are split into four main categories: private equity (which includes different types of PE strategies including buyouts, co-investments, venture capital, and private debt), real estate, natural resource investment firms, and infrastructure investment firms. A firm can pursue one or more investment strategies. Hence they are not mutually exclusive. We code each investment strategy with 1 if it is pursued by the firm and 0 otherwise.

To understand how the target industries of investors relate to whether they are conventional, ESG, or impact investors, we map Preqin's target industry classification with an impact investment industry taxonomy derived from the corroboration of the Impact Investing Market Map, developed by the Principles of Responsible Investment (PRI) Association and a broad stakeholder group (over 18 organizations and 15 countries), with the Global Impact Investing Network's IRIS+ impact thematic taxonomy. The resulting impact industries that map onto Preqin's industry classification are agriculture and forestry, cleantech, education, food and nutrition, healthcare, waste management, and water. We further group Preqin's industry classification into extractives and fossil fuel activities and what are traditionally considered “sin” industries: gambling, tobacco, and weapons. Further details on the mapping process are provided in Appendix A.1.

3.2.2. Ownership of private markets investment firms

We code the ownership of the investment firm into binary variables according to the categories recorded by Preqin: independent firms, bank spin-offs, corporate spin-offs, government spin-offs, captive arm of the bank (bank-owned), captive arm of corporates (corporate-owned), and

Table 6
Firm ownership logistic models.

Ownership Variables	Model 5a Impact = 1 Conventional & ESG = 0	Model 5b Impact = 1 Conventional = 0	Model 5c Impact = 1 ESG = 0	Model 5d ESG = 1 Conventional = 0	Ordered Probit Robustness (Conventional = 1, ESG = 2, Impact = 3)
Bank Spin-off	0.710 (0.510)	0.883* (0.520)	0.397 (0.653)	0.550 (0.426)	0.339* (0.198)
Captive Arm of Bank	-0.203 (0.501)	-0.070 (0.519)	-0.151 (0.579)	0.296 (0.348)	0.074 (0.163)
Captive Arm of Corporation	0.514 (0.321)	0.613* (0.338)	0.308 (0.442)	0.500* (0.267)	0.295** (0.125)
Captive Arm of Government	1.594*** (0.480)	1.649*** (0.504)	1.411** (0.597)	0.877* (0.485)	0.793*** (0.213)
Corporate Spin-off	0.847** (0.398)	1.113*** (0.406)	0.311 (0.527)	0.851** (0.336)	0.473*** (0.155)
Government Spin-off	2.158** (0.972)	2.071** (0.964)	1.629 (1.121)	2.368 (2.149)	1.450** (0.698)
Independent Firm	0.655** (0.293)	0.796*** (0.307)	0.399 (0.411)	0.493** (0.246)	0.328*** (0.115)
Constant	-3.574*** (0.468)	-3.504*** (0.491)	-1.197** (0.593)	-2.522*** (0.352)	
Parameter 1 ordered probit					1.284*** (0.166)
Parameter 2 ordered probit					2.056*** (0.167)
Country Controls	YES	YES	YES	YES	YES
Firm Age and Size Controls	YES	YES	YES	YES	YES
Asset Class Controls	YES	YES	YES	YES	YES
Observations	8901	7656	1817	8292	8903
Pseudo R-squared	0.110	0.143	0.0605	0.133	0.107
Log-likelihood	-1917	-1764	-1065	-3032	-5068

Robust standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1. Logistic regression model.

captive arm of government (government-owned). These categories are mutually exclusive.

3.2.3. Control variables

We can control for the firm's size through the number of employees in the firm, which we log transform, the firm's age as of 2020 (log transformed), and the country of incorporation of the investment firm. Previous studies show the size of the firm (Agrawal & Hockerts, 2019a) and the country and region's geographical effect on the rise of impact investors (Roundy, 2019).

3.3. Model specification

Our analysis is focused on unveiling which of the firm's characteristics, investment preferences, ownership, and geographical characteristics make it more likely to be an impact investing firm. Our data is organized as a cross-sectional dataset of 9146 private market investment firms worldwide from the Preqin data platform as of June 2019. We employ a binary logistic regression model with robust standard errors. The complete model specification is the following, where ϵ_i is the stochastic error:

$$\begin{aligned} Fund\ Type_{Impact, ESG, Conventional} = & \beta_0 + \beta_1 * \ln(Total\ Staff) + \beta_2 * \ln(Firm\ Age) \\ & + \beta_3 * Investment\ Preference + \beta_4 * Firm\ Ownership \\ & + \beta_6 * Country\ Effects + \epsilon_i \end{aligned}$$

4. Descriptive statistics

As Table 1 shows, while the US hosts a majority of impact investing firms (221 or c. 38% of impact firms worldwide), impact investing is a widespread phenomenon across both developed and developing countries. In terms of total number of impact firms across countries, the UK follows with 69 impact investing firms, together with France (28), Canada (23), Netherlands (22), South Africa (18) and India (16). However, if we sort countries with >9 impact investing firms by the

percentage of impact firms out of the total private markets investing firms in the country, the ranking looks entirely different. South Africa leads with over 27% of impact firms out of the country's PE investing firms, followed by Denmark (c. 19%), Netherlands (16%), Switzerland (13%) and Singapore and France tied at c. 13% (Fig. 2).

The distribution of PE ESG firms across the world is somewhat similar to that of impact firms, but in this case, China features more prominently in fifth place with 41 ESG firms, while the US still leads with 421 firms, followed by UK (130), France (93) and Germany (63). If we conduct a similar exercise, and sort countries by the percentage of ESG firms out of the total number of PE investment firms, France comes on top with c. 42% ESG firms, South Africa in second with 32%, followed by Hong Kong (31%), Australia (29%), Sweden (28%) and Mexico (26%) (Table 2).

The dominant asset class in which impact, ESG and conventional firms invest is private equity (including venture capital and venture debt). For impact firms, the second most popular asset class is a natural resource fund, followed by real estate and infrastructure, whereas for both conventional and ESG firms, the second most popular asset class is real estate, followed by natural resources and infrastructure.

5. Results

For our analysis on the impact of firm characteristics, investment preferences and ownership of the private market investment firm on the firm's propensity to be an impact, ESG or conventional fund, we run our models on both the entire dataset of firms (Models 1a,2a,3a), as well as on subsamples to compare impact investors with conventional investors (Models 1b,2b,3b) and ESG investors (Models 1c,2c,3c). We also provide an insight between the difference between ESG and conventional PMI firms (Models 1d,2d,3d). The analysis on cross-country characteristics of impact investors is conducted on the 1887 impact and ESG firms only. In the result tables, we report the log of odds coefficient to ease the interpretability of the direction of influence of the coefficients, and in the text we also transform the log odds into odds ratios to ease the

Table 7
Firm ownership logistic models across regions.

	Model 6a Africa	Model 6b Asia & Australasia	Model 6c Europe	Model 6d
Ownership Variables	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0	Impact = 1 ESG = 0
Bank Spin-off	No Impact or ESG Firm	–	0.744 (0.798)	–0.535 (1.332)
Captive Arm of Bank	–14.605*** (1.481)	0.583 (1.386)	–0.398 (0.936)	–0.565 (1.042)
Captive Arm of Corporation	–12.528*** (1.377)	0.020 (1.162)	0.293 (0.644)	–0.755 (0.580)
Captive Arm of Government	No Impact or ESG Firm	0.139 (1.520)	1.888** (0.762)	–
Corporate Spin-off	–13.744*** (2.617)	–	0.039 (0.769)	0.287 (0.761)
Government Spin-off Independent Firm	No Impact or ESG Firm –13.677*** (1.160)	No Impact or ESG Firm –0.152 (1.122)	– 0.524 (0.572)	No Impact or ESG Firm –0.480 (0.512)
Constant	13.716*** (2.693)	–0.471 (1.280)	–2.370* (1.278)	0.676 (0.636)
Country Controls	YES	YES	YES	YES
Firm Age and Size Controls	YES	YES	YES	YES
Observations	83	229	705	700
Pseudo R-squared	0.270	0.124	0.0612	0.0135
Log-likelihood	–41.81	–115.3	–403.1	–448.9

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Logistic regression model. As the ownership variables are mutually exclusive, one or more of these variables may become collinear when we split our dataset by regions (i.e. one variable can be determined by the linear combination of the other regressors). In these cases, the collinear regressors have been removed from the regression.

interpretability of the magnitude of the coefficients.

5.1. Firm characteristics

First, we analyse the impact of firm size, age and asset class investment strategy on its likelihood to be an impact, ESG or conventional PMI firm. We find that on average, impact investment PMI firms tend to have more employees than both ESG and conventional investors ($\beta = 0.342$, $p < 0.01$, odds ratio: 1.41, Model 1a, Table 1), and be much younger than ESG PMI firms ($\beta = -0.385$, $p < 0.01$, odds ratio: 0.68, Model 1c). We also show that ESG PMI firms are larger and older than conventional PMI firms (Model 1d). In Table 3, we run the models for each geography and find that this relationship holds for all geographies except Asia & Australasia.

With respect to the asset class investment strategy pursued by impact investors, our paper shows that impact investors are more likely to focus on natural resources investing than their ESG and conventional peers ($\beta = 0.676$, $p < 0.01$, odds ratio: 1.96, Model 1a), but less likely to target real estate opportunities ($\beta = -0.428$, $p < 0.05$, odds ratio: 0.65, Model 1a). When looking closely at which geography drives these results, we show that this is an overall trend and not significant when we re-run the regressions on individual regions. What does become apparent however is that on the African continent, all PE firms in our sample have an impact investing focus, and that none of the real estate or infrastructure funds focus on impact in the region (Table 3, Model 2a).

We further explore the heterogeneity across individual countries (Table 2) and unveil that the country domiciles which positively and significantly relate to the propensity of a PMI firm being an impact investor are: Costa Rica, Denmark, Guatemala, Jersey, Jordan, Kenya, Madagascar, Mauritius, Netherlands, Nigeria and South Africa. On the other hand, countries such as China, Hong Kong and Japan are negatively and significantly related to the propensity of a fund to be an impact investor (Model 1a).

5.2. Investment preferences

By merging the Preqin industry focus of each investment firm with a taxonomy of impact industries, fossil fuel industries and “sin” industries,

the paper illustrates that impact investors and ESG investors are more likely than conventional funds to invest in sectors such as agriculture and forestry, clean technologies and education-related ventures and projects (Table 4). When comparing impact investors with ESG investors only, stating an investment focus in agriculture and forestry or clean technologies increases the baseline odds of the firm being an impact investor by 114% and 43% respectively ($\beta_{\text{Agriculture and Forestry}} = 0.763$, $p < 0.01$, odds ratio: 2.14, Model 3c; $\beta_{\text{Cleantech}} = 0.361$, $p < 0.05$, odds ratio: 1.43, Model 3c). Investment in the waste management sector lies in the conventional private markets space (Models 3b,d), and is negatively related to the likelihood of the investment firm being either impact or ESG oriented.

Surprisingly, investment in fossil fuel industries is more likely to be carried out by ESG investors than conventional investors ($\beta = 0.2$, $p < 0.05$, odds ratio: 1.22, Model 3d), and as expected, is not significantly related to the investment activities of impact investors. In relation to investment in “sin” industries, impact investors are significantly less likely to invest in both gambling or tobacco companies than both ESG and impact investors. In our dataset, none of the impact investors appear to be having an investment focus on tobacco.

The statistics across different regions unveil further insights (Table 5). First, the theme of agriculture and forestry is the most industry of focus of choice of impact investors across Asia & Australasia, Europe and North America, but not the African continent where food and nutrition solutions (on the consumer side) are more predominant. In North America, the focus of impact investors, as compared to ESG investors, is more tilted towards cleantech and education solutions.

5.3. Ownership

We further investigate whether the ownership type of the investing firm influences the likelihood of it being an impact investing firm, ESG or conventional firm. We find that the ownership profile of impact investors is most positively and significantly related to the either captive investment arms or spin-off investment arm of governments ($\beta_{\text{Captive Arm of Gov}} = 1.594$, $p < 0.01$ and $\beta_{\text{Spin-off Arm of Gov}} = 2.158$, $p < 0.01$ Model 5a, Table 6). Impact investor ownership is further positively associated with corporate spin-offs and independent firms. Government ownership

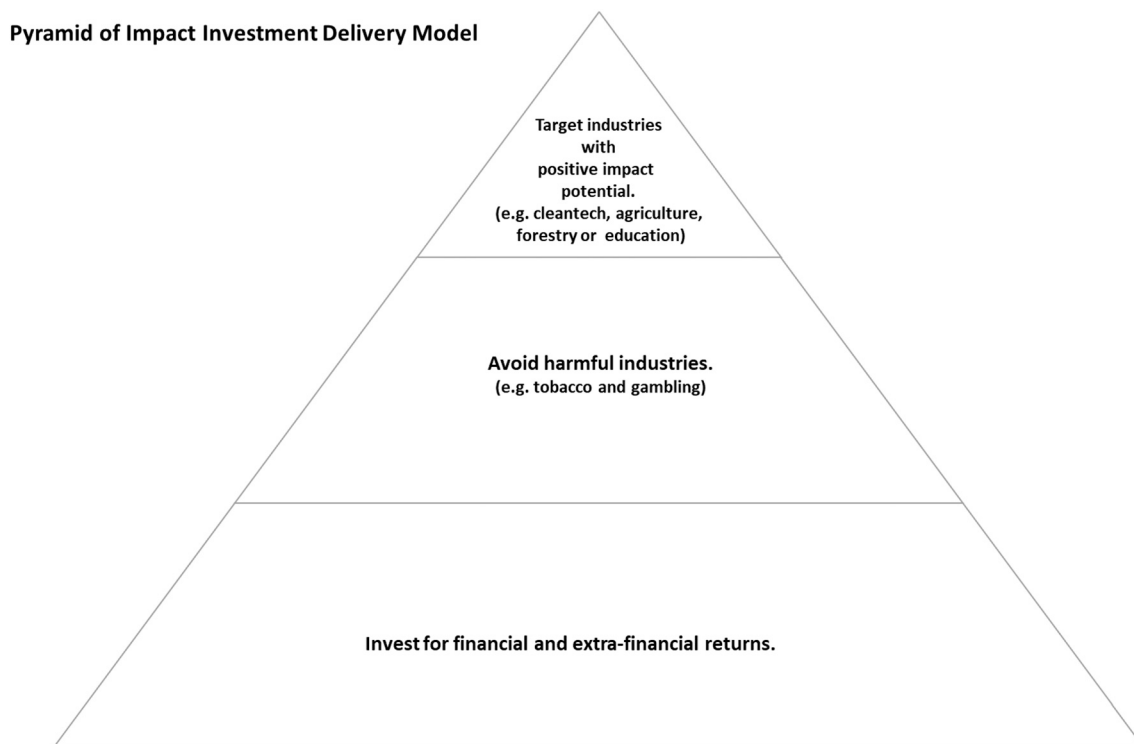


Fig. 3. Pyramid of impact investment delivery model based on study results.

of PE funds is most prominent in Europe, but absent in Africa (Table 7).

6. Discussion

Our paper set out to answer three questions which are underexplored in the impact investing literature, using large-scale statistical evidence from 8903 impact, ESG and conventional private market investment (PMI) firms from all over the world. The questions sought to unveil how do impact investors differ from ESG and conventional investors on i) firm characteristics; ii) investment preferences and iii) ownership; and how do these differences vary across different geographies?

We show that on average, impact investing firms are larger and younger than their peer ESG or conventional investment firms, across most geographies except Asia and Australasia. These results can be explained through the fact that impact investing as a movement has only established itself in the past decade in which it has grown exponentially, which means that it features a cohort of very young firms in addition to established private market incumbents which have also redefined their investment model to align it with the impact model. Given that the impact investing model is much more labour-intensive than conventional or ESG private equity investing, due to the need of the investor to deliver and measure financial and extra financial returns, it follows that impact investors tend to have a larger pool of employees. We find that the PMI firm domicile countries which are positively related to the impact investing model are in developing countries such as South Africa, Kenya, Nigeria or Costa Rica, but negatively related to countries in Asia such as China, Hong Kong or Japan. In Western Europe, Denmark and Netherlands feature as the most likely domicile for impact investors, compared to their ESG or conventional peers. This reflects a heterogeneity in both supply for impact investing financial products (i.e. Western Europe), but also demand of impact investing capital in countries on the African continent.

The paper further highlights more nuanced findings related to the investment preferences of impact, ESG and conventional private markets investors. Interestingly, both impact and ESG investors actively target industries such as agriculture, forestry, clean technologies or

education, as they have the potential to deliver both extra financial impact as well as an attractive risk-adjusted rate of return which passes the hurdle of ESG investors. The main difference however between the asset allocation of ESG investors and impact investors lies in their investment focus or lack thereof in controversial industries, such as “sin” industries like gambling, tobacco or weapons manufacturers, or in the fossil fuel industry, which has a high environmental externality footprint. As the impact investment model is focused on investing in solutions which provide positive environmental social externalities, as expected, it is negatively related with investments in “sin” industries and unrelated to fossil fuel investment. On the other hand, the ESG investment model does not preclude investors from focusing on industries such as fossil fuels, where we find a positive and significant relationship. In addition, we find that ESG investors in private equity do not necessarily actively avoid controversial industries, which suggests that the private equity industry is more likely to use the ESG lens from a risk management perspective (Crifo & Forget, 2013), while focusing on delivering the required risk adjusted rate of return (Eccles & Viviers, 2011). On the other hand, the underlying philosophy of impact investing results in investors clearly avoiding controversial sectors.

Our paper has argued and then shown that government ownership of private markets investment houses is positively and significantly related to the likelihood that the investment firm pursues an impact investment model. This finding supports the underlying assumption that there is an underlying incentive for the investment firm to align its objectives with the government, given the public accountability as well as the expectation that the government provides environmental and social benefits, in addition to economic growth (Calza et al., 2013; Dam & Scholtens, 2012; Li & Zhang, 2010; Mohd Ghazali & Weetman, 2006). Hence, we contribute to the body of literature on institutional theory, which considers that organizations are grounded in the regulatory, social and cultural environments which they operate in (Bruton, Ahlstrom, & Li, 2010; Scott, 1995). We show in this way that in the context of impact investing, governments can have an additional ‘soft’ normative role by influencing the policies of the investment arms it owns (in this case in private financial markets), in addition to its more obvious of regulating

impact investing through legislation or credit guarantees (Chen et al., 2014; Hargadon & Kenney, 2012; Tekula & Andersen, 2019). However, this finding seems to be driven by European investing firms, whereas none of the African private-equity firms in our database have a government ownership structure. This illustrates a potential difference between regions like Europe, where the EU Commission and individual EU member state try to foster innovation linked to their policy agenda, and the African continent, where private investing firms seek to attract capital from outside the continent and deploy it locally.

Through the insights unveiled in our paper and inspired by Carroll's pyramid of CSR (Carroll, 2016), we provide a pyramid of impact investment in Fig. 3.

7. Implications and conclusions

Drawing from the emerging literature on impact investing and the body of evidence on responsible investment, our empirical study unveils new insights with respect to impact investors, particularly in comparison with the firm characteristics, investment preferences and ownership of ESG and conventional private markets investment firms across different regions. We find that impact investors tend to be larger in employee pools. They are relatively younger than ESG or conventional investors with single primary objective. The difference between impact and ESG investing is probably most visible in their industry investment focus. While both are likely to invest in sectors which potentially yield positive environmental or social externalities (e.g. agriculture, forestry, cleantech or education), impact investors actively avoid controversial sectors such as gambling, tobacco or fossil fuels, whereas ESG investors tend to actively invest in fossil fuels and not necessarily avoid "sin" industries. In contrast with their ESG peers, impact investors are more likely to be owned by governments, although other types of ownership structure also feature such as corporate spin-offs and independent impact firms. We also show that the approach to impact investing vs. ESG investing on the African continent can be different to North America and Europe, in terms of the ownership and investment preferences.

Our paper has broad implications for future research on impact investing, for industry practice in impact investing as well as for policymakers looking to incentivise the growth of this promising sector. For academics looking to understand this emerging and dynamic field, studying how conventional or ESG incumbent investment firms make the transition from the original model to an impact investing model can further reveal nuances on the particularity of impact investing, but also the challenges that come with it. The impact investing model also provides ample room for theory development particularly with respect to asset allocation, which has evolved from Rudd's (1981) "inescapable conclusion" that excluding assets from a portfolio based on social (or environmental) criteria creates by default investment risk, to the more recent view that concentrated investment portfolios with good performance on environmental, social and governance risk factors either performed on par with conventionally diversified investment portfolios or in some cases even outperformed them (Clark, Emerson, & Thornley, 2014; Clark, Feiner, & Viehs, 2014; Derwall, Guenster, Bauer, & Koedijk, 2005; Friede, Busch, & Bassen, 2015; Hoepner, Oikonomou, Scholtens, & Schröder, 2016; Ibikunle & Steffen, 2015). Since impact investing manifests itself through a concentrated investment portfolio approach, which is also specific to the private equity model in general, understanding how impact and financial returns interact in the context of concentrated portfolios is also highly desirable. Policymakers looking to

incentivise the growth of impact investing can leverage the experience of the captive or spin-offs investment arms of government, which have already grown to be sizeable players in investment for impact.

Our study has limitations. While we provide a large-scale comparative analysis between impact, ESG and conventional private markets investment firms, our evidence is based on a cross-sectional dataset, given the challenge to identify when in time investment firms become impact investors. Our study may have a slight English-language bias, as our research process focused largely on investment firms that had an English-language website, or available presentations and press releases that can be automatically translated with software tools. We are unable to provide evidence with respect to other interesting aspects of impact investing such as whether impact investing funds achieve their stated goals, what the ethical implications of the deal screening and selection are or what the overall effectiveness of impact investing is. We leave these questions for further research.

Most crucially maybe, our dataset does not allow us to analyse the extent to which private market investment firms engage their investee firms to enhance impact in a way that for instance Dimson, Karakas, & Li (2021) or Hoepner, Oikonomou, Sautner, Starks, & Zhou (2022) can study engagement in public markets. While we know that impact is actively considered in the investment selection towards desirable sectors (e.g. agriculture, forestry, cleantech or education) and away from undesirable sectors, we are unable to compare such selection with improvement effects over time. Such comparison would, however, be crucial from a European Union Sustainable Finance Disclosure Regulation (SFDR) perspective which differentiates between two types of sustainable related funds, namely Article 8 funds which claim to consider ESG in the investment process, and Article 9 funds, which claim to target investments that deliver a substantial contribution to gradually achieving one or more environmental or social objectives. Paraphrasing Alain Deckers, head of the relevant EU FISMA unit, Article 9 funds claim to be walking the walk, while Article 8 funds claim to be talking the walk.⁴

Our study confirms that private market impact investment firms commence their walk in a suitable position. How much they are actually walking or just talking about walking has to be clarified in future research.

Declaration of Competing Interest

None.

Acknowledgments

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⁴ <https://bit.ly/3QpvVbf>

Appendix A. Appendix

Appendix A.1

Impact, fossil fuel and controversial industry mapping.

IRIS / GIIN Impact Industry Classification	PRI Market Map Impact Industry Classification	Preqin Industry Classification	Study Industry Classification
Agriculture, Land	Sustainable forestry and agriculture	Agriculture, Farmland, Timber, Timberland	Agriculture and Forestry
Energy	Energy Efficiency, Renewable Energy	Clean Technology, Environmental Services, Renewable Energy	Cleantech
Education	Education	Education, Training, Education Facilities	Education
Agriculture / Food Service	Sustainable Agriculture	Food	Food and Nutrition
Human health and social work activities	Health	Biomedical, Biotechnology, Healthcare, Healthcare IT, Medical Facilities, Life Sciences, Medical Devices, Medical Instruments, Medical Technologies, Predictive Medicine	Healthcare
Waste	N/A	Waste Management	Waste Management
Water	Water	Water	Water
N/A	N/A	Energy (other than low carbon energy), Metals and Mining, Mining, Oil & Gas	Fossil Fuels
N/A	N/A	Casino, Gambling	Gambling
N/A	N/A	Tobacco	Tobacco
N/A	N/A	Armaments	Weapons

Note: for a select number of sectors identified by GIIN / PRI as impact industries, we were not able to match them to the Preqin industry classification. These include green buildings, affordable housing, inclusive finance, biodiversity and conservation services.

Appendix A.2

Correlation matrix.

Variables	Obs	Mean	Std. Dev.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
[1] Log (Total Staff)	9146	2.234	1.283	1										
[2] Log (Firm Age)	9146	2.368	0.761	0.373	1									
[3] Private Equity Focus	9146	0.904	0.295	-0.408	-0.198	1								
[4] Real Estate Focus	9146	0.084	0.277	0.435	0.216	-0.718	1							
[5] Natural Resource Focus	9146	0.056	0.23	0.151	0.083	-0.112	0.022	1						
[6] Infrastructure Focus	9146	0.024	0.154	0.213	0.101	-0.250	0.091	0.470	1					
[7] Agriculture	9146	0.126	0.332	0.037	0.042	0.100	-0.070	0.160	0.011	1				
[8] Cleantech	9146	0.22	0.414	0.073	0.152	0.075	-0.085	0.174	0.186	0.289	1			
[9] Education	9146	0.158	0.364	0.049	0.054	0.098	-0.077	-0.002	0.061	0.196	0.208	1		
[10] Food	9146	0.164	0.37	0.042	0.102	0.127	-0.080	0.028	-0.018	0.340	0.218	0.260	1	
[11] Healthcare	9146	0.45	0.498	0.057	0.156	0.150	-0.107	-0.072	-0.002	0.178	0.273	0.301	0.221	1
[12] Waste	9146	0.007	0.085	0.145	0.074	-0.130	0.077	0.305	0.542	0.026	0.148	0.098	-0.003	0.047
[13] Water	9146	0.008	0.09	0.134	0.069	-0.139	0.060	0.315	0.538	0.035	0.148	0.104	-0.001	0.047
[14] Fossil Fuels	9146	0.259	0.438	0.125	0.175	0.057	-0.081	0.321	0.222	0.265	0.564	0.173	0.203	0.220
[15] Gambling	9146	0.006	0.076	0.044	0.042	0.020	0.029	0.013	0.035	0.080	0.064	0.066	0.095	0.041
[16] Tobacco	9146	0.002	0.043	0.039	0.022	0.005	0.042	0.023	0.01	0.083	0.051	0.051	0.077	0.043
[17] Weapons	9146	0.004	0.063	0.032	0.016	0.021	0.012	-0.008	0.001	0.059	0.074	0.072	0.060	0.060
[18] Bank Spin-off	9146	0.006	0.077	0.040	0.044	0.011	-0.008	0.018	0.025	-0.012	0.017	0.013	0.031	0.035
[19] Captive Arm of Bank	9146	0.015	0.121	0.051	0.087	-0.003	-0.008	0.025	0.034	0.027	0.046	0.011	0.021	0.019
[20] Captive Arm of Corporation	9146	0.093	0.291	0.076	-0.005	-0.002	0.018	-0.016	-0.011	0.01	0.012	-0.020	-0.014	-0.011
[21] Captive Arm of Government	9146	0.007	0.084	0.035	0.039	0.023	-0.026	-0.004	-0.005	0.043	0.059	0.013	0.012	0.039
[22] Corporate Spin-off	9146	0.016	0.126	0.039	-0.036	-0.005	0.011	0.029	0.031	0.022	0.011	0.028	0.018	0.023
[23] Government Spin-off	9146	0	0.021	0.008	0	0.007	0.013	0.018	0.065	-0.008	0.014	0.005	-0.009	0.013
[24] Independent Firm	9146	0.842	0.365	-0.162	-0.051	0.098	-0.019	-0.086	-0.158	-0.026	-0.062	-0.002	0.004	-0.006

Variables	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]
[12] Waste	1											
[13] Water	0.766	1										
[14] Fossil Fuels	0.144	0.145	1									
[15] Gambling	0.028	0.057	0.063	1								
[16] Tobacco	-0.004	-0.004	0.050	0.331	1							
[17] Weapons	-0.005	-0.006	0.064	0.177	0.317	1						
[18] Bank Spin-off	0.01	0.009	0.012	-0.006	-0.003	-0.005	1					
[19] Captive Arm of Bank	0	0.029	0.041	0.003	-0.005	0.021	-0.01	1				
[20] Captive Arm of Corporation	0.013	0.004	0.002	0.005	-0.014	-0.003	-0.025	-0.039	1			
[21] Captive Arm of Government	-0.007	0.007	0.042	-0.006	-0.004	-0.005	-0.007	-0.01	-0.027	1		
[22] Corporate Spin-off	-0.011	0.017	0.017	0.013	0.015	0.005	-0.01	-0.016	-0.041	-0.011	1	
[23] Government Spin-off	0.060	0.056	0.011	-0.002	-0.001	-0.001	-0.002	-0.003	-0.007	-0.002	-0.003	1
[24] Independent Firm	-0.087	-0.103	-0.066	-0.002	0.005	-0.001	-0.179	-0.283	-0.739	-0.195	-0.296	-0.048

References

- Addis, R., McLeod, J., & Raine, A. (2013). *Impact—Australia: Investment for social and economic benefit*. Canberra: Department of Education, Employment and Workplace Relations.
- Agrawal, A., & Hockerts, K. (2019a). Impact investing: Review and research agenda. *Journal of Small Business and Entrepreneurship*, 0(0), 1–29. <https://doi.org/10.1080/08276331.2018.1551457>
- Agrawal, A., & Hockerts, K. (2019b). Impact investing strategy: Managing conflicts between impact investor and investee social enterprise. *Sustainability (Switzerland)*, 11(15). <https://doi.org/10.3390/su11154117>
- Andrikopoulos, A. (2020). Social finance: An outline. *International Review of Financial Analysis*, 101519. <https://doi.org/10.1016/j.irfa.2020.101519>
- Ang, A., Chen, B., Goetzmann, W., & Phalippou, L. (2018). Estimating private equity returns from limited partner cash flows. *The Journal of Finance*, 73(4), 1751–1783. <https://doi.org/10.1111/jofi.12688>
- Arjalies, D., Chollet, P., Crifo, P., & Mottis, N. (2019). *Uncovering the diversity of impact assessment: Evidence from French investment professionals*.
- Bachher, J. S., Clark, G. L., Monk, A. H. B., & Sridhar, K. (2014). The valley of opportunity rethinking venture capital for long-term institutional investors. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2391005>
- Barber, B. M., Morse, A., & Yasuda, A. (2019). *Impact investing. Nber working paper series*.
- Benedikter, R., & Giordano, J. (2011). The outer and the inner transformation of the global social sphere through technology: The state of two fields in transition. *New Global Studies*. <https://doi.org/10.2202/1940-0004.1129>
- Biehl, C. F., Hoepner, A. G. F., & Liu, J. (2012). *Social, environmental, and trust issues in business and finance. Socially responsible finance and investing*.
- Bruton, G. D., Ahlstrom, D., & Li, H. L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship: Theory and Practice*. <https://doi.org/10.1111/j.1540-6520.2010.00390.x>
- Busch, T., Bruce-Clark, P., Derwall, J., Eccles, R., Hebb, T., Hoepner, A., et al. (2021). Impact investments: A call for (re)orientation. *SN Business & Economics*, 1(2), 1–13. <https://doi.org/10.1007/s43546-020-00033-6>
- Calza, F., Profumo, G., & Tutore, I. (2013). Does corporate ownership structure affect firms' environmental performance? Evidence in the European energy industry. *International Journal of Globalisation and Small Business*, 5(1–2), 58–77. <https://doi.org/10.1504/IJGSB.2013.050487>
- Carroll, A. B. (2016). Carroll's pyramid of CSR: Taking another look. *International Journal of Corporate Social Responsibility*. <https://doi.org/10.1186/s40991-016-0004-6>
- Castellas, E. I.-P., Ormiston, J., & Findlay, S. (2018). Financing social entrepreneurship. *Social Enterprise Journal*, 2. <https://doi.org/10.1108/SEJ-02-2017-0006>
- Center for Responsive Politics. (2018). *Kleiner, Perkins, Caufield and Byers lobbying records*.
- Chen, D., Li, S., Zehong, J., & Zou, H. (2014). The effect of government quality on corporate cash holdings. *Journal of Corporate Finance*, 27, 384–400. <https://doi.org/10.1016/j.jcorpfin.2014.05.008>
- Clark, C., Emerson, J., & Thornley, B. (2014). *Collaborative capitalism and the rise of impact investing*. San Francisco, CA: John Wiley and Sons.
- Clark, G. (2000). *Pension fund capitalism. OUP Catalogue*. Oxford University Press.
- Clark, G. L., Dixon, A. D., & Monk, A. H. B. (2013). *Sovereign wealth funds: Legitimacy, governance, and global power. Sovereign Wealth Funds: Legitimacy, Governance, and Global Power*. Smith School of Enterprise and the Environment, University of Oxford. United Kingdom: Princeton University Press.
- Clark, G. L., Feiner, A., & Viehs, M. (2014). From the stockholder to the stakeholder: How sustainability can drive financial outperformance. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2508281>
- Clarkin, John E., & Cangioni, Carole L. (2016). Impact Investing: A Primer and Review of the Literature. *Entrepreneurship Research Journal*, 6(2), 135–173. <https://doi.org/10.1515/erj-2014-0011>
- Cojoianu, T., Ascui, F., Clark, G. L., Hoepner, A. G. F., & Wojcik, D. (2021). Does the fossil fuel divestment movement impact new oil and gas fundraising? *Environmental Policies and Oil and Gas Financing*, 21(1). <https://doi.org/10.1093/jeg/lbaa027>
- Crifo, P., & Forget, V. D. (2013). Think global, invest responsible: Why the private equity industry goes green. *Journal of Business Ethics*, 116(1), 21–48.
- Cronin, J. D. (2004). *From ethical investment to investment ethics: Towards a normative theory of investment ethics*. Queensland University of Technology.
- Dam, L., & Scholtens, B. (2012). Does ownership type matter for corporate social responsibility? *Corporate Governance: An International Review*, 20(3), 233–252. <https://doi.org/10.1111/j.1467-8683.2011.00907.x>
- Derwall, J., Guenster, N., Bauer, R., & Koedijk, K. (2005). The eco-efficiency premium puzzle. *Financial Analysts Journal*, 61(2), 51–63.
- Dimson, Elroy, Karakas, Oguzhan, & Li, Xi (2021). Coordinated Engagements. *ECGI Working Paper Series in Finance*, 721.
- Doblinger, C., Surana, K., & Anadon, L. D. (2019). Governments as partners: The role of alliances in U.S. cleantech startup innovation. *Research Policy*, 48(6), 1458–1475. <https://doi.org/10.1016/j.respol.2019.02.006>
- Eccles, N. S., & Viviers, S. (2011). The origins and meanings of names describing investment practices that integrate a consideration of ESG issues in the academic literature. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-011-0917-7>
- Foundation, R. (2015). *Divestment statement*. Rockefeller Brothers Fund.
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- Geczy, C., Jeffers, J., Musto, D., & Tucker, A. (2017). In pursuit of good & gold: Data observations of employee ownership & impact investment. *Seattle University Law Review / Seattle University*, 40(2), 555–609.
- Geczy, C. C., Jeffers, J., Musto, D. K., & Tucker, A. M. (2020). Contracts with benefits: The implementation of impact investing. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3159731>
- GIIN. (2019). *IRIS+ thematic taxonomy*.
- Glänzel, G., & Scheuerle, T. (2016). Social impact investing in Germany: Current impediments from investors' and social entrepreneurs' perspectives. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 27(4), 1638–1668. <https://doi.org/10.1007/s11266-015-9621-z>
- Goldman, P., & Booker, L. (2015). Parsing impact investing's big tent. *Stanford Social Innovation Review*. https://ssir.org/articles/entry/parsing_impact_investings_big_tent Accessed 30 January 2020.
- Gray, J., Ashburn, N., Douglas, H., & Jeffers, J. (2015). *Great expectations: Mission preservation and financial performance in impact investing*.
- Hargadon, A. B., & Kenney, M. (2012). Misguided policy? Following venture capital into clean technology. *California Management Review*. <https://doi.org/10.1525/cmr.2012.54.2.118>
- Harji, K., & Jackson, E. T. (2012). *Accelerating impact: Achievements, challenges and what's next in building the impact investing industry*. New York, NY: The Rockefeller Foundation.
- Harris, R. S., Jenkinson, T., & Kaplan, S. N. (2014). Private equity performance: What do we know? *The Journal of Finance*, 69(5), 1851–1882. <https://doi.org/10.1111/jofi.12154>
- Hartzmark, S. M., & Sussman, A. B. (2019). Do Investors value sustainability? A natural experiment examining ranking and fund flows. *The Journal of Finance*, LXXIV(6).
- Hawley, J. P., Hoepner, A. G. F., Johnson, K. L., Sandberg, J., & Waitzer, E. J. (2014). Cambridge handbook of institutional investment and fiduciary duty. In *Cambridge handbook of institutional investment and fiduciary duty*. <https://doi.org/10.1017/cbo9781139565516>
- Hebb, T. (2013). Impact investing and responsible investing: What does it mean? *Journal of Sustainable Finance and Investment*. <https://doi.org/10.1080/20430795.2013.776255>
- Höchstädter, A. K., & Scheck, B. (2015). What's in a name: An analysis of impact investing understandings by academics and practitioners. *Journal of Business Ethics*, 132(2), 449–475. <https://doi.org/10.1007/s10551-014-2327-0>
- Hockerts, K., Hehenberger, L., Schaltegger, S., & Farber, V. (2022). Defining and conceptualizing impact investing attractive nucleus or catalyst. *Journal of Business Ethics*, 179(4). <https://doi.org/10.1007/s10551-022-05157-3>
- Hoepner, A. (2013). ESG investments – a breath of fresh air for the portfolio. https://www.db.com/cr/en/docs/Whitepaper_ESG_422.pdf
- Hoepner, A., Oikonomou, I., Scholtens, B., & Schröder, M. (2016). The effects of corporate and country sustainability characteristics on the cost of debt: An international investigation. *Journal of Business Finance & Accounting*, 43(1–2), 158–190. <https://doi.org/10.1111/jbfa.12183>
- Hoepner, A. G. F., Majoch, A. A. A., & Zhou, X. Y. (2019). Does an asset owner's institutional setting influence its decision to sign the principles for responsible investment? *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-019-04191-y>
- Hoepner, A. G. F., Oikonomou, I., Sautner, Z., Starks, L. T., & Zhou, X. (2022). ESG Shareholder Engagement and Downside Risk. Available at SSRN <https://ssrn.com/abstract=2874252>. <https://doi.org/10.2139/ssrn.2874252>
- Ibikunle, G., & Steffen, T. (2015). European green mutual fund performance: A comparative analysis with their conventional and black peers. *Journal of Business Ethics*, 145, 337–355.
- Karolyi, G. A., & Liao, R. C. (2017). State capitalism's global reach: Evidence from foreign acquisitions by state-owned companies. *Journal of Corporate Finance*, 42, 367–391. <https://doi.org/10.1016/j.jcorpfin.2016.02.007>
- Kim, S., & Li, Z. (2021). Understanding the impact of ESG practices in corporate finance. *Sustainability (Switzerland)*, 13(7), 1–15. <https://doi.org/10.3390/su13073746>
- Knight, E. R. W. (2011). The economic geography of European carbon market trading. *Journal of Economic Geography*, 11(5), 817–841. <https://doi.org/10.1093/jeg/lbq027>
- LeClair, M. S. (2014). Philanthropy in transition. *Philanthropy in Transition*. <https://doi.org/10.1057/9781137394484>
- Lehner, O. M., Harrer, T., & Quast, M. (2018). Legitimacy and discourse in impact investing: Searching for the holy grail. *Academy of Management Proceedings*, 1, 10935.
- Li, W., & Zhang, R. (2010). *Corporate social responsibility, ownership structure, and political interference: Evidence from China* (pp. 631–645). <https://doi.org/10.1007/s10551-010-0488-z>
- Mersland, R., Nyarko, S. A., & Sirisena, A. B. (2020). A hybrid approach to international market selection: The case of impact investing organizations. *International Business Review*, 29(1), Article 101624. <https://doi.org/10.1016/j.ibusrev.2019.101624>
- Mohd Ghazali, N. A., & Weetman, P. (2006). Perpetuating traditional influences: Voluntary disclosure in Malaysia following the economic crisis. *Journal of International Accounting, Auditing and Taxation*, 15(2), 226–248. <https://doi.org/10.1016/j.intaccudtax.2006.08.001>
- Nadauld, T. D., Sensoy, B. A., Vorkink, K., & Weisbach, M. S. (2019). The liquidity cost of private equity investments: Evidence from secondary market transactions. *Journal of Financial Economics*, 132(3), 158–181.
- Narain, S., Schmidt, J., Geglio, A., Gelfand, S., & Pease, M. (2012). *Collaborating to harmonize standardized metrics for impact investors*. Chicago, IL/New York, NY: National Community Investment Fund (NCIF)/Global Impact Investing Network (GIIN).
- O'Donohoe, N., Leijonhufvud, C., & Saltuk, Y. (2010). An emerging asset class. Rockefeller Foundation. *JP Morgan Social Finance*, November, 1–96.
- OECD. (2010). *Taxation, innovation and the environment*. Paris: OECD.

- OECD. (2017). *Green Investment Banks* (p. 6). <https://doi.org/10.1787/e3c2526c-en>
- Pacheco, D. F., Dean, T. J., & Payne, D. S. (2010). Escaping the green prison: Entrepreneurship and the creation of opportunities for sustainable development. *Journal of Business Venturing*, 25(5), 464–480. <https://doi.org/10.1016/j.jbusvent.2009.07.006>
- PRI. (2015). *Fiduciary duty in the 21st century*.
- PRI. (2018). *Impact investing market map*.
- Rajan, A. T., Koserwal, P., Keerthana, S., & Palmieri, D. (2014). The global epicenter of impact investing: An analysis of social venture investments in India. *Journal of Private Equity*, 17(2), 37–50. <https://doi.org/10.3905/jpe.2014.17.2.037>
- Roundy, P., Holzhauser, H., & Dai, Y. (2017). Finance or philanthropy? Exploring the motivations and criteria of impact investors. *Social Responsibility Journal*, 13(3), 491–512. <https://doi.org/10.1108/SRJ-08-2016-0135>
- Roundy, P. T. (2019). Regional differences in impact investment: A theory of impact investing ecosystems. *Social Responsibility Journal*. <https://doi.org/10.1108/SRJ-11-2018-0302> (January).
- Rudd, A. (1981). Social responsibility and portfolio performance. *California Management Review*, 23(4), 55–61. <https://doi.org/10.2307/41164931>
- Scott, W. R. (1995). *Institutions and organizations: Foundations for organizational science. America*.
- Simon, J., & Barmeier, J. (2010). *More than money: Impact investing for development*. Washington DC: Center for Global Development.
- Sparkes, R., & Cowton, C. J. (2004). The maturing of socially responsible investment: A review of the developing link with corporate social responsibility. *Journal of Business Ethics*. <https://doi.org/10.1023/B:BUSI.0000033106.43260.99>
- Tang, P., Yang, S., & Boehe, D. (2018). Ownership and corporate social performance in China : Why geographic remoteness matters. *Journal of Cleaner Production*, 197, 1284–1295. <https://doi.org/10.1016/j.jclepro.2018.06.288>
- Tekula, R., & Andersen, K. (2019). The role of government nonprofit and private facilitation of the impact investing marketplace.pdf. *Public Performance & Management Review*, 42(1), 142–161.
- Vestergaard, A., Murphy, L., Morsing, M., & Langevang, T. (2019). Cross-sector partnerships as capitalism's new development agents: Reconceiving impact as empowerment. *Business & Society*. <https://doi.org/10.1177/0007650319845327>
- Wilson, K. E., & Sager, M. (2016). *Investing for social impact in developing countries. Development co- operation report 2016: The sustainable development goals as business opportunities* (pp. 101–118). <https://doi.org/10.1787/dcr-2016-11-en>