Self-regulation in sustainable finance

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Self-regulation in sustainable finance: The adoption of the Equator Principles

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ABSTRACT

Critical to the success of the Sustainable Development Goals is the extent to which financial institutions are willing to adopt voluntary regulation aimed at ensuring their actions contribute positively. We study the adoption of the most well-known set of rules, the Equator Principles, by applying a network approach to a unique data set containing 18,729 collaborations of financial institutions funding projects between 2003 and 2014 worldwide. We find that those exposed to the highest level of peer pressure by adopters are 33% more likely to also adopt, compared to those that face the lowest level of peer pressure. Even without this peer pressure institutions that already collaborate with adopters are more susceptible to become adopters themselves. Finally, external pressure applied through public campaigns increases adoption, although particularly large (and presumably powerful) institutions are immune to this external pressure. Our findings are particularly relevant for success of the recently launched Principles for Positive Impact Finance, that are heavily inspired by the Equator Principles.

1. Introduction

"Achieving the Sustainable Development Goals [...] is expected to cost $5 to 7 trillion every year through 2030," according to Eric Usher, head of the United Nations (UN) Environment Finance Initiative (Vacherand, 2017). Hence, finding ways to *finance* the Sustainable Development Goals (SDGs) is a key element to its success. However, ensuring that financial institutions indeed contribute to the SDGs is not straightforward. In the words of Spinoza (1883, 20:35), "[H]e who seeks to regulate everything by law, is more likely to arouse vices than to reform them." Spinoza's words ring particularly true for environmental initiatives, which have transpired in many cases from the command and control regulation of the 1970s to voluntary self-regulation in the early 1990s (Barla, 2007; Kolk, van Tulder, & Welters, 1999).

In this paper, we focus on the adoption of the Equator Principles, a prime example of voluntary self-regulation that aims to ensure buy-in from the financial sector and to avoid imposing legislation. We ask why banks adopt the Equator Principles and answer this question by taking a relational approach to bank lending. In the eyes of the UN, "the Equator Principles provide a recognized risk management standard" (Abb, Feller, & Vacherand, 2017) for its successor, the Principles for Positive Impact Finance. Launched by the UN on January 30, 2017 as a private sector initiative, the Principles for Positive Impact Finance are intended to be "the tool that is needed to enable the business and finance community to work and innovate together, and to address the challenge of the UN Sustainable Development Goals" (Vacherand, 2017). With the long-term success of initiatives like the Principles for Positive Impact Finance and the Equator Principles depending on universal adoption (Haack, Schoenbeborn, & Wickert, 2012), it is important to understand what leads banks to adopt the Equator Principles. Not only do the Principles for Positive Impact Finance rely on the Equator Principles as one of its building blocks, the Equator Principles and the Principles for Positive Impact Finance are comparable as both are voluntary guidelines with a small group of initial adopters: 14 financial institutions for the Equator Principles and 19 for the Principles for Positive Impact Finance. Thus, understanding the Equator Principles adoption process can provide valuable guidance in how to advance the Principles for Positive Impact Finance towards universal adoption.

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The Equator Principles apply to a type of lending called project finance, consisting of loans to fund large, complex and capital-intensive investments. These project finance loans are typically syndicated by a group of banks that collaborate and each own a share of the loan. Typically, not all banks in a syndicate have adopted the Equator Principles. Thus, non-adopters may be susceptible as well as peer pressured to adopt the principles when syndicating loans with adopters. By mapping all project finance loans, we can study with whom adopters syndicate loans and how these collaborations assist in the uptake – or lack thereof – of the principles among banks active in the project finance lending market.

The core contribution of this study is formed by its emphasis on the role of inter-firm collaborations and their implications for the adoption of voluntary environmental practices. In this way, we contribute to two streams of literature. First, we contribute to the growing literature on voluntary measures taken by firms to improve their environmental performance (e.g.Anton, Deltas, & Khanna, 2004; Arimura, Hibiki, & Katayama, 2008; Barla, 2007; Khanna & Damon, 1999; King, Lenox, & Terlaak, 2005). We specifically consider that firms do not exist or operate in isolation but rather collaborate with other firms. We believe that these collaborations are essential in stimulating adoption. While in some circumstances, firms may block other firms from adopting certain business practices to gain market access, we study a setting where firms do not only compete but where collaboration is a main part of the game: the project finance syndicated lending market. Understanding the influence firms have on each other's choice to adopt environmental codes of conduct may help us understand why certain codes of conduct diffuse while others do not. Second, we contribute to the research on environmental self-regulation in financial markets. Despite an increasing attention to the importance of the global financial sector in the advancement of sustainable development in recent years, there is little research regarding financial institutions and their adoption of social and environmental codes of conduct (see for example Eisenbach, Schiereck, Trillig, & von Flotow, 2014; Macve & Chen, 2010; O'Sullivan & O'Dwyer, 2009; Scholtens & Dam, 2007; Wright & Rwabizambuga, 2006). There is, however, a growing stream of research mostly concerning the effects of environmental and social disclosure on market performance (e.g.Millon Cornett, Erhemjamts, & Tehranian, 2016; Mallin, Farag, & Ow-Yong, 2014; Platonova, Asutay, Dixon, & Mohammad, 2018), and socially responsible investments (e.g. Bello, 2005; Bauer, Koedijk, & Otten, 2005; Renneboog, ter Horst, & Zhang, 2008). As such, a gap in the literature exists concerning the adoption of social and environmental standards by financial institutions and our study fills this gap.

Our findings can easily be summarized. First, we find that peer pressure is indeed an important force in explaining the uptake of self-regulation in a collaborative environment. Once some players in the market have adopted the Equator Principles, they pressure others, i.e. those with whom they collaborate intensively, to adopt too. Second, next to peer pressure, we document an additional, independent effect: those banks that are more susceptible to adopters, i.e. banks who collaborate primarily with adopters rather than non-adopters, are more likely to adopt as well; however, more susceptibility does not lead to higher adoption rates. A third finding is that external pressure through public campaigns indeed positively affects the uptake of the principles by banks, but those that are particularly large (and presumably powerful) are relatively immune to this external pressure.

Our results are also important for policy makers. Even though the adoption of the Equator Principles does not seem to gain momentum, we do find that collaboration with adopters does facilitate the diffusion of the principles. Hence, for the Equator Principles to successfully spread, impactful financial institutions, i.e. those with whom banks collaborate, should sign. Considering that the Principles for Positive Impact Finance are rather comparable to the Equator Principles for both being voluntary environmental initiatives in the financial markets and having a similar number of initial adopters, our results can be viewed as a guide for understanding the conditions under which self-regulation like the Principles for Positive Impact Finance disseminates. Therefore, calling market champions to join the new Principles for Positive Impact Finance as soon as possible appears to be crucial for the success of these new principles and the financing of the Sustainable Development Goals.

This paper is organized as follows. Section 2 presents some background on the Equator Principles and their application to project finance lending. Section 3 presents our hypotheses. Section 4 presents the empirical strategy. Section 5 presents the sample data used. Section 6 contains the results, and Section 7 concludes.

2. Background on the Equator Principles

Prior to introducing our hypotheses concerning the adoption of the Equator Principles by banks, we find it suitable to provide some background on the origins and application of the Equator Principles.

Before 2003, an industry-wide legislation addressing the environmental and social risks associated with bank lending was non-existent (Esty & Sesia, 2005; Scholtens & Dam, 2007). In addition, for the type of lending that involves project finance – loan portfolios with a relatively small number of borrowers, borrowing large amounts, and with few defaults – international bank regulation often allows banks to deviate from standard credit risk models. As a result, the extent to which supervisors can directly exert pressure on banks through existing rules is limited.[1] During this time, banks were often targets of high-profile campaigns from Non-Governmental Organizations (NGOs) and other organizations for financing projects with significantly negative environmental and social damages (Macve & Chen, 2010; Wright, 2012). The lack of an industry-wide regulation to tackle social and environmental responsibility in combination with constant public campaigns pressured the banking sector to take further action. As a result, a set of voluntary guidelines called the Equator Principles were drafted and on June 4, 2003 eight banks announced their adoption (Esty & Sesia, 2005; Scholtens & Dam, 2007). The first eight adopters were Barclays (United Kingdom), Citigroup (United States), Crèdit Swisse Group (Switzerland), Crèdit Agricole (France), Rabobank (the Netherlands), Royal Bank of Scotland (Scotland), UniCredit Bank (Germany), and Westpac Banking Corporation (Australia), and by the end of its first year a total of 14 banks adopted the principles. As of the beginning of 2018, a total of 92 financial institutions from 37 countries have adopted the Equator Principles with each adopter committed to "[...] implementing the [Equator Principles] in their internal environmental and social policies, procedures and standards for financing projects and [...] not provid[ing] [p]roject [f]inance [...] where the client will not, or is unable to, comply with the [Equator Principles]" (The Equator Principles Association, 2013).

The Equator Principles apply to a specific type of bank lending called project finance, which is a form of long-term financing primarily used for infrastructure and development projects (Kleimeier & Megginson, 2000). Banks particularly syndicate project finance loans because of the large amounts of funding required for a typical project. In addition, forming a syndicate allows banks

[1] Since the Basel II accord, there is a special provision for what is called 'specialized lending.' Of course, behind closed doors bank supervisors may exert pressure (which we, by definition then, would not observe), but strictly speaking the provisions in the Basel II (and III) accord mean that banks themselves are allowed to come up with suggested ways they want to handle the risks in these portfolios, subject to approval of the supervisor.

to diversify their loan portfolios, share risks and monitoring skills (Dennis & Mullineaux, 2000; Ivashina & Scharfstein, 2010; Simons, 1993). Within a loan syndicate, banks are either lead arrangers or participants. Lead arrangers are the most active banks in the syndicate and in project finance loans they are responsible for conducting due diligence on the borrower and the project itself, negotiating the loan terms, guaranteeing an amount for a price range, developing covenants with lawyers, and constantly monitoring the progress of the project (Gatti, Kleimeier, Megginson, & Steffanoni, 2013).[2]

For lead arrangers that have adopted the Equator Principles, due diligence extends beyond financial analysis as these banks are required to conduct an environmental and social assessment of the project being financed (The Equator Principles Association, 2013).[3] Thus, syndicating project finance loans with other adopters may be particularly important because of the due diligence the Equator Principles require. In the Equator Principles, projects are classified into one of three categories: A, B or C. Category A projects have a "potentially significant adverse social or environmental impact that is diverse, irreversible or unprecedented" (The Equator Principles Association, 2013). Category B projects have a potentially limited adverse social or environmental impact that is site specific, mostly reversible and can be mitigated. Last, category C projects have a minimal or no social or environmental impact (The Equator Principles Association, 2013). When a project falls in either category A or B, social reviews and due diligence are carried out. Overall, banks prepare a set of assessment documents, management systems and plans. First, lead arrangers have to identify and address the project's potential risks and impact through an Environmental and Social Impact Assessment (ESIA) which is available online. In addition, audits regarding human rights, pollution standards, design criteria and/or construction standards may need to be conducted. As financing may originate in different countries with different legal systems, countries are classified into designated or non-designated countries.[4] For projects in non-designated countries, the Equator Principles require adherence to the International Finance Corporation's (IFC) Performance Standards on Environment and Social Sustainability and the World Bank Group Environmental, Health and Safety Guidelines. For projects in designated countries, the Equator Principles require adherence to the laws, regulations and permits pertaining to social and environmental issues of the host country. Finally, lead arrangers prepare public reports on their Equator Principles implementation processes and experiences at least once per year.[5]

In practice, many loan syndicates are managed by a mix of lead arrangers that have adopted the Equator Principles and others that have not. Arranging loans with adopters can influence those that are part of the same syndicate but have not yet adopted the Equator Principles to follow suit. In the next section, we will further elaborate on the relational mechanisms as well as other conditions that we expect to influence the adoption of the Equator Principles.

[2] Participants are passive syndicate members whose contribution is limited to funding the loan. See Gatti et al. (2013) for more information about the tasks that lead arrangers and participants perform during the project finance loan syndication process.

[3] For an overview on the history and details of the Equator Principles, see Scholtens and Dam (2007).

[4] The list of designated and non-designated countries can be found on the Equator Principles Association's website.

[5] Banks adopting the Equator Principles have as objective to structure projects to be more consistent with environmental and social responsibility (Macve & Chen, 2010). Nevertheless, there is no empirical evidence or study showing whether or to what extent the Equator Principles have advanced sustainable development.

3. Hypotheses

We now formalize a set of four hypotheses that allow us to assess the determinants that shape the adoption of the Equator Principles in project finance lending.

3.1. Peer pressure

Lead arrangers may pressure their peers to adopt the Equator Principles in order to socially legitimize the principles, to preempt more stringent regulation, and/or to share and thereby reduce implementation efforts. From a social legitimacy perspective, adopters benefit if the number of adopters reaches a critical mass (Westphal, Gulati, & Shortell, 1997; Tolbert & Zucker, 1983). That is, benefits accrue only if a sufficient number of firms -in our case banks- become adopters (Barla, 2007) thereby enhancing the reputation and credibility of the principles (Lenox, 2006; Potoski & Prakash, 2005). These legitimacy benefits are also expected to increase with the number of adopters (DiMaggio, 1991; North, 1990). In the case of the Equator Principles, banks gain legitimacy benefits in the form of "group recognition" (O'Sullivan & O'Dwyer, 2009). For example, once the number of adopters reached to a total of 31 in 2005, the Equator Principles website, which announces the most recent adopters, was released. Moreover, legitimacy benefits through group recognition offer prestige, credibility, and even differentiation from non-adopters (Anton et al., 2004; Barla, 2007; Cox Pahnke, Katila, & Eisenhardt, 2015; Wright & Rwabizambuga, 2006). Such group recognition is also reflected in the syndication patterns of adopters. According to Eisenbach et al. (2014), adopters of the Equator Principles tend to syndicate loans with other adopters more often than with non-adopters. When more banks adopt the principles, adopters do not only gain legitimacy benefits but also have a larger pool of potential syndicate partners to collaborate with for arranging project finance loans. As such, adopters seeking to increase their legitimacy benefits may opt to pressure their peers into adopting the Equator Principles as well.

Adopters have a strong incentive to make voluntary regulatory programs work. In case the voluntary programs do not work, costly and mandatory regulation may be implemented instead (Anton et al., 2004; Fleckinger & Glachant, 2011; Grajzl & Murrell, 2007; Lenox, 2006; Lenox & Nash, 2003; Maxwell, Lyon, & Hackett, 2000; Pistor & Xu, 2003; Segerson & Miceli, 1998). Since banks' environmental activities have been under scrutiny, the Equator Principles offer adopters a way to align their lending practices to mitigate possible mandatory regulation threats. There are a couple of reasons banks prefer having a voluntary rather than a mandatory environmental program. First, banks can weigh the benefits of adopting voluntary codes of conduct against the costs, and adopt when the benefits outweigh the costs (Scholtens & Dam, 2007). However, mandatory regulation imposes the same mandates on every firm in the market with equal costs to all (Esty & Chertow, 1997). Second, the voluntary nature of the principles allows for continuous improvement and adaptation to industry-wide and market needs. Mandatory international regulation, on the other hand, would be more complex,[6] and hence less flexible for continuous adaptations (Khanna & Anton, 2002). The costs and inflexibility of mandatory environmental regulation in the U.S. has driven a surge in voluntary environmental programs (Esty & Chertow, 1997). Last, interviews conducted by Macve and Chen (2010) suggest that banks perceive the Equator Principles as a successful initiative precisely because they are voluntary. Since firms can make voluntary pro-

[6] By complex, we mean that it would require different countries to agree on appropriate standards, whether the regulation would apply to all banks regardless of their lending strategies or size, disclosure rules, sanctions, etc.

grams work by fostering their adoption and thereby prevent mandatory regulation, adopters may opt to pressure their peers to also adopt the Equator Principles.

From a relational perspective, adopters also have an incentive to pressure non-adopters to adopt the Equator Principles or at least to simply become more aware of the environmental consequences of the projects they finance (Deringer, 2005). The extent to which adopters peer pressure their syndicate partners into adopting the Equator Principles may very well be related to reducing implementation costs. When adopters syndicate and arrange project finance loans with non-adopters, the former need to exert the effort in conducting the environmental and social due diligence required by the Equator Principles Association (The Equator Principles Association, 2013) because adopters are committed to the regulation while non-adopters are not. This provides adopters with an incentive to pressure non-adopters, for example, by pressuring non-adopters to raise their review processes to a level closer to compliance with the Principles.[7] With direct relationships enabling adoption processes (Ahuja, 2000; Aral & Walker, 2012, 2014; Guler, Guillén, & Macpherson, 2002; Haunschild, 1993; Westphal et al., 1997), we hypothesize that through loan syndicates adopters of the Equator Principles pressure their peers into becoming adopters. These peer pressure effects are expected to be stronger as adopters *concentrate* their collaborations with non-adopters as a way to reduce implementation costs.

With adopters committed for these various reasons to extend the voluntary program to other financial institutions, we expect adopters to peer pressure non-adopters with whom they arrange project finance loans. Through this peer pressure, adopters can reduce implementation costs in future syndicate collaborations while contributing to the social legitimization of the principles with more adopters through loan syndicate collaborations. Therefore, our first hypothesis reads:

Hypothesis 1. *Through peer pressure non-adopters are more prone to adopt the Equator Principles*

3.2. Susceptibility

The next aspect we consider is the extent to which non-adopters are susceptible to adoption when syndicating loans with adopters. Susceptibility to adoption has been recognized as an important and complementary determinant to models of influence (Aral & Walker, 2014; Watts & Dodds, 2007), or peer pressure in our case. As a result, we consider the possibility of lead arrangers adopting the Equator Principles when they are susceptible when collaborating with adopters.

We expect non-adopters that are vested in their collaborations with adopters to become susceptible to adoption. First, these non-adopters are exposed to the principles and their application. According to Benay, Maziotis, and Levac (2008) and Richardson (2005), when syndicates are formed by adopters and non-adopters, the latter are expected to improve their review processes to levels closer to compliance with the principles. Hence, through the syndication process, non-adopters are able to gather detailed information about what it is like to implement the principles (Levinthal & March, 1993; Haunschild & Miner, 1997). Thus, non-adopters that *concentrate* their collaborations with adopters may have to exert less effort in adopting the Equator Principles since they have already internalized many of the practices required for adoption. Anecdotal evidence also supports this claim. The China Development Bank started briefings on adopting the Equator Principles following increased collaboration with Barclays, an adopter of the Equator Principles (Chen, 2007). Second, these non-adopters may want to maintain their collaborations with adopters. Non-adopters with *concentrated* collaborations with adopters may run the risk of being displaced by another adopter since adopters of the Equator Principles tend to syndicate loans with different adopters (Eisenbach et al., 2014). While it is always possible for lead arrangers to syndicate loans with new partners, searching for new syndicate partners is a costly process (Baum, Rowley, Shipilov, & Chuang, 2005; Bos, Contreras, & Kleimeier, 2017). Hence, to increase their chance at maintaining their existing syndicate partners that happen to be adopters of the Equator Principles, lead arrangers may be prone to adopt the principles as well in order to facilitate the sustainability of current and future syndicate opportunities.

As a result, being able to continue arranging project finance loans with adopters of the Equator Principles, and the internalization of practices make lead arrangers that syndicate loans with adopters susceptible to adopt the Equator Principles. Hence, our second hypothesis reads:

Hypothesis 2. *Susceptible non-adopters are more prone to adopt of the Equator Principles*

3.3. External pressure

So far, we have considered the relations between adopters (exerting peer pressure) and non-adopters (being more or less susceptible to becoming adopters) in the adoption of the Equator Principles. However, because of the high visibility, size and impact of project finance, banks are subject to constant pressure from lobbyists and NGOs to align their corporate practices to better manage the environmental and social risks of their loans. These external pressures can also influence a bank adopting the principles.

Because of the non-recourse nature of project finance loans, being able to complete projects is of utmost importance for banks because the cash flows generated by completed projects serve as the source of funds to service loans (Esty, 2004). Hence, if external pressure leads to project closure, it severely impairs a bank's ability to recover its loan and often it implies serious losses (Macve & Chen, 2010). In project finance, an important source of external pressure is BankTrack: an international tracking and campaigning support organization consisting of a global network of more than 36 NGOs that monitors and tracks the financial activities of banks.

Loans "with a negative impact on people and planet" (BankTrack, 2016) receive NGO scrutiny when BankTrack's publishes them on their website and labels them as *dodgy deals*. Lead arrangers with such controversial deal records may be more likely to adopt the Equator Principles as a way to improve their corporate image and to avoid any negative financial consequences that NGO campaigning may bring – in the same manner as polluting firms that face public scrutiny are more likely to start adopting environmental standards (Blackman, Lahiri, Pizer, Planter, & Pina, 2010). Interviews conducted by O'Sullivan and O'Dwyer (2009) support this premise. They report that banks having experienced public criticisms led by NGOs were more likely to address the social and environmental concerns they were criticized for, and one such way to address these concerns could be adopting the Equator Principles. By becoming an adopter, the lead arranger would acquire an "environmentally friendly reputation" (pp.636Anton et al., 2004) while mitigating future campaigns against itself, environmental liabilities (Baron, 2001; Innes, 2006; Maxwell et al., 2000), and

[7] Non-adopters might resist this peer pressure when adoption costs are high. However, Scholtens and Dam (2007) show that both the start-up costs of hiring Equator Principles experts as well as conducting environmental and social due diligence for a given project amount to an insubstantially small fraction of the advisory fee earned. This equally applies to the susceptibility and external pressure arguments made in the next sections.

negative financial consequences. This leads us to our third hypothesis:

Hypothesis 3. *Non-adopters that face external pressure because they finance controversial deals are more prone to adopt the Equator Principles*

The impact of external pressure may not affect all lead arrangers in the same way: a big tree attracts the woodsman's axe. After the World Bank withdrew from funding the Three Gorges Dam construction project in China – because it was a threat to nature and wildlife – other private, large multinational banks jumped in as financiers. These banks were heavily and publicly scrutinized by a group of consumers, lobbyists, and NGOs (Hardenbrook, 2007; Wright & Rwabizambuga, 2006).

Major market players, when exposed to public campaigns, may be more inclined to adopt the Equator Principles because campaigns targeting them resonate particularly well with larger audiences. As a result, major banks that are publicly shamed can benefit more from adopting social and responsible standards (Anton et al., 2004; Scholtens & Dam, 2007) because they are able to signal improved business practices (Saunders & Allen, 2002; Scholtens & Dam, 2007; Wright & Rwabizambuga, 2006). Therefore, adoption allows these banks not only to improve their current public image but also to prevent future involvement in controversial deals (Anton et al., 2004; Arora & Cason, 1995; Barla, 2007; Benabou & Tirole, 2006; Kass & McCarroll, 2006; King et al., 2005; Macve & Chen, 2010; Maxwell et al., 2000; Potoski & Prakash, 2005; Scholtens & Dam, 2007; Short & Toffel, 2010). This brings us to our last hypothesis:

Hypothesis 4. *The effect of external pressure on the adoption of the Equator Principles is exacerbated for larger non-adopters.*

4. Empirical strategy

For all of our hypothesis tests, we are interested in the moment a lead arranger adopts the Equator Principles. That moment may never come but when it does, we want to know whether: pressure from collaborating adopters has played a role, some lead arrangers are more susceptible to adoption, and external pressure to correct public image moves a lead arranger to adopt. The process that may lead to adoption is therefore one of timing, momentum, and the interaction with peers.

Taken together, these elements inform our choice of variables as well as our empirical strategy. First and foremost, we focus on lead arranger pairs as our units of observation and not on the individual project deals. In order to assess the impact of peer pressure and susceptibility, we match each lead arranger i in project finance loans with each lead arranger partner j with whom it has arranged one or more loans. Working with pairs of lead arrangers allows us to account for bank-level characteristics when we proxy for peer pressure from one lead arranger onto the other and for the susceptibility of one lead arranger to its peer. In our empirical analysis we therefore have two types of variables: pair and lead arranger-level variables. All pair-level variables have subscripts ij or ji, and lead arranger-level variables are characterized by subscripts i or j.[8]

We require two things from our empirical setup in order to assess the impact that peer pressure, susceptibility and external pressure may have on the adoption of the Equator Principles. First, we need a setup where lead arrangers are allowed to adopt now, in the future, or never, in line with what we observe in practice. Second, adoption may also be influenced by changes in the size of the project finance market itself, and local institutional differences that we need to control for. For this reason, we need a multivariate setting. In order to meet these requirements, we estimate a Cox proportional hazards model. Eq. (1) summarizes our empirical setting:

$$\lambda_i(t) = \lambda_0(t)\exp[\beta_1 \text{Peer Pressure} + \beta_2 \text{Susceptibility} + \beta_3 \text{External Pressure} + \beta_4 \text{Controls}], \quad (1)$$

where the left-hand side term in Eq. (1) is the hazard – or likelihood – of lead arranger i adopting the Equator Principles at a time t. Importantly, in a Cox proportional hazards model that time may never come, just like we observe in practice. As a result, we do not have to worry about having censoring bias. On the right-hand side of the equation, we find a baseline hazard function, a set of variables, and a set of coefficients to be estimated. The first term on the right-hand side is the baseline hazard, $\lambda_0(t)$, a time-dependent unspecified term that allows environmental changes to be treated as an arbitrary function of time. This baseline function allows us to describe how the yearly likelihood of lead arrangers adopting the Equator Principles changes over time when the independent variables are equal to zero. Our set of independent variables includes Peer Pressure, our proxy for testing our first hypothesis; Susceptibility, our proxy for our second hypothesis; External Pressure, our proxy for testing our third and fourth hypotheses; and a set controls accounting for lead-arranger and market specific characteristics.

We introduce each variable used to estimate Eq. (1) in Sections 4.1, 4.2, and 4.3. Table 1 provides a summary of the description and the respective calculation of each of the variables used in our analysis.

4.1. Dependent variables

In survival analysis, the dependent variable is composed of two parts (Hosmer, Lemeshow, & May, 2008). The first is the time to the occurrence of an event. In this case, it is the number of years until lead arranger i adopts the Equator Principles. The second is the event itself. This corresponds to the status of lead arranger i concerning the adoption of the Equator Principles which we specify with a dummy variable, EP_i. This variable is equal to one if lead arranger i adopts or has adopted the Equator Principles and zero otherwise.

4.2. Independent variables

We now introduce our independent variables. For ease of exposition, we drop time subscripts. However, all the independent variables included in our estimations are with a one year lag. Since adoption processes and the timing of adoption typically depend on inter-firm interactions (Wejnert, 2002), our analysis concentrates on the pairing of two lead arrangers i and j. The focus is on lead arranger i as we are trying to gauge whether, when, and why this lead arranger decides to adopt the Equator Principles.

There are three key independent variables in our study. The first is Peer Pressure, which measures the extent to which lead arranger j may pressure lead arranger i into adopting the principles when lead arranger j arranges a substantial portion of its loans with lead arranger i. We hypothesize that peer pressure occurs when two conditions are met: (1) lead arranger j is an adopter of the Equator Principles; (2) lead arranger i arranges loans with lead arranger j. As a result, peer pressure is the interaction of two different variables:

$$\text{Peer Pressure} = EP_j \times \text{Concentration}_{ji}, \quad (2)$$

where EP_j is a dummy variable equal to one if lead arranger j is an adopter of the Equator Principles and zero otherwise;

[8] Since we study the project finance market between 2003 and 2014, our variables are time varying, but we exclude year subscripts.

Table 1
Variable description.

Variable	Description
Peer Pressure	Proxy for the extent to which lead arranger *i* is peer pressured by lead arranger$_j$: Peer Pressure = Concentration$_{ji}$ × EP$_j$
Susceptibility	Proxy for the extent to which lead arranger *i* is susceptible to adopt the Equator Principles when arranging loans with lead arranger *j*: Susceptibility = Concentration$_{ij}$ × EP$_j$
External Pressure	Proxy for the extent to which lead arranger *i* is subject to external pressures: External Pressure = Controversial Deals × Market Share
EP$_i$	Dummy variable equal to one if lead arranger *i* has adopted the Equator Principles and zero otherwise.
EP$_j$	Dummy variable equal to one if lead arranger *j* has adopted the Equator Principles and zero otherwise.
Concentration$_{ji}$	Ratio between the number of joint project finance loans arranged between lead arranger *i* and lead arranger *j* to the total number of project finance loans arranged by lead arranger *j* in t-1 times 100.
Concentration$_{ij}$	Ratio between the number of joint project finance loans arranged between lead arranger *i* and lead arranger *j* to the total number of project finance loans arranged by lead arranger *i* in t-1 times 100.
Controversial Deals	Measures whether lead arranger *i* has been the target of public campaigns led by BankTrack in the year prior to observation, i.e. t-1. We obtain such information from BankTrack who reports banks' financing activities of projects posing social and/or environmental challenges if implemented and labels them as "dodgy deals." The variable Controversial Deals is dummy variable equal to one if the lead arranger is involved in such deals in t-1.
Market Share	Market share measures the percentage of the project finance loan market a certain lead arranger *i* has in the previous observation period, t-1. We compute three different measures for market share: **Market Share %(Loan Amount)**: this variable is measured as the ratio of the sum of each project finance deal size in USD divided by the number of lead arrangers in the syndicate for each project finance loan arranged by each lead arranger to the total USD amount of all project finance loans issued times 100. **Market Share$_{all}$%(Loan Amount)**: this variable is measured as the ratio of the sum of each project finance deal size in USD arranged by each lead arranger to the total USD amount of all project finance loans issued times 100. **Market Share %(Number of Loans)**: this variable is measured as the ratio of the count of all project finance loans arranged by each lead arranger to the total number of project finance loans issued in the market times 100.
Number of PF Deals (Log)	Measures as the log of the count of all project finance loans arranged by each lead arranger at time t-1.
World Regions	Classifies lead arranger *i* into one of eight regions according to where its headquarters are. These regions are: Africa, Eastern Europe, Far East and Central Asia, Middle East, Oceania, South and Central America, USA and Canada, and Western Europe.
Market Size (Billions USD)	Sum of all project finance deals issued in t-1 expressed in billions USD.
Profitability	We use two different proxies to account for lead arranger *i*'s profitability: **Profitability (ROAA)**: Return on average assets in t-1 **Profitability (ROAE)**: Return on average equity in t-1
Size	We use three different size proxies for lead arranger *i*: **Size (Log Equity)**: Log-transformed total equity in t-1 **Size (Log Net Income)**: Log-transformed net income in t-1 **Size (Log Total Assets)**: Log-transformed total assets in t-1

Concentration$_{ji}$ is the share of syndicated project finance loans lead arranger *j* has arranged with this lead arranger *i* over the previous five years. We use a five-year history to permit us gauging the strength of the relationships between lead arranger *i* and lead arranger *j* more accurately and reliably by incorporating information on repeated collaborations over a number of years (Baum et al., 2005; Rowley & Baum, 2004). In a network setting, our variable Concentration$_{ji}$ is a measure of the strength of syndicate ties between lead arranger *i* and lead arranger *j* from lead arranger *j*'s perspective. It indicates how important lead arranger *i* is to lead arranger *j* and allows us to measure whether peer pressure really depends on characteristics of the relationship between a given pair (Aral & Walker, 2012). In the case of Peer Pressure, the variable EP$_j$ can be considered as a treatment effect like in Aral and Walker (2012, 2014) who test the peer influence effects of network interventions on adoption processes but call their variable *influence*. Similar measures to our variable Concentration$_{ji}$ have been used in the networks literature in different settings. For example, Guler et al. (2002) measure the importance of country *i*'s trade to country *j* in the diffusion of organizational practices; Aral and Walker (2012) measure the importance of user *i* to user *j* to proxy the influence of user *i* on user *j* adopting an online application; Aral and Walker (2014) used the importance of actor *i* to actor *j* to explain the purchasing behavior of actor *j*; and Bharath, Dahiya, Saunders, and Srinivasan (2011) measured the importance of relationship lending between borrower *i* to bank *m* as a determinant for loan pricing. For adopter *j* a higher value for Concentration$_{ji}$ implies that it collaborates mostly with lead arranger *i* and therefore adopter *j* needs sufficient resources to comply with the Equator Principles when arranging loans unless lead arranger *i* adopts the codes of conduct. Moreover, adopter *j* may also expect its syndicated partner *i* to raise its review process to be closer to compliance, which may increase adoption rates. Hence, as adopters concentrate their loan portfolios with non-adopters, we would expect adopters to pressure their peers to adopt the Equator Principles. Adopters are incentivized to do so for two reasons: (1) in syndicates with only adopters implementation costs are more equally shared among syndicate members, (2) a higher adoption rate legitimizes the Equator Principles thus avoiding legislation. As such, we expect Peer Pressure to have a positive effect on the adoption of the Equator Principles.

The second key variable to our analysis is Susceptibility. This variable measures the extent to which lead arranger *i* may be susceptible to adopt the Equator Principles when the share of syndicated project finance loans it arranges with adopter lead arranger *j* is high. Given lead arranger *i*'s incentive to maintain this relationship, it will be more prone to adopt the Equator Principles. Since we hypothesize that susceptibility occurs when (1) lead arranger *j* is an adopter of the Equator Principles, and (2) the extent to which the loans of lead arranger *i* are concentrated with lead arranger *j*, we operationalize susceptibility as an interaction term between EP$_j$ and Concentration$_{ij}$:

$$\text{Susceptibility} = \text{EP}_j \times \text{Concentration}_{ij} \quad (3)$$

where Concentration$_{ij}$ is the share of syndicated project finance loans lead arranger *i* has arranged with lead arranger *j* over the past five years. In a network setting, our variable Concentration$_{ij}$ is a

measure of the strength of syndicate ties between lead arranger *i* and lead arranger *j* from lead arranger *i*'s perspective. It indicates how important lead arranger *j* is to lead arranger *i*. The higher $\text{Concentration}_{ij}$, the more lead arranger *i* has an incentive to adopt the Equator Principles – if lead arranger *j* is an adopter – in order to maintain the relationship. Therefore, in line with our second hypothesis, we expect Susceptibility to have a positive effect on the adoption of the Equator Principles. Similar to Peer Pressure, the variable EP_j can be considered as a treatment effect like in Aral and Walker (2012, 2014) who also test the susceptibility of users to their peers in the presence of network interventions on adoption processes.

For external pressure to play a role in the adoption process, in line with our third hypothesis, there has to be a party outside of the syndicated lending market that can exert this external pressure. To operationalize such external pressure, we refer to Banktrack, a coalition of NGOs "campaigning for greater financial institution responsibility and accountability" (O'Sullivan & O'Dwyer, 2009, pp. 559)]. As part of its campaign for greater responsibility and accountabilty, Banktrack records and publishes project finance loans having "a negative impact on people and planet" (BankTrack, 2016). We therefore collect these data for all banks in our sample and create a dummy variable equal to one if lead arranger *i* has financed at least one project published by BankTrack in the year prior to the observation year and zero otherwise. We call this variable Controversial Deals. For testing our third hypothesis, the direct impact of Controversial Deals is all we are interested in, and we expect this variable to have a positive effect on adoption. That is to say, we expect lead arranger *i* to adopt the Equator Principles following its involvement in controversial deals.

Our fourth hypothesis builds on our third hypothesis but factors in the consideration that the big tree attracts the woodman's axe. That is, we expect lead arranger *i* to become more vulnerable to external pressure if it is a more dominant player in the syndicated lending market. Therefore, when testing our fourth hypothesis, we account for External Pressure as follows:

$$\text{External Pressure} = \text{Controversial Deals} \times \text{Market Share}, \quad (4)$$

for testing our fourth hypothesis, we interact Controversial Deals with Market Share since we expect major players in the market to experience a stronger external pressure following a controversial deal campaign by Banktrack. In line with this hypothesis, we expect External Pressure to have a positive effect on the adoption of the Equator Principles. That is to say, we expect key lead arranger *i* to adopt the Equator Principles following its involvement in controversial deals reported by Banktrack.

Since major players in the market are more prone to become adopters (Scholtens & Dam, 2007; Wejnert, 2002) because they may have more resources to adopt environmental programs (Christmann & Taylor, 2001; Hull & Rothenberg, 2008; Kiessling, Isaksson, & Yasar, 2016; Waddock & Grave, 1997), may be more visible and thus exposed to public campaigns (Henriques & Sadorsky, 1996; King & Lenox, 2000; Wright, 2012), or may want to prevent damages to corporate reputation (Wright & Rwabizambuga, 2006), we account for a lead arranger being a major player in the market using four different measures. Our first measure is the market share of the lead arranger. Banks with larger market shares are not only major players in the syndicated loan market in terms of performance (Dunbar, 2000), but they are also more reputable (Megginson & Weiss, 1991). Higher market shares place banks at the top of rankings called league tables used to compare banks in an industry (Podolny, 1993). Our second measure is the Number of PF Deals (Log), which accounts for the number of project finance loans arranged (Scholtens & Dam, 2007). In addition to these two measures, we use proxies for profitability and size in order to account for a lead arranger's role as a major player in the project finance market (Christmann & Taylor, 2001; King & Lenox, 2000; Kiessling et al., 2016; Scholtens & Dam, 2007). We do not rule out the possibility that lead arrangers adopt the principles in an attempt to improve their reputation vis-à-vis their peers and the rest of the market. Adopting the Equator Principles may grant more syndicate opportunities allowing lead arrangers to increase their market shares, thus improving their league table positions and hence reputation.

4.3. Control variables

The variables we account for in our analysis are included for at least one of the following five reasons: (1) earlier empirical research has shown the variable to have an effect on the adoption of the principles (Scholtens & Dam, 2007); (2) the variable is recognized in the literature on voluntary guidelines as influencing firm-level adoption decisions (e.g. Christmann & Taylor, 2001; Henriques & Sadorsky, 1996); (3) the variable has been used in empirical research addressing social contagion (e.g. Aral & Walker, 2012, 2014; Granovetter, 1978; Guler et al., 2002; Wejnert, 2002); (4) the variable measures some aspect of the project finance market dynamics (Esty, Chavich, & Sesia, 2014); (5) the variable captures some environmental characteristics (e.g. Barla, 2007; DiMaggio & Powell, 1983; Giuliani, Ciravegna, Vezzulli, & Killian, 2017; Liang & Renneboog, 2017; Wright & Rwabizambuga, 2006). With the variables included to test our four hypotheses, we address the first three reasons, in line with the literature. To ensure we also address the last two reasons, we proceed by introducing a number of control variables.

Since the project finance loan market is large and growing, adoption may be partially determined by its size. As a result, our first control is Market Size which accounts for market-driven adoption. This variable is measured as the sum of all project finance loans, in billion USD, issued every year. Existing research has shown that institutional pressures in certain contexts, countries or regions influence the choices of economic actors (Barla, 2007; DiMaggio & Powell, 1983; Giuliani et al., 2017; Liang & Renneboog, 2017). In particular, Wright and Rwabizambuga (2006) note that most adopters of the Equator Principles are located in Western Europe and North America suggesting that the regions where these lead arrangers originate from influence adoption. Therefore, we control for institutional differences and perceptions regarding the adoption of environmental and social standards using the world region where the lead arranger is headquartered. These world regions are Africa, Eastern Europe, Far East and Central Asia, Middle East, Oceania, South and Central America, USA and Canada, and Western Europe.

5. Sample

The loan-level data used in our analysis are from the Loan Pricing Corporation's DealScan database.[9] Lead arranger-level data are from Bureau van Dijk's Bankscope,[10] Orbis Bank Focus, Orbis as well as from the Equator Principles Association website. Project-level data are from BankTrack, mapped to each lead arranger in our

[9] DealScan is the main data source for research in syndicated lending (see for example Champagne & Kryzanowski, 2007; Dennis & Mullineaux, 2000; Francois & Missonier-Piera, 2007; Gatti et al., 2013; Godlewski & Weill, 2008; Godlewski, Sanditov, & Burger-Helmchen, 2012; Gopalan, Nanda, & Yerramilli, 2011; Ivashina & Scharfstein, 2010; Jones, Land, & Nigro, 2005; Sufi, 2007).

[10] Bankscope has been a commonly used database providing information about financial institutions (see for example Claessens, Demirguc-Kunt, & Huizinga, 2001; Scholtens & Dam, 2007) and replaced by Orbis Bank Focus as of 2017.

sample.[11] From DealScan, we obtain information on the syndicates formed to fund project finance loans in order to identify lead arrangers, the number and dollar amount of project finance loans they arrange, and with whom they co-arrange such project finance loans. From the second set of databases, we collect financial data about the lead arrangers identified in DealScan, as well as information on their country of origin. Through the Equator Principles Association's website, we collect data on whether and when the identified lead arrangers adopted the Equator Principles. From the data provided by BankTrack, we collect information on the controversial deals lead arrangers financed. Since the Equator Principles were drafted in 2003, we only consider lead arrangers arranging project finance loans between 2003 and 2014.

5.1. The adopters of the Equator Principles

Between 2003 and 2014, a total of 60 lead arrangers active in project finance lending have adopted the Equator Principles.[12] In 2003, the inception year, the four initiators ABN Amro (The Netherlands), Barclays (United Kingdom), Citigroup (United States), and WestLB (Germany) plus 10 other banks adopted the Equator Principles (Scholtens & Dam, 2007). These 14 banks represent 23.33% of all adopters in 2014. As Table 2 demonstrates, there is no evidence that the adoption process of the Equator Principles gains momentum: if anything, the adoption process appears to lose momentum after 2009.

In order to delve further into the geographical patterns in the adoption of the Equator Principles, we refer to Table 2, displaying the regions where the adopters in our sample are located. The adopters come from all over the world, with the exception of Eastern Europe (although 25 lead arrangers finance projects located in Eastern Europe). While most of the early adopters are from Western Europe, later on banks from Africa, the Far East and Central Asia also adopted the Principles. Interestingly, although Oceania has only 16 lead arrangers active in project finance, four of them are adopters of the Equator Principles. After Eastern Europe, the region with the fewest adopters is the Middle East with only Bank Muscat (Sultanate of Oman) and Ahli United Bank B.S.C. (Kingdom of Bahrain) having adopted the Principles. Taking a broader perspective, we see that adopters are mainly located in countries where the institutional environment is shaped by targeted advocacy campaigns organized by civil society groups, and have strong regulatory systems (Scholtens & Dam, 2007; Wright & Rwabizambuga, 2006). Therefore, it is not a surprise that 66.67% of all of our adopters are concentrated in Europe and in North America.[13]

5.2. Summary statistics

Table 3 reports the summary statistics of the key variables used in our main analysis.[14] Our sample consists of 18,729 observations representing the pairwise collaborations between lead arranger *i* and lear arranger *j*, with the focus of our analysis on lead arranger *i*. Since we do a pairwise analysis, if we observed the entire universe of syndicated project finance lending, each lead arranger *i* would also feature as a lead arranger *j* in our analysis, and vice versa. In practice, because of data availability and the use of lags, this not quite the case.[15] We can see this when we compare the adoption rates of arrangers *i* and *j*, respectively.

Of all the pairwise collaborations in our sample, 18.8% have a lead arranger *i* that is also an adopter of the Equator Principles, compared to 28.5% for lead arranger *j* (as variables EP_i and EP_j indicate respectively). For the average pairwise collaboration, the concentration looks as follows: lead arranger *i* shares 6.810% of its project finance loan collaborations with a specific lead arranger *j*; whereas, lead arranger *j* tends to share 7.489% of its their collaborations with lead arranger *i*. The minimum values of both concentration measures indicate that there are also lead arrangers that diffuse their syndicate collaborations to a far greater extent.

In 23.5% of all pairwise collaborations, lead arranger *i* has financed at least one project finance loan classified as a controversial deal in the year prior to the observation year. When we steer our attention to the variable Market Share % (Loan Amount) we can see that in the average pairwise collaboration lead arranger *i* has a market share of 0.527%. On one side of the spectrum, there is a single case in our sample where a syndicated project was exceptionally large: in 2011, Hana Daetoo Securities and Woori Bank (both in South Korea) were involved in a 73 billion USD loan for Hyundai Engineering & Construction Co Ltd. In this year, all project finance loans amounted to little more than 330 billion USD. The result is a market share of 7.62 and 7.637% (the maximum in Table 3), respectively. On the other side of the spectrum, we find Itaú Corpbanca (Chile) and BCI-Fomento SA (Mozambique) in 2010. They both have very low market shares, the result of arranging loans worth less than 200,000 USD in syndicates with less than five lead arrangers, and arranging larger loans close to one billion USD with more than ten lead arrangers.

Focusing on the variable Number PF Loans (Log), we observe that in the average pairwise collaboration lead arranger *i* arranges approximately six loans ($e^{1.783} = 5.948$), but the number of loans arranged varies substantially. The lead arranger with the most loans in our sample is Royal Bank of Scotland, which arranged a total of 64 loans in 2008 corresponding to the maximum value for Number PF Loans (Log). To gain a perspective of the magnitude of the project finance loan market, we turn to its Market Size measured in billions USD. During our observation period between 2003 and 2014, the average annual sum of all project finance loans issued amounts to 161.13 billion USD.

In order to understand what adopters of the Equator Principles are like and whether they are any different from those that do not adopt the principles, we present Table 4. In this Table, we test whether mean values for our variables are significantly different for non-adopters and adopters. We present two t-statistics, one where we assume equal variances for both groups, and one where we do not assume equal variances. In general, pairwise collaborations involving adopters *i* appear to be statistically different from those involving non-adopters *i* across the key characteristics used in this comparison at the 1% level of significance.

For the average pairwise collaboration, adopters *i* tend to collaborate with a larger number of different lead arrangers than non-adopters *i* as the significantly lower average Concentration[ij]

[11] We thank BankTrack for providing us with such project-level data, which is otherwise available through their website.

[12] An additional 17 banks adopted the Equator Principles during this time period but are not included in our sample for various reasons: (1) they always arrange loans individually and thus are not part of the network, (2) arrange project finance bonds rather than loans, (3) act as participants but not as lead arrangers in a small number of loans.

[13] Nine out of the 19 Principles for Positive Impact Finance initiators are also adopters of the Equator Principles. This is noteworthy because the Equator Principles is one of the building blocks of the Principles for Positive Impact Finance

[14] In Table 9, we show the correlations between these variables.

[15] Between 2003 and 2014, a total of 3,845 project finance loans are arranged by 761 unique lead arrangers of which 60 have adopted the Equator Principles by 2014. On average each of these project finance loans are arranged in syndicate containing 2.26 lead arrangers, with a median equal to one. The syndicate size is diverse and ranges between one and 36 lead arrangers. These syndicates give rise to 12,544 unique lead-lead pairings. As we consider these pairs during each of the 12 years in our observation period, our final sample size amounts to 18,729 pair-year observations. This number falls short of a maximum possible sample size equal to 6,949,452 unique pairs over time (761 unique lead arrangers $\times$760 available lead arrangers $\times$12 years) that can be formed since each pair does not jointly arrange loans each year.

Table 2
Regional distribution of adopters of the Equator Principles.

	Percentages (%)								
	Africa	Far East & Central Asia	Middle East	Oceania	South & Central America	USA & Canada	Western Europe	Total (%)	Total (#)
2003	0.00	1.67	0.00	1.67	0.00	5.00	15.00	23.33	14
2004	0.00	0.00	0.00	0.00	1.67	1.67	3.33	6.67	4
2005	1.67	1.67	0.00	0.00	0.00	3.33	0.00	6.67	4
2006	0.00	1.67	0.00	1.67	1.67	3.33	1.67	10.00	6
2007	0.00	0.00	1.67	1.67	0.00	1.67	6.67	11.67	7
2008	0.00	0.00	0.00	0.00	1.67	0.00	6.67	8.33	5
2009	6.67	0.00	0.00	0.00	0.00	0.00	5.00	11.67	7
2010	1.67	0.00	0.00	0.00	0.00	0.00	3.33	5.00	3
2011	0.00	0.00	1.67	0.00	0.00	1.67	3.33	6.67	4
2012	0.00	0.00	0.00	0.00	1.67	0.00	0.00	1.67	1
2013	0.00	1.67	0.00	0.00	0.00	0.00	5.00	6.67	4
2014	0.00	0.00	0.00	1.67	0.00	0.00	0.00	1.67	1
Total (%)	10.00	6.67	3.33	6.67	6.67	16.67	50.00	100.00	
Total (#)	6	4	2	4	4	10	30		60

This distribution concerns our sample of lead arrangers.

Table 3
Summary statistics.

	Mean	Std.Dev.	Min	Max
EP_i	0.188	0.391	0.000	1.000
EP_j	0.286	0.452	0.000	1.000
$Concentration_{ij}$ (%)	6.764	8.742	0.407	100.000
$Concentration_{ji}$ (%)	7.461	11.804	0.407	100.000
Controversial Deals	0.235	0.424	0.000	1.000
Market Share % (Loan Amount)	0.527	0.711	0.000	7.637
$Market\ Share_{all}$ % (Loan Amount)	5.342	5.698	0.000	31.181
Market Share %(Number of Loans)	2.474	2.778	0.202	15.657
Number PF Deals (Log)	1.784	0.881	0.693	4.159
Market Size (Billions USD)	161.142	62.961	52.787	251.542
Worldregion (Africa)	0.020	0.139	0.000	1.000
Worldregion (Eastern Europe)	0.011	0.106	0.000	1.000
Worldregion (Far East and Central Asia)	0.135	0.341	0.000	1.00
Worldregion (Middle East)	0.146	0.353	0.000	1.000
Worldregion (Oceania)	0.024	0.153	0.000	1.000
Worldregion (South and Central America)	0.016	0.125	0.000	1.000
Worldregion (USA/Canada)	0.090	0.286	0.000	1.000
Worldregion (Western Europe)	0.558	0.497	0.000	1.000

Unit of observation: pairwise collaborations. Number of observations is equal to 18,729. Years 2003 to 2014.

Table 4
Comparing pairwise collaborations where lead arranger *i* is an adopter vs. non-adopters of the Equator Principles.

	Means				t-test equality of meanst-statistics	
	Overall	Lead arranger *i* is Adopter	Lead arranger *i* is Non-adopter	Difference in means	Equal variances	Unequal variances
$Concentration_{ij}$ (%)	6.76	7.53	3.47	4.06	25.22***	36.42***
$Concentration_{ji}$ (%)	7.46	7.18	8.69	−1.51	−6.85***	−6.43***
Controversial Deals	0.23	0.19	0.42	−0.23	−29.61***	−25.75***
Market Share % (Loan Amount)	0.53	0.47	0.79	−0.32	−24.95***	−25.21***
$Market\ Share_{all}$ %(Loan Amount)	5.34	4.75	7.88	−3.13	−30.01***	−26.90***
Market Share % (Number Loans)	2.47	2.13	3.95	−1.82	−36.28***	−30.28***
Number PF Deals (Log)	1.78	1.65	2.34	−0.69	−43.73***	−43.71***
Observations	18,729	15,205	3,524			

Mean differences calculated only for the lead arranger-level variables used in our main analysis. Unit of observation: pairwise collaborations. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.

(%) for adopters – our measure for peer pressure – shows. In contrast, $Concentration^{ji}$ (%) is rather similar for the two groups. Among pairwise collaborations including adopters *i*, 42% are exposed to controversial deals compared to only 19% for non-adopters *i*. While it appears that adopters *i* are twice as likely to be involved in financing controversial deals, they are also involved in twice as many project finance collaborations.[16] This difference holds whether we use market share or the count of loans as a proxy.

[16] This is similar to what Scholtens and Dam, 2007 also report.

6. Results

We start by reviewing our estimation results and hypothesis tests. In Table 5 we estimate four different specifications to test the peer pressure, susceptibility and external pressure effects on the adoption of the Equator Principles by lead arrangers of project finance loans. While the four specifications are used to test the same set of hypotheses, they differ when it comes to the proxies used to test external pressure. Estimation results displayed in Table 5 show that our findings do not depend on the choice of a

Table 5
Adoption of the Equator Principles using Cox regression models.

	(1) Market Share %(Loan Amount)	(2) Market Share$_{all}$ %(Loan Amount)	(3) Market Share %(Number of Loans)	(4) Number PF Deals (Log)
Peer Pressure EP$_j$ × Concentration$_{ji}$ (%)	1.015***	1.014***	1.013***	1.013***
	[0.004]	[0.004]	[0.004]	[0.004]
Susceptibility EP$_j$ × Concentration$_{ij}$ (%)	1.047***	1.040***	1.036**	1.032**
	[0.018]	[0.015]	[0.015]	[0.013]
External Pressure				
Controversial Deals	1.672**	1.694***	1.629**	1.674**
	[0.348]	[0.338]	[0.351]	[0.375]
Controversial Deals × Market Share	0.628***	0.940***	0.895**	
	[0.099]	[0.022]	[0.040]	
Controversial Deals × Number PF Deals (Log)				0.679*
				[0.139]
Controls EP$_j$	1.056	1.047	1.045	1.037
	[0.068]	[0.064]	[0.063]	[0.059]
Concentration$_{ij}$ (%)	0.895***	0.909***	0.915***	0.938***
	[0.024]	[0.020]	[0.019]	[0.018]
Concentration$_{ji}$ (%)	1.004***	1.004***	1.002	1.000
	[0.001]	[0.001]	[0.001]	[0.001]
Market Share	1.423***	1.058***	1.141***	
	[0.147]	[0.014]	[0.029]	
Number PF Deals (Log)				1.829***
				[0.245]
Market Size (Billions USD)	1.002*	1.003***	1.003**	1.002
	[0.001]	[0.001]	[0.001]	[0.001]
World Region Dummies	Yes	Yes	Yes	Yes
Observations	18729	18729	18729	18729
Pseudo R^2	0.040	0.041	0.042	0.044
Log lik.	−29960.351	−29940.105	−29908.233	−29850.113
Chi-squared	132.766	119.659	110.986	121.609

Exponentiated coefficients. Standard errors in brackets. $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.
Regression (1) uses Market Share %(Loan Amount); regression (2) uses Market Share$_{all}$ %(Loan Amount); and regression (3) uses Market Share %(Number of Loans) as market share proxies respectively. All continuous variables used in interactions are mean-centered. Standard errors are clustered at the lead arranger *i* level.

specific proxy. Throughout, we report the hazard rates from the estimated Cox regressions, where hazard rates larger than one indicate a *positive* effect (i.e., higher likelihood of adopting the Equator Principles) and hazard rates smaller than one indicate a *negative* effect (i.e., lower likelihood of adopting the Equator Principles).

In our first hypothesis, we conjectured that adopters *j* may pressure lead arrangers *i* with whom they arrange project finance loans into adopting the Equator Principles. We referred to this effect as peer pressure, where peer pressure increases when adopters *j* concentrate their collaborations with a certain lead arranger *i*. Independent of the four different external pressure proxies used, hazard rates for peer pressure are consistently larger than one in all four regressions. These results support our peer pressure hypothesis: as adopters *j* concentrate their syndicates, lead arrangers *i* are more prone to adopt the Equator Principles. With our second hypothesis, we conjectured that lead arranger *i* may be susceptible to adopt the Equator Principles in order to continue arranging loans with peers *j* with whom they have a large vested interest in the form of jointly syndicated loans. The hazard rate for susceptibility is larger than one throughout all four regressions, in support of this susceptibility hypothesis.

To set the baseline for the extent to which arranging loans with adopters results in lead arrangers adopting the Equator Principles, we introduce Fig. 1. In this Figure, we plot the cumulative hazard through time of a lead arranger adopting the principles when arranging loans with an adopter (black line) and a non-adopter (gray line), respectively, given that it has an average Concentration^{ji} and Concentration^{ij}. Although the Figure shows that arranging loans with adopters may drive lead arrangers to become adopters themselves, it also demonstrates that on average the impact of working with an adopter – vs. working with a non-adopter – appears to be rather small.

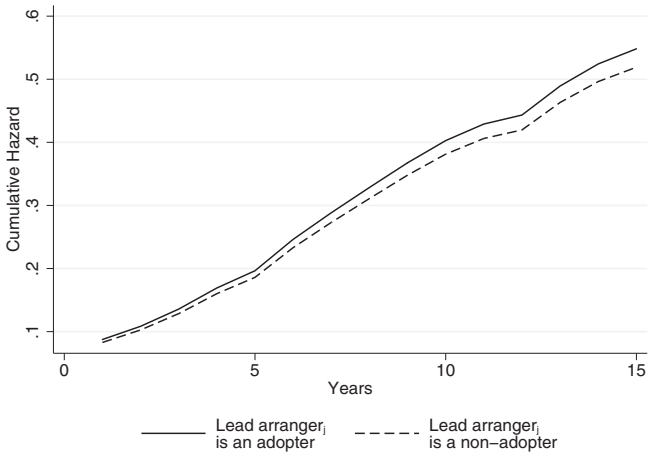
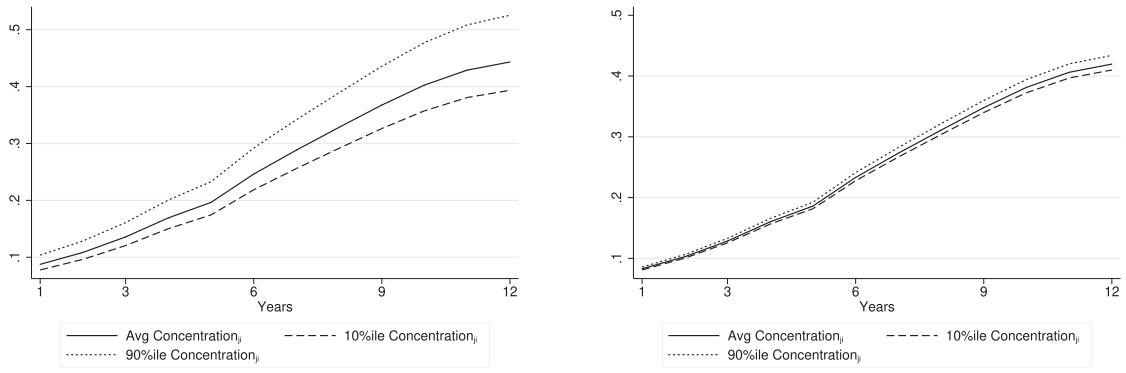


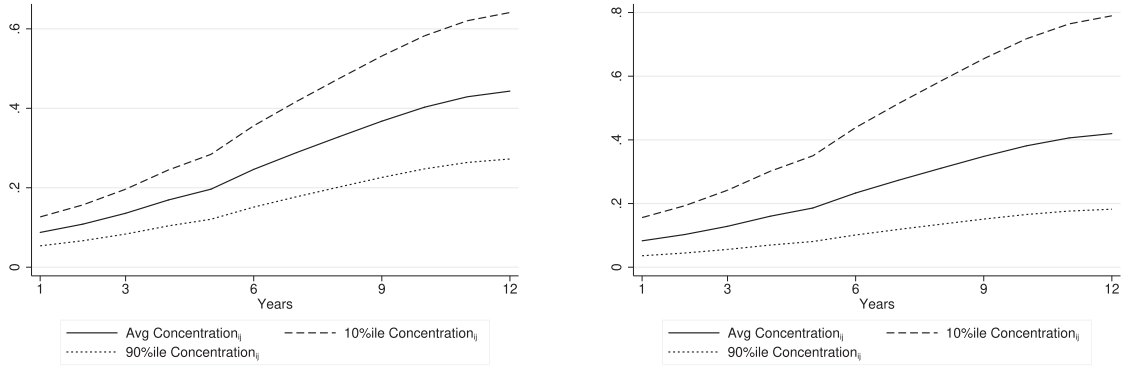
Fig. 1. Baseline results. Cumulative hazard for a lead arranger adopting the Equator Principles when arranging project finance loans with an adopter vs. a non-adopter and peer pressure and susceptibility equal to their averages based on the results reported in regression (1) in Table 5.

The picture changes, however, once we account for different levels of peer pressure and susceptibility, in line with our first and second hypothesis. Figs. 2 and 3 depict how different levels of Concentration$_{ji}$ and Concentration$_{ij}$ affect the hazard of adoption, respectively. In each of the panels in Fig. 2, the solid black line corresponds to lead arranger *j* being an adopter and lead arranger *j* being an non-adopter, respectively. In Fig. 2's panel (a) the solid



(a) Lead arranger j is an adopter (b) Lead arranger j is a non-adopter

Fig. 2. Peer pressure results. Cumulative hazard rates for different levels of Concentration$_{ji}$: average, 10th and 90th percentiles, each corresponding to 7.461, 1.010 and 16.667, respectively based on the results reported in regression (1) in Table 5. The figure on the left-hand side shows different cumulative hazard rates when lead arranger j is an adopter; whereas the figure on the right-hand side shows different cumulative hazard rates when lead arranger j is a non-adopter.



(a) Lead arranger j is an adopter (b) Lead arranger j is a non-adopter

Fig. 3. Susceptibility results. Cumulative hazard rates for different levels of Concentration$_{ij}$: average, 10th and 90th percentiles, each corresponding to 6.764, 1.064 and 14.286, respectively based on the results reported in regression (1) in Table 5. The figure on the left-hand side shows different cumulative hazard rates when lead arranger j is an adopter; whereas the figure on the right-hand side shows different cumulative hazard rates when lead arranger j is a non-adopter.

black line thus again represents the cumulative hazard of adoption when lead arranger i collaborates with an adopter j and has an average level of Concentration$_{ji}$, our measure of peer pressure. Being exposed to higher levels of peer pressure speeds up the rate of adoption as indicated by the fact that the adoption rate for a bank facing strong peer pressure – a Concentration$_{ji}$ level equal to the 90th percentile (gray solid line) – is above the adoption rate for a bank facing weak peer pressure – Concentration$_{ji}$ level equal to the 10th percentile (gray dashed line). Ultimately, after 12 years, lead arrangers i exposed to peer pressure at the 90th percentile adopt the Equator Principles at a rate of 55% compared to the 40% adoption rate of lead arrangers i exposed to peer pressure at the 10th percentile. In contrast, panel (b) shows that different levels of concentration with a non-adopter hardly affect the rate of adoption. Hence, we find strong support for our first hypothesis.

Similarly, in Fig. 3's panel (a) the solid black line again represents the cumulative hazard of adoption when lead arranger i collaborates with an adopter j and has an average level of Concentration$_{ij}$, our measure of susceptibility. Being exposed to higher levels of susceptibility reduces the rate of adoption as indicated by the fact that the adoption rate for a bank with strong susceptibility – a Concentration$_{ij}$ level equal to the 90th percentile (gray solid line) – is below the adoption rate for a bank with weak susceptibility – a Concentration$_{ij}$ level equal to the 10th percentile (gray dashed line). Ultimately, after 12 years, lead arrangers i exposed to susceptibility at the 90th percentile adopt the Equator Principles at a rate of about 30% compared to the 65% adoption rate of lead arrangers i exposed to susceptibility at the 10th percentile. Panel (b) shows that this pattern is roughly similar when a lead arranger works with a non-adopter. This may suggest that lead arrangers may prefer to maintain flexibility in the loans they arrange without explicitly adopting the principles. We have pointed that lead arrangers have to comply with the Equator Principles when arranging loans with adopters. Thus such collaborations allow non-adopters to learn about and internalize the principles without explicitly adopting them. This might be particularly the case for those lead arrangers that collaborate intensely with adopters. Benay et al. (2008) and Richardson (2005) show that when non-adopters syndicate loans with adopters, the former have to improve their review processes and thus internalize some of the practices required by the Equator Principles. Without adopting the Equator Principles, these lead arrangers may still be attractive syndicate partners for adopters because of the learning process they have endured from arranging Equator Principles-compliant loans. Furthermore, lead arrangers i may prefer to remain flexible with the loans they are able to arrange and finance. By not adopting the principles, these lead arrangers are able to arrange loans with non-adopters without needing to be compliant thus not losing

Table 6
Effects of initial and subsequent adopters in the adoption of the Equator Principles using Cox regression models.

	(1) Market Share %(Loan Amount)	(2) Market Share$_{all}$ %(Loan Amount)	(3) Market Share %(Number of Loans)	(4) Number PF Deals (Log)
Peer Pressure				
Initial adopter × Concentration$_{ji}$ (%)	1.014**	1.012**	1.009	1.008
	[0.007]	[0.006]	[0.006]	[0.006]
Subsequent adopter × Concentration$_{ji}$ (%)	1.015***	1.014***	1.015***	1.014***
	[0.004]	[0.004]	[0.004]	[0.004]
Susceptibility				
Initial adopter × Concentration$_{ij}$ (%)	1.058**	1.052**	1.046**	1.038**
	[0.025]	[0.022]	[0.021]	[0.018]
Subsequent adopter × Concentration$_{ij}$ (%)	1.046**	1.039**	1.035**	1.033**
	[0.021]	[0.018]	[0.017]	[0.015]
External Pressure				
Controversial Deals	1.666**	1.689***	1.623**	1.669**
	[0.348]	[0.339]	[0.351]	[0.376]
Controversial Deals × Market Share	0.629***	0.940***	0.896**	
	[0.100]	[0.022]	[0.040]	
Controversial Deals × Number PF Deals (Log)				0.680*
				[0.139]
Controls				
Initial adopter	1.083	1.069	1.048	1.036
	[0.086]	[0.079]	[0.075]	[0.068]
Subsequent adopter	1.057	1.049	1.055	1.048
	[0.076]	[0.072]	[0.071]	[0.067]
Concentration$_{ij}$ (%)	0.891***	0.905***	0.911***	0.934***
	[0.025]	[0.020]	[0.020]	[0.018]
Concentration$_{ji}$ (%)	1.004***	1.004**	1.002	1.000
	[0.001]	[0.001]	[0.001]	[0.001]
Market Share	1.416***	1.057***	1.140***	
	[0.146]	[0.014]	[0.029]	
Number PF Deals (Log)				1.815***
				[0.242]
Market Size (Billions USD)	1.002*	1.003***	1.003**	1.002
	[0.001]	[0.001]	[0.001]	[0.001]
World Region Dummies	Yes	Yes	Yes	Yes
Observations	18729	18729	18729	18729
Pseudo R^2	0.040	0.041	0.042	0.044
Log lik.	−29942.457	−29923.417	−29891.945	−29836.156
Chi-squared	6210.650	121.685	113.129	7331.166

Exponentiated coefficients. Standard errors in brackets. $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.
Regression (1) uses Market Share %(Loan Amount); regression (2) uses Market Share$_{all}$ %(Loan Amount); and regression (3) uses Market Share %(Number of Loans) as market share proxies respectively. All continuous variables used in interactions are mean-centered. Standard errors are clustered at the lead arranger *i* level.

lucrative business (Wörsdorfer, 2013). Hence, by not adopting the principles, lead arrangers gain a competitive advantage over adopters. Nevertheless, those lead arrangers *i* with a low susceptibility, may be more incentivized to adopt the principles in order to improve their reputation (Macve & Chen, 2010) and chances to syndicate loans with adopters.

With our third hypothesis, we conjectured that through external pressure, which includes public naming and shaming by NGOs, lead arrangers would adopt the Equator Principles. Adoption would then help them improve their corporate image and mitigate further campaigns that negatively affect project performance. Hence, we expect lead arrangers involved in controversial deals to become adopters. With a hazard rate larger than one for Controversial Deals in all regressions in Table 5, we conclude that lead arrangers indeed are more likely to adopt the Equator Principles following a targeted controversial deal campaign. In order to understand the extent to which controversial deals influence adoption, let us evaluate the result obtained in the first regression. For a lead arranger with an average market share, adoption is 67.2% more likely to happen following a controversial deal as opposed to none.[17] Hence, these results support our third hypothesis, since we find that external pressure manifested through controversial deal campaigns does encourage lead arrangers to adopt the Equator Principles.

With our fourth hypothesis, we conjectured that the effect of external pressure is likely to increase when the lead arranger in question is a major player. However, we find that the effectiveness of external pressure decreases for larger lead arrangers. A hazard rate lower than one for the interaction effect between controversial deals and market share (and number of project finance loans arranged), indicates that the effectiveness of campaigns around controversial deals decreases with the size of the lead arranger being targeted.[18] This may suggest that the exposure lead arrangers receive from public scrutiny is only effective when lead arrangers are smaller and want to increase their market position by adopting the Equator Principles. To illustrate, we will use the results from our first regression. Consider a lead arranger that has been involved in controversial deals and increases its market share by 1%: we find that the rate of adopting the Equator Principles decreases by about 11%. When this lead arranger increases its market share by 5%, the rate of adoption decreases by 43%. Our results are comparable to Henriques and Sadorsky (1996), who find that firms with a higher profitability (sales-to-assets ratio) are less prone to implement envi-

[17] Regardless of which regression we consider, the effect of controversial deals on adoption is large and ranges between 67.22% and 69.4%.

[18] We consider lead arranger *i* with an average market share and number of PF Deals. Since we mean-center all continuous variables used in interactions, the average market share and number of PF Deals are zero. Thus, for the average lead arranger *i* we can look at the coefficient of Controversial Deals to explain the marginal effect of external pressure.

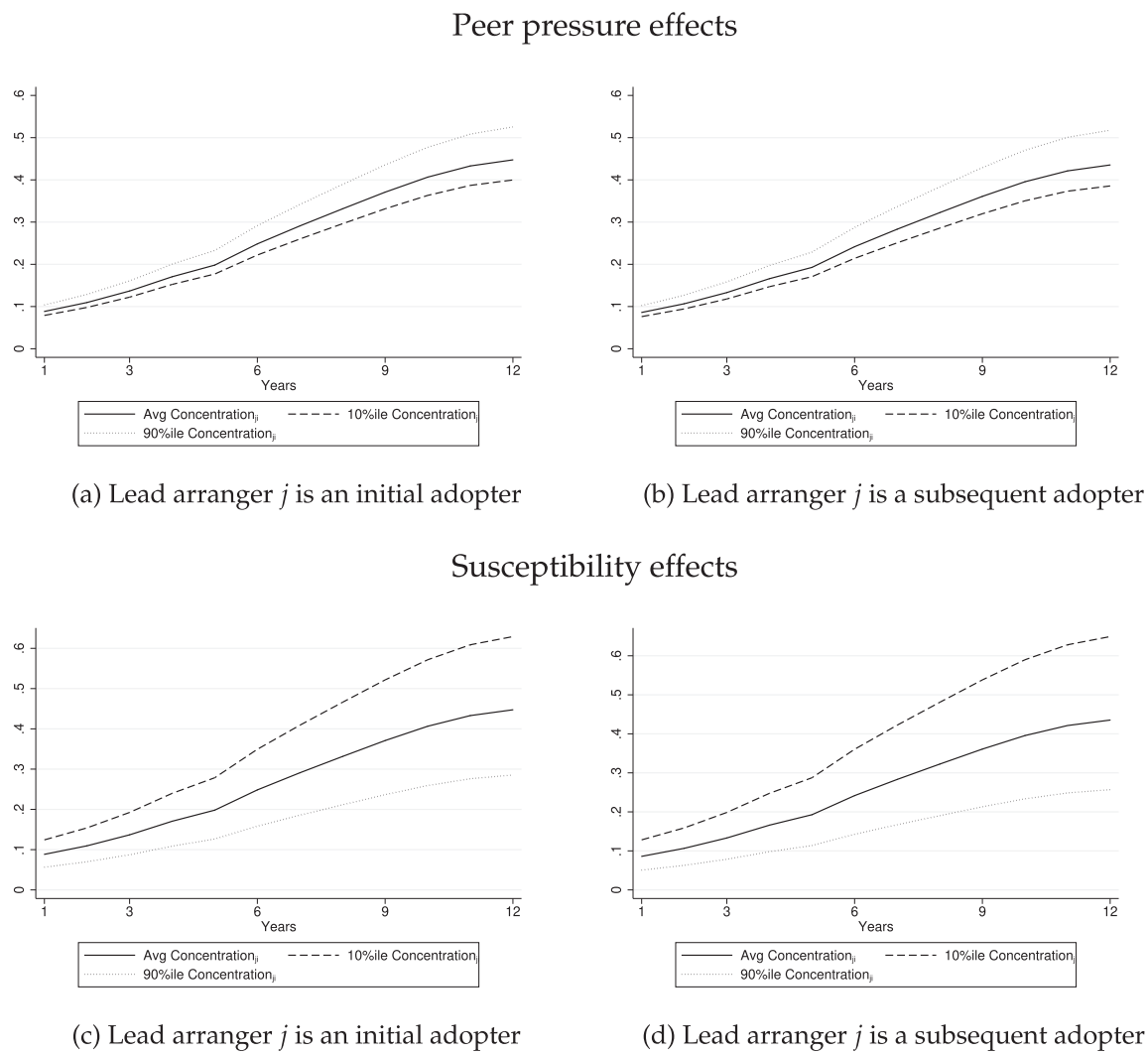


Fig. 4. Peer pressure and susceptibility effects of initial and subsequent adopters. Cumulative hazard rates based on the results reported in regression (1) in Table 6 for different levels of Concentration$_{ji}$: average, 10th and 90th percentiles, each corresponding to 7.461, 1.010 and 16.667, respectively; and different levels of Concentration$_{ij}$: average, 10th and 90th percentiles, each corresponding to 6.764, 1.064 and 14.286, respectively. The figures on the left-hand side shows different cumulative hazard rates when lead arranger j is an initial adopter; whereas the figures on the right-hand side shows different cumulative hazard rates when lead arranger j is a subsequent adopter.

ronmental plans. In our case, it seems plausible that lead arrangers i having a large market share and facing public scrutiny do not adopt the principles for two main reasons. First, adopting the Equator Principles may be a costly strategy for these lead arrangers. Becoming an adopter would directly affect their market position because they would need to become more selective on the projects they would finance in order to stay compliant. Second, adoption of codes of conduct is typically associated with reputational gains (Richardson, 2005; Wright & Rwabizambuga, 2006). However, lead arrangers with large market shares are perceived as already being reputable, *de facto*, within the market (Carter, Dark, & Singh, 1998; Megginson & Weiss, 1991). Hence, the incentive to adopt the principles for reputation purposes is lower.

Finally, the impact of market conditions on the likelihood of adopting the Equator Principles is weakly significant, as the hazard rate for Market Size (Billions USD) shows. Still, a larger market may offer more opportunities for adopters as the principles become socially legitimized. Given that the average project finance loan is approximately one billion USD (Esty & Megginson, 2003), having one additional loan in the market increases the rate of adoption by 0.2% for the average lead arranger i collaborating with an arranger j.

6.1. Importance of initial adopters

There are various reasons to think that the initial group of adopters has been pivotal in the adoption of the Equator Principles by other banks. For example, the initial adopters had a dominant market position upon adoption (Haack et al., 2012); initial adopters may have the incentive to proliferate adoption in order to potentially reap any first-mover benefits (Macve & Chen, 2010); and initial adopters may strongly embrace the principles and advocate for their widespread adoption. Equally important, existing theoretical research in diffusion points at the importance of early-stage adopters in causing others to adopt in later stages for fear of losing legitimacy or losing their competitive advantage (Abrahamson & Rosenkopf, 1990, 1993; Meyer & Rowan, 1977). Hence, we analyze the extent to which the initial group of adopters has been crucial in the adoption of the Equator Principles by other banks. Table 6 reports our results.

Table 7
Adoption of the Equator Principles using Cox regression models and a sub-sample of 9,284 observations.

	(1) Profitability (ROAA)	(2) Profitability (ROAE)	(3) Size (Log Equity)	(4) Size (Log Net Income)	(5) Size (Log Total Assets)
Peer Pressure $EP_j \times Concentration_{ji}$ (%)	1.009***	1.008***	1.004	1.006**	1.006**
	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]
Susceptibility $EP_j \times Concentration_{ij}$ (%)	1.046**	1.046**	1.014	1.024*	1.019
	[0.021]	[0.021]	[0.012]	[0.014]	[0.013]
External Pressure					
Controversial Deals	1.188	1.227	1.653	1.943**	1.668
	[0.248]	[0.267]	[0.563]	[0.516]	[0.557]
Controversial Deals × Profitability	0.911	0.972			
	[0.122]	[0.026]			
Controversial Deals × Size			0.692*	0.648***	0.655**
			[0.142]	[0.090]	[0.114]
Controls					
EP_j	1.061	1.067	0.964	1.012	0.983
	[0.077]	[0.077]	[0.062]	[0.064]	[0.059]
$Concentration_{ij}$ (%)	0.888***	0.888***	0.961**	0.945**	0.956*
	[0.026]	[0.026]	[0.019]	[0.022]	[0.023]
$Concentration_{ji}$ (%)	1.005***	1.006***	1.003**	1.003**	1.003**
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Market Size (Billions USD)	1.003	1.002*	1.003*	1.004***	1.003*
	[0.002]	[0.001]	[0.002]	[0.002]	[0.002]
Profitability	0.909	1.002			
	[0.059]	[0.011]			
Size			1.961***	1.635***	1.844***
			[0.238]	[0.188]	[0.286]
World Region Dummies	Yes	Yes	Yes	Yes	Yes
Observations	9284	9284	9284	9284	9284
Pseudo R^2	0.030	0.029	0.051	0.045	0.046
Log lik.	−19009.092	−19027.579	−18597.025	−18714.700	−18694.425
Chi-squared	84.017	77.733	23774.957	23108.477	102.594

Exponentiated coefficients. Standard errors in brackets. $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.
Regression (1) uses Profitability (ROAA), and regression (2) uses Profitability (ROAE) as Profitability proxies. Regression (3) uses Size (Log Equity); regression (4) uses Size (Log Net Income); and regression (5) uses Size (Log Total Assets) as Size proxies, respectively. All continuous variables used in interactions are mean-centered. Standard errors are clustered at the lead arranger *i* level.

Table 8
Adoption of the Equator Principles using Cox regression models and a sub-sample of 9,284 observations.

	(1) Market Share %(Loan Amount)	(2) $Market\ Share_{all}$ %(Loan Amount)	(3) Market Share %(Number of Loans)	(4) Number PF Deals (Log)
Peer Pressure				
$EP_j \times Concentration_{ji}$ (%)	1.009***	1.008***	1.008**	1.008**
	[0.003]	[0.003]	[0.003]	[0.003]
Susceptibility				
$EP_j \times Concentration_{ij}$ (%)	1.034**	1.033**	1.026*	1.025*
	[0.016]	[0.016]	[0.014]	[0.013]
External Pressure				
Controversial Deals	1.304	1.369	1.288	1.245
	[0.269]	[0.280]	[0.297]	[0.332]
Controversial Deals × Market Share	0.587***	0.935***	0.904**	
	[0.097]	[0.022]	[0.037]	
Controversial Deals × Number PF Deals (Log)				0.771
				[0.167]
Controls				
EP_j	1.055	1.055	1.045	1.041
	[0.070]	[0.070]	[0.066]	[0.064]
$Concentration_{ij}$ (%)	0.918***	0.920***	0.930***	0.952**
	[0.022]	[0.021]	[0.020]	[0.021]
$Concentration_{ji}$ (%)	1.004***	1.006***	1.004***	1.002*
	[0.001]	[0.001]	[0.001]	[0.001]
Market Size (Billions USD)	1.003**	1.004**	1.004***	1.002
	[0.002]	[0.002]	[0.001]	[0.002]
Market Share	1.713***	1.061***	1.145***	
	[0.273]	[0.018]	[0.032]	

(*continued on next page*)

Table 8 (*continued*)

	(1) Market Share %(Loan Amount)	(2) Market Share$_{all}$ %(Loan Amount)	(3) Market Share %(Number of Loans)	(4) Number PF Deals (Log)
Number PF Deals (Log)				1.753*** [0.293]
World Region Dummies	Yes	Yes	Yes	Yes
Observations	9284	9284	9284	9284
Pseudo R^2	0.031	0.031	0.032	0.033
Log lik.	−18987.634	−18979.084	−18963.319	−18943.051
Chi-squared	91.497	100.238	85.602	15551.317

Exponentiated coefficients. Standard errors in brackets. $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.
Regression (1) uses market share proxy Market Share %(Loan Amount), (2) Market Share$_{all}$ %(Loan Amount), and (3) Market Share %(Number of Loans). All continuous variables used in interactions are mean-centered. Standard errors are clustered at the lead arranger *i* level.

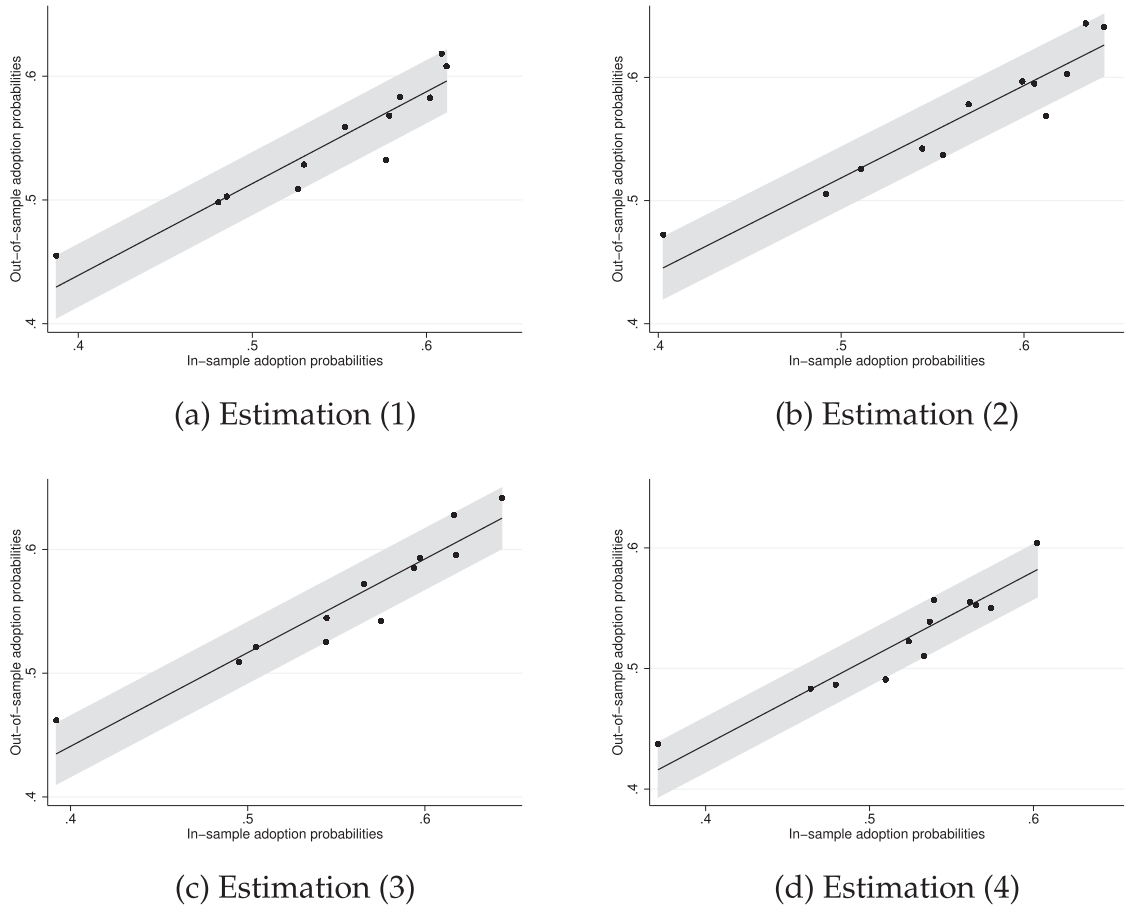


Fig. 5. Out-of-sample analysis: predicted adoption probabilities for each of the four estimations presented in Table 5, where regression (1) uses Market Share %(Loan Amount); regression (2) uses Market Share$_{all}$ %(Loan Amount); and regression (3) uses Market Share %(Number of Loans) as market share proxies respectively. Regression (4) uses Number of PF Deals (Log).

The variable Initial adopter takes the value of one if the adopter of the principles is among the initial 14, and zero otherwise; while the variable Subsequent adopter takes the value of one if it is an adopter of the principles but it is not among the initial 14 adopters, and zero otherwise. If we consider which effects are stronger for initial and subsequent adopters, we find that initial adopters influence the adoption process more strongly through susceptible lead arrangers than through peer pressure. Overall, the peer pressure effects between initial and subsequent adopters do not differ much. Fig. 4(a) and (b) show the similarity in the cumulative hazard rates between initial and subsequent adopters. While the susceptibility effects of initial adopters are larger than for subsequent adopters, in line with our main results, larger levels of susceptibility do not necessarily lead to faster rates of adoption both for initial and subsequent adopters. Fig. 4(c) and (d) illustrate such outcome. In conclusion, the peer pressure effect of initial adopters is less important than the one exerted by subsequent adopters. Overall, our results suggest that initial adopters are not that much more important than subsequent adopters in the adoption process. These results may partly explain the fact that the adoption of the Equator Principles does not gather momentum. Research in bandwagon effects may shed

Table 9
Correlation table.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	EP_i	1															
2	EP_j	−0.057***	1														
3	$Concentration_{ij}$(%)	−0.181***	−0.008	1													
4	$Concentration_{ij}$(%)	0.050***	−0.209***	0.278***	1												
5	Market Size (Billions USD)	0.069***	0.130***	−0.027***	−0.042***	1											
6	Controversial Deals	0.211***	−0.008	−0.225***	0.014*	−0.043***	1										
7	Market Share % (Loan Amount)	0.179***	−0.048***	−0.261***	0.094***	−0.063***	0.390***	1									
8	Market $Share_{all}$ % (Loan Amount)	0.214***	−0.079***	−0.395***	0.0226***	−0.240***	0.443***	0.780***	1								
9	Market Share % (Number Loans)	0.256***	−0.078***	−0.342***	0.096***	−0.130***	0.445***	0.757***	0.856***	1							
10	Exposure (Log Number Deals)	0.304***	−0.038***	−0.443***	0.086***	0.075***	0.447***	0.709***	0.734***	0.875***	1						
11	Profitability (ROAA)	0.020**	−0.008	0.029***	0.008	−0.128***	0.029***	−0.008	0.011	−0.013	−0.066***	1					
12	Profitability (ROAE)	0.100***	−0.056***	0.065***	0.020**	−0.216***	−0.055***	−0.040***	−0.038***	−0.067***	−0.100***	0.324***	1				
13	Size (Log Equity)	0.399***	−0.035***	−0.215***	0.042***	−0.009	0.284***	0.339***	0.325***	0.339***	0.386***	0.038***	0.183***	1			
14	Size (Log Net Income)	0.289***	−0.025***	−0.153***	0.055***	−0.046***	0.291***	0.317***	0.297***	0.334***	0.361***	0.079***	0.309***	0.740***	1		
15	Size (Log Total Assets)	0.372***	0.036***	−0.228***	0.032***	0.094***	0.406***	0.407***	0.387***	0.424***	0.498***	0.067***	0.029***	0.877***	0.708***	1	

$p < 0.10$, ** $p < 0.05$, *** $p < 0.010$.

some light to our findings. According to Abrahamson and Rosenkopf, 1993, a *sheer number* of initial adopters are needed to create pressures that propagate adoption; however, in the case of the Equator Principles, the initial group of adopters consists of 14 banks (a mere 2% out of 761 banks that we observe arranging project finance loans).

6.2. Sub-sample analyses

When discussing Hypothesis 4, we argued that external pressure manifests when banks are large and highly visible in the market. Since project finance lending is only a small part of a bank's overall business, our project finance-based proxies – market share and number of project finance – may not be able to accurately capture the public pressure effect on prominent lead arrangers. Hence, we re-estimate our model but this time we measure external pressure with measures for profitability and size instead of with a bank's market share and its number of project finance loans. We use two different measures for profitability – return on average assets (ROAA) and return on average equity (ROAE)-, and three different measures for size – Log of Equity, Log of Net Income and Log of Total Assets-.

Table 7 presents the results from these additional analyses, and shows that these results are in line with Table 5. In addition, these results demonstrate that external pressure is indeed effective, even when it targets a small part of a bank's overall business.

Table 8 provides the results from re-estimating Table 5 for the sub-sample used in Table 7. Since these profitability and size measures are sourced from a different database, the sample size used for the estimation of Tables 5 and 7 differs from that of our earlier results. However, the results in Table 8 again confirm our main findings reported in Table 5.

6.3. Out-of-sample analyses

To determine the validity of our results, we perform an out-of-sample validation. If our in-sample results are also robust out-of-sample, then we should observe a rather linear relationship between the predicted in-sample and out-of-sample adoption probabilities. We proceed as follows. First, we draw a random sample without replacement corresponding to 90% of data (16,856 observations), i.e. in-sample, and withhold the remaining 10% of the sample data, i.e. out-of-sample. Next, we use the in-sample to estimate the four specifications reported in Table 5. Then, we use the estimated coefficients obtained from the in-sample regressions to predict the probability of adoption for the out-of-sample data. Fig. 5 summarizes our out-of-sample analysis. In general, the predicted adoption probabilities for both the in-sample and the out-of-sample cases appear to be in line with each other. That is, their relationship is mostly linear. Hence, we can conclude that our results are robust to out-of-sample cases.

7. Conclusion

The Equator Principles are a form of self-regulation that financial institutions can adopt as a reaction to environmental and societal concerns regarding their project finance lending activities. Since the long-term success of self-regulation like the Equator Principles and the newly announced Principles for Positive Impact Finance depends on the likelihood that financial institutions adopt them, it is important to understand the factors that make adoption more likely. On the one hand, in a collaborative setting like the project finance syndicated lending market, the adoption of self-regulation can have important effects on business practices of many others in the system, not just because they also adopt the

self-regulation but also because the nature of the collaboration ensures that the impact of the Equator Principles extends beyond adopters themselves. On the other hand, if the adoption process itself does not appear to move beyond a threshold once a small number of market players has adopted, relying on the reputation and gusto of early adopters alone is not enough if self-regulation is indeed to be a worthy alternative to more traditional rules and regulations.

Following a relational approach, our study shows that adoption of the Equator Principles is more likely when there is peer pressure from those that have already adopted, when non-adopters are susceptible to whether their collaborators have already adopted, and when they are the target of controversial deals campaigns exerting external pressure. Very large financial institutions, however, are immune to this external pressure, as we find that it lowers the likelihood that they will adopt the Equator Principles.

Taken together, these results tell an interesting, albeit not necessary positive, story about the adoption process of self-regulation. There is little to no evidence that self-regulation gains momentum, especially if non-adopters that can collaborate with adopters, appear to be able to learn and internalize the practices set forth through the principles, while at the same time being able to fund projects that only non-adopters can finance. Instead, what turns out to be crucial is to have a significant pool of financial institutions sign off on the self-regulation from the outset. In that case, the positive effects of self-regulation are maximized through peer pressure from these financial institutions.

The results in this paper presented can be used as a cautionary tale for understanding the adoption process of the Principles for Positive Impact Finance. Our results are generalizable for the Principles for Positive Impact Finance to the extent that these principles rely on the Equator Principles as one of its building blocks: they are both voluntary; they both have a similar number of initial adopters; and they both apply to financial institutions active in syndicated lending. Thus, peer pressure effects from bank collaborations through, for example, syndicated lending and external pressures may help in advancing the Principles for Positive Impact Finance towards universal adoption. However, in order for peer pressure and susceptibility the indeed lead to large scale future adoption of initiatives like the Principles for Positive Impact Finance, enough existing adopters have to be present in the market, first and foremost among them the founding subscribers to the initiative.[19] Unfortunately, the fact that both the number and combined size of the founding members of the Principles for Positive Impact Finance hardly exceeds that of the Equator Principles introduced 14 years earlier does not bode well for the uptake of this important initiative.

Declaration of Competing Interest

None.

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