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A SIGNALING THEORY OF INSTITUTIONAL ACTIVISM: HOW NORWAY'S SOVEREIGN WEALTH FUND INVESTMENTS AFFECT FIRMS' FOREIGN ACQUISITIONS

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Combining perspectives from institutional activism and signaling theory literatures, we suggest that an activist sovereign wealth fund (SWF) can serve as an intermediary signaler, providing cues about host countries' institutional environment to internationalizing firms. By publicizing its investments and engaging in institutional activism, a SWF can signal the institutional quality of host countries to internationalizing firms, thus allowing them to overcome the well-known "lemons problem" in international decision-making. We examine the impact of a SWF's signals on firms' ownership choices in their foreign acquisitions. Our empirical analysis of Norway's socially responsible SWF and firms from Norway and Sweden during 1998–2011 shows that firms are more likely to take larger commitments via full equity ownership in acquisitions in host countries where Norway's SWF holds larger investments. The signaling effect of the SWF weakens for conational firms, suggesting that proximity to the signaler may generate alternative information channels that diminish the signaling value of foreign investments. Similarly, institutional harmonization enabled by intergovernmental organizations connecting the home and host countries weakens the signaling value of SWF investments. Our findings point to intermediary signaling by activist institutional investors and the salience of their signals for firms' international decision-making.

National governments have been traditionally viewed as immobile actors whose sphere of influence is largely confined to the boundaries of their juristic control (e.g., García-Canal & Guillén, 2008; Spencer, Murtha, & Lenway, 2005). In recent years, though, the locus of influence of some national governments has expanded beyond such traditional roles. Endowed with large amounts of financial reserves generated from natural resources and trade surpluses, national governments in countries such as Norway, Singapore, China, and the United Arab Emirates have become significant foreign institutional investors in the global economy via specific vehicles known as "sovereign wealth funds" (SWFs) (Aizenman & Glick, 2009; Backer, 2010; Inoue, Lazzarini, & Musacchio, 2013; Kotter & Lel, 2008; Lyons, 2008). In 2015, the combined assets under the management of the 73 SWFs in existence accounted for about $6.31 trillion—more than double the size of assets held by hedge funds and private equity funds combined (Sovereign Wealth Fund Institute, 2016).

As government-owned foreign institutional investors, SWFs can transfer to host countries a variety of environmental, social, and corporate governance (ESG) practices that are aligned with their national values (Aggarwal, Erel, Ferreira, & Matos, 2011; Connelly, Tihanyi, Certo, & Hitt, 2010; Gillan & Starks, 2003;

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Sanders & Boivie, 2004; Yan, Ferraro, & Almandoz, 2018). Although SWFs have emerged as important global players (Sauvant, Sachs, & Jongbloed, 2012; UNCTAD, 2016), there has been little theoretical development and empirical insight concerning the strategic implications of their foreign investments (Aguilera, Capapé, & Santiso, 2016; Backer, 2010; Bower, Leonard, & Paine, 2011). In light of such anticipated effects, we examine whether SWF investments generate signals about host countries' institutional quality for internationalizing firms.

Our inquiry is underpinned by the important insight concerning the signaling value of intermediaries to overcome the "lemons problem" in transactions between two parties (Akerlof, 1970; Spence, 1973). As Akerlof (1970: 499) observed, when information asymmetry affects market transactions, "numerous institutions arise to counteract the effects of quality uncertainty." The signaling value of a third-party intermediary rests on the belief that it is more knowledgeable about the entity of interest than the observing audience, or that it holds the capacity to activate certain qualities in that entity (Pollock & Gulati, 2007; Reuer & Ragozzino, 2014; Stuart, Hoang, & Hybels, 1999).

Building on these key insights, we develop a signaling theory of SWFs as intermediaries that possess notable features such as government ownership, access to information about host countries that may not be available on the market, and the ability to engage in institutional activism in host countries. These features distinguish SWFs not only from other types of external referents such as firms and individuals (Connelly, Certo, Ireland, & Reutzel, 2011), but also from other activist investors such as pension funds. We suggest that the size of a SWF's investments in a host country can serve as a visible and credible signal of that host country's institutional quality to observing internationalizing firms. Although SWFs do not pursue a uniform set of institutional values, they can serve as intermediary signalers for firms with which their institutional values are aligned.

We examine the signaling effect of SWF investments on one major strategic choice that internationalizing firms undertake: the level of equity ownership in foreign acquisition targets. With most cross-border activities taking place via acquisitions (UNCTAD, 2015), the level of equity ownership in foreign targets represents an important strategic choice. Prior research has interpreted firms' equity ownership as a response to perceived institutional uncertainty and information asymmetry, making this choice prone to signaling effects (Brouthers & Hennart, 2007; Eden & Miller, 2004; Tihanyi, Griffith, & Russell, 2005; Zhao, Luo, & Suh, 2004).

We test our hypotheses on all foreign equity investments undertaken by firms from Norway and Sweden in 47 countries globally during the period 1998–2011, in relation to the value of foreign investments by Norway's SWF in the same host countries. Our empirical setting includes firms that invest in countries where Norway's SWF has invested as well as firms that invest in countries where the SWF has not invested. Firms from Norway and Sweden share common institutional traits on several dimensions (Hall & Soskice, 2001; Jepperson, 2002), and are therefore likely to prioritize similar institutional qualities in their foreign investments. Such a comparison of firms from Norway and Sweden allows for distinguishing potential signaling effects of Norway's SWF from other information flows between the Norwegian government investor and its conational firms.

The foreign investments of Norway's SWF provide an appropriate context for our empirical analysis. Norway's SWF is among the world's largest and most transparent SWFs, with assets under management worth U.S.$885 billion in 2016. It accounts on average for 1% of all listed equities globally and approximately 1.85% of all European equity holdings. Notably, Norway's SWF has acquired a "standard setting" reputation by way of improved disclosure and practice development on a variety of ESG topics as a cornerstone of its socially responsible investment principles. The scope and size of such investments have drawn the attention of audiences globally, providing a rich context in which to observe their potential signaling effects (Backer, 2010).

After accounting for selection issues involving firms' choices to coinvest with the SWF in a particular host country, we find that firms from both Norway and Sweden are more likely to acquire full (wholly owned) rather than partial equity stakes in targets in host countries where Norway's SWF holds larger investments. While firms from both Norway and Sweden respond positively to Norway's SWF investments, this effect is weaker for firms from Norway. We interpret this diminished signaling effect for conational firms to be a result of direct access to information about host countries from their government investor. Similarly, we find that the alternative channels for information flows and greater institutional harmonization fostered by intergovernmental organizations (IGOs) connecting home and host countries (Alcacer & Ingram, 2013; Jandhyala & Phene, 2015) reduces the signaling value of the SWF's investments.

Our study extends theoretical developments concerning the role of SWFs in the global economy in at least three ways. First, we draw attention to SWFs as intermediary signalers whose investments and potential for institutional activism can serve as credible signals of a host country's institutional quality to internationalizing firms. Second, the notion of SWFs as third-party intermediary signalers points to the potential of unintentional signals, which differs from the dominant view of deliberate two-party signaling between a signaler and a receiver (Connelly et al., 2011; Janney & Folta, 2003). Third, we identify two important boundary conditions for such signaling to occur: (1) proximity to the sender of the signal and (2) the signaling environment. While, in our study, proximity to the sender is defined in terms of conationality, it points to the broader notion that proximity determines the flow of information between senders and receivers, thereby reducing the need for signaling. Similarly, IGO linkages demonstrate the salience of the signaling environment, which affects the reliance on the intermediary signaler.

THEORY AND HYPOTHESES

Classical signaling theory refers to two parties–the sender of a signal (the signaler, which is the entity of interest and possesses the information) and the receiver (the audience to whom this information is not otherwise observable but is perceived as useful) (Spence, 1973, 2002). Theoretical developments based on this conceptualization focus on the mechanisms whereby the sender conveys to the receiver indicators about its qualities in the absence of direct information flows (Connelly et al., 2011; Sanders & Boivie, 2004).

The characteristics of both the signaler and the receiver are germane to this signaling process. The signaler must be able to undertake costly actions to generate signals that allow the receiver to distinguish low-quality candidates from high-quality candidates (Certo, 2003; Gulati & Higgins, 2003). Moreover, the signaler's status and identity determine the credibility of its signal (Cohen & Dean, 2005). Finally, the coverage the signaler receives in public arenas determines its visibility for the receiver and the likelihood that the receiver will pay attention to its signals and act upon them (Hoffman & Ocasio, 2001; Pollock & Rindova, 2003).

A variant of this classical signaling theory extends to situations whereby the entity of interest (most typically, a firm) forms relational ties with the intention of signaling its quality to an observing audience. Studies in this stream of research identify a variety of such ties with lawyers, board members, stockbrokers, financial investors, and the like whose association with a firm signals accreditation to market participants about the firm's otherwise unobservable qualities (Certo, 2003; Gulati & Higgins, 2003; Higgins & Gulati, 2006; Reuer, Tong, & Wu, 2012; Sanders & Boivie, 2004). The presence of outside directors on the board, for instance, may be interpreted as a signal of good corporate governance that distinguishes a focal firm from its competitors (Certo, Daily, & Dalton, 2001).

Intermediary Signaling

Our theorization builds on these precedents to develop a signaling theory of a third-party intermediary whose actions in relation to the entity of interest serve as an unintended signal of this entity's qualities to observers. Our intermediary signaling theory differs from the classical two-party and relational ties models in four main ways. First, an intermediary signaler's association with the entity of interest is characterized by the actions it undertakes toward this entity, rather than simply from the presence of a relational tie to it. Second, the intermediary's actions generate "activating signals" and set in motion the expectation of certain qualities in the entity of interest (Connelly et al., 2011). An intermediary signaler may not possess full information about the entity of interest, and the credibility of its signal thus rests on the receivers' perception that the intermediary possesses information about the entity that they do not have. Third, whereas, in the classical signaling theory and relational ties perspective, the signaling act is explicitly meant to influence the perception of an observing audience, the actions of a third-party intermediary signaler are motivated by its own objectives, rather than a deliberate attempt to change the behavior of an observing audience. The unintentionality of the signal implies that intermediaries could generate signals for a broad set of receivers. Fourth, unlike direct signalers that could have incentives to distort information about themselves, intermediaries whose actions are not intended to modify observers' behavior are less inclined to send false signals, making their signals more trustworthy. Table 1 summarizes these distinguishing features of intermediary signaling that underpin our theoretical development.

In the hypotheses that follow, we develop our arguments concerning the signaling effect of an activist SWF's investments in relation to one important

TABLE 1
Signaling Theory of Intermediaries and Extant Signaling Theories

Signaling constructs	Classical two-party signaling theory	Signaling theory of relational ties	Signaling theory of third-party intermediaries
Signaler identity and relation to entity of interest	Firms or individuals signal about themselves	Firms form ties with prominent others (e.g., board members, venture capitalists) to signal about themselves	Third-party intermediary (e.g., government-owned, activist institutional investor) signals about an entity of interest (e.g., host country)
Signaling mechanism	Receivers interpret the quality of the entity of interest based on its actions or credentials	Receivers interpret the quality of the entity of interest based on the characteristics of the relational tie	Receivers interpret the quality of the entity of interest based on the intermediary's actions (e.g., SWF investment size and activism in host countries)
Signaler action	Deliberate to influence the behavior of particular observer(s)		Not explicitly intended to influence particular observer(s)
Signal credibility	Low—signaler could have incentives to send inaccurate signals	Moderate—affected by the characteristics of the relational tie	High—due to the unintentionality of the signal

strategic decision of internationalizing firms: the ownership choice in their foreign acquisitions. There is general agreement in the literature that, once a firm decides to enter a particular host country, it chooses the level of equity ownership in response to its evaluation of the host country's institutional quality. Lower levels of equity ownership reduce a firm's exposure to adverse corporate governance practices in a host country, and diminish the costs of exit should the investment climate turn unfavorable (Delios & Henisz, 2000). Conversely, larger equity ownership stakes indicate higher commitments and lower levels of perceived institutional risk in a host country (e.g., Brouthers, 2002; Tihanyi et al., 2005; Yiu & Makino, 2002). Accordingly, full ownership levels or wholly owned subsidiaries are often chosen when firms "are willing to make maximum commitment and take on maximum risk" (Brouthers & Hennart, 2007: 397).

SWF Investments as Intermediary Signals of Host Countries' Institutional Quality

Most SWFs aim to achieve national economic development goals by fostering resource diversification, macro-stabilization, and intergenerational balance, all of which necessitate a long-term investment horizon (Aizenman & Glick, 2009; Backer, 2010; Kotter & Lel, 2008). Governments may also utilize their SWFs to pursue strategic goals, such as the acquisition of natural resources and technological knowledge, which also call for long-term relationships with foreign companies and host governments (Aguilera et al., 2016). SWFs are predisposed to weather short-term stock market and financial volatilities because, unlike other pension funds, they have no liabilities to be paid to policyholders and shareholders (Aizenman & Glick, 2009). Yet, their fiduciary responsibility for securing national long-term interests propels them toward incurring significant costs in conducting thorough due diligence and continually monitoring the institutional environments of the host countries in which they invest. Toward this end, SWFs have developed in-house capabilities comprising highly specialized teams of professionals examining new asset classes and geographies, and have set up offices internationally that are staffed by local talent to better monitor and evaluate the institutional quality of host countries (Aguilera et al., 2016).

A distinctive aspect of this due diligence process stems from a SWF's access to information about host countries through government channels that may not be easily available to firms or private investors. This type of information can be especially valuable for screening countries, so as to increase the likelihood of including "good" countries, while reducing exposure to "bad" countries in the investment portfolio. In this regard, Dewenter, Han, and Malatesta (2010: 257) noted that:

> If information flows freely between agencies of a government, then SWF managers would know about changes in government actions or regulations that affect firm values before their private sector investment management counterparts. This would enable SWFs to buy before good news and to sell before bad news is available to private investors.

The perceived integrity of the information that originates from government agencies enhances the credibility of a SWF's investment size as a credible signal of the host country's institutional quality.

Further, larger investments increases the SWF's incentives for exercising influence over a host country and its target firms' employment, technology, and product mixes (Aggarwal et al., 2011; Dewenter et al., 2010; Gillan & Starks, 1998; Shleifer & Vishny, 1986; Starks & Wei, 2013). SWF investments therefore, can serve as "activating signals" (Connelly et al., 2011) that portend changes to host countries' institutional qualities. Engaging in such activism through insider ownership entails significant costs for the signaler (Sanders & Boivie, 2004). A SWF's willingness to absorb the costs of activism further increases the credibility of its signals.

As an institutional investor committing a large proportion of its national assets to a host country, a SWF may utilize a variety of monitoring and shareholder activism tactics, including the threat of exit, to follow through with its stated policies and objectives (Connelly et al., 2010; McCahery, Sautner, & Starks, 2016; Tihanyi, Johnson, Hoskisson, & Hitt, 2003; Westphal & Bednar, 2008). The policies and practices that result from such activism tactics often diffuse beyond the activists' direct targets to non-target firms that encounter competitive or legitimacy pressures for conformity (Briscoe & Safford, 2008). Consequently, larger SWF investments are suggestive of encompassing ties to a wide range of firms and a pronounced influence in the host country that spreads beyond the SWF's target firms.

In addition to these influences over target firms, SWFs may engage with national stock exchanges, regulatory agencies, and investor associations to shape institutional practices at the country level (Dimson, Karakaş, & Li, 2015). Relying on their status as government entities, they are able to lobby host country governments and influence policy-making. In particular, by anchoring institutional reforms to globally accepted principles of multilateral organizations, such as the United Nations-supported Principles for Responsible Investment, a SWF's activities are likely to gain further visibility and legitimacy, and attract attention from a broad set of firms internationally (Dimson et al., 2015; McCahery et al., 2016).

For instance, consequent to the recommendations made by Norway's SWF, the Hong Kong stock exchange introduced rules requiring firms in the mining industry to report their environmental, health, and safety records. In Brazil, similar activism led to the introduction of rules enforcing the separation of the CEO and chair positions by the Brazilian stock exchange. In the United Kingdom, the SWF's efforts led to the revision of the corporate governance code, requiring directors to be re-elected annually rather than every three years. Likewise, the SWF voted against the corporate governance practice of combining the roles of chief executive and chairperson in U.S. banks and extended such claims to other industries (Milne, 2016). Notably, since 2009, Norway's SWF has contributed to a broad spectrum of nearly 50 ESG initiatives globally (Table 2).

Such activism by a SWF in the ESG domain provides a substantive indicator of institutional differences that persist even among developed countries and among countries within the same regional and economic country groups (Khanna, Kogan, & Palepu, 2006; Yan et al., 2018). The absence of explicit regulatory requirements for reporting corporate governance practices (Organisation for Economic Cooperation and Development, 2017) makes such aspects of a host country's institutional environment largely unobservable for internationalizing firms, necessitating a reliance on signals (Amel-Zadeh & Serafeim, 2017; Gillan & Starks, 1998; Starks & Wei, 2013).

It follows, from these arguments, that the size of a SWF's investments in a host country generates a signal that is both costly to produce and visible to observing audiences, which allows observing firms to distinguish between host countries in terms of their institutional quality when devising their foreign ownership strategies.

Hypothesis 1. Larger investments by an activist SWF in a host country will increase the likelihood of full rather than partial acquisitions in that host country by observing firms.

Moderating Effects

Signaling theory is based on the premise that signaling is employed to mitigate information asymmetry (Spence, 1973), thus implying that, as information becomes more abundant and information asymmetry is reduced, reliance on signaling will diminish. Below, we advance hypotheses regarding the potential effect of two sources of information flows on the impact of SWF signaling for internationalizing firms.

Proximity to the signaler: Conational ties. A socio-cognitive view of firms' behavior suggests that institutional affinity between the parties to the signaling process enhances the receivers' attention to and interpretation of the signal (Burr, 2003; Hoffman & Ocasio, 2001). Consequently, the relationship between the receiver and signaler determines the channels of communication and interactions between them

TABLE 2
List of Standard Setting Initiatives by Norway's SWF[a]

Year	Entity	Key action	Countries/Scope
Corporate Governance			
2009	Financial Reporting Council	Provided feedback on the review of the Combined Code	United Kingdom
2009	BM&FBOVESPA	Provided guidance on regulations revision of the Novo Mercado	Brazil
2010	Norwegian Corporate Governance Code	Advised on compensation and election committees, stock exchange announcements	Norway
2010	European Commission	Advised against separate code of governance for financial institutions	Europe
2010, 2015	U.S. Securities and Exchange Commission	Advised on the Proxy System and audit committee disclosure policies	USA
2011	European Commission	Improved the EU Corporate Governance Framework and Transparency Directive	Europe
2011, 2013	International Integrated Reporting Council	Recommended reporting measures, explanations, and forward-looking reporting	Global
2012	European Securities and Markets Authority (ESMA)	Challenged ESMA's decision on binding regulatory and legislative instruments	Europe
2014	Basel Committee on Banking Supervision and OECD	Advised incorporating OECD Principles of Corporate Governance for banks	Global
2014	Hong Kong Exchanges and Clearing Limited	Recommended to continue prohibiting weighted voting rights structures	Hong Kong
2014	ESMA	Provided technical advice on developing standards on market abuse regulation	Europe
2014	ESMA	Supported regulating high frequency trading firms, over-the-counter derivatives, and securities depositories	Europe
2014	International Corporate Governance Network	Provided feedback on the proposed corporate governance principles	Global
2015	Swedish Corporate Governance Board	Advised on revisions of the Swedish Corporate Governance Code	Sweden
2015	Brazilian Institute of Corporate Governance	Provided recommendations on board election and shareholder voting	Brazil
2015	ESMA	Advised on framework to regulate credit rating agencies through transparency	Europe
2015	ESMA	Advised on the regulatory technical standards and shareholder voting research	Europe
2015, 2016	Financial Services Agency of Japan	Helped develop the Corporate Governance Code and promoted dialogue with firms	Japan
2016	German Corporate Governance Code	Provided guidance to the revision of the German Corporate Governance Code	Germany
2016	Financial Stability Board	Advised the Financial Stability Board's implementation of OECD Principles of Corporate Governance	G-20
2017	S&P Dow Jones Indices	Advised against voteless companies being included in flagship equity indices	USA
2017	Singapore Exchange Limited	Recommended against the admission of dual-class shares	Singapore
Environmental and Social			
2010	International Accounting Standards Board	Recommended reporting from oil, gas, and mining companies to host governments	Global
2013-2015	CDP (formerly the Carbon Disclosure Project)	Advised on the corporate disclosure and CDP's climate change and water survey	Multiple
2015	Hong Kong Exchanges and Clearing Limited	Advised on the Exchange's ESG reporting framework	Hong Kong
2015	OECD	Recommended improvements for government's role and transparency in extractives	OECD

TABLE 2
(Continued)

Year	Entity	Key action	Countries/Scope
2015	World Resources Institute	Supported quantifying and reporting greenhouse gas emissions by companies	Global
2016	Natural Capital Coalition	Provided feedback on the Natural Capital Protocol	Global
2016, 2017	Climate-related Financial Disclosure	Provided continued guidance on the Task Force on Climate-related Financial Disclosures's report	Multiple
2017	Climate Disclosure Project	Proposed disclosures to focus on material and quantitative information for analysis	Global
2014	International Council on Mining and Metals	Proposed development of a conflict-free standard for mining	Multiple
2013	Rainforest Foundation Norway	Advised on collaboration with stakeholders for data collection on ESG	Malaysia
2016	United Nations-supported Principles for Responsible Investment	Provided feedback on sustainable financial system, principles, and impact	Global
2016	U.S. Securities & Exchange Commission	Advised on regulation of disclosure relating to sustainability and public policy	USA
2016	World Federation of Exchanges	Supported initiative on guidance for sustainability reporting requirements	Multiple
2016	Singapore Exchange Limited	Advised on Exchange's amendments to sustainability reporting rules	Singapore
2017	OECD	Advised the Due Diligence for Responsible Business Conduct framework	OECD countries

[a] Source: NBIM (2009).

and alters the receiver's attention to the signaler's activities.

Applying these insights to the context of our study, we suggest that, while the institutionalized connection between a national government and its home country's firms amplifies the salience of the SWF's investments for these conational firms' decision-making, such connections also create alternative avenues for information flows, thereby reducing their reliance on the SWF's signals.

Information transfers between a national government and home country firms can occur through a variety of mechanisms. In particular, as a government entity, a SWF is likely to willingly and in some cases intentionally share the information it holds with conational firms to help them make better decisions about host countries. As Connelly et al. (2011) observed, proximity to a signaler who is an insider could reveal important details about not only the positive but also the negative attributes of a product or organization. Moreover, government entities such as diplomatic missions and trade promotion bodies can provide similar information to home country firms and thereby aid these firms' decision-making about a host country's institutional conditions. These alternative avenues for private information flows available to conational firms could make redundant some of the public information contained in the SWF's investment signal.

Our interviews with managers of companies in Norway revealed that, even in the absence of deliberate information flows, routine interactions with government agencies occur through professional networks, industry associations, conferences, and stakeholder dialogues. Such interactions serve to communicate important insights about the government's foreign investments and reinforce the investment principles guiding the SWF's actions. One such formal network in Norway, known as the KOMpakt, involves participants from the government, academia, and industry, and serves as the Norwegian government's consultative body on matters related to responsible investments globally. In addition to these formal mechanisms, social networks formed by professionals such as portfolio analysts and ESG experts who move between the SWF and firms become conduits of information flows between business and government (Vasudeva, 2013). Such linkages formed by the interpenetration of business and government are particularly likely in Norway's social–corporatist institutional environment. As Jepperson (2002: 73) noted, in such polities characterized by a welfare orientation and the absence of a demarcation between the state and society, "government is

envisioned as intermediating the organized interests of society (Olsen 1983)."

In sum, the processes that determine whether a particular referent's signals attract the attention of observing audiences and modify their behavior are determined not only by the institutional affinity between the sender and receiver, and the associated potential for cross-utilization of information, but also by the intensity of alternative communication channels, which are likely stronger between constituents of the same nationality. These observations suggest that, by virtue of proximity to the SWF signaler, the strength of its investment signal would diminish for conational firms.

Hypothesis 2. The positive effect of larger investments by an activist SWF in a host country on the likelihood of full rather than partial acquisitions is weaker for conational firms compared to other observing firms.

Signaling environment: Home–host country IGO ties. A central idea that underpins our signaling theory of SWF investors as intermediary signalers is that institutional differences across countries create information asymmetries and uncertainties for internationalizing firms that trigger a reliance on signals. The signaling environment characterized by the extent of informational asymmetry and the availability of different types of signals thus presents an important contingency in determining the extent to which firms rely on an intermediary's signals.

To examine this contingent role of the signaling environment, we focus on a multilateral mechanism—the IGO—which serves as a formal supranational institution formed by an international treaty comprising at least three member governments (Pevehouse, Nordstrom, & Warnke, 2004). IGOs bind member countries within a common framework of norms, rules, and expectations that shape these countries' social, economic, and political institutions. Consequently, IGO membership signals a host country's intent to align its institutions with a multilateral system of economic exchange. Such a signal can be especially powerful because it represents a deliberate action undertaken by the host country that entails the costs of joining and maintaining membership in an IGO. Joint membership in IGOs therefore reflects countries' commitment to shared values and principles.

IGOs channel the commonly agreed upon policies and practices through many avenues, including conferences and meetings, that enable interactions among civil servants, private sector participants, and nongovernmental organizations representing member countries (Jandhyala & Phene, 2015). Such interactions via diplomatic, political, and trade missions enable the cross-national transfer of knowledge, goods, and labor (Oneal & Russett, 1999), which in turn inculcates trust and shared principles among member countries. For instance, as a result of such efforts, IGOs such as the Organization of American States and the Asia-Pacific Economic Cooperation have prioritized the diffusion of anticorruption practices (Sandholtz & Gray, 2003). Others such as the Organisation for Economic Co-operation and Development (OECD) have promoted corporate governance standards among member countries (Dimson et al., 2015).

Accordingly, joint IGO membership serves as a signal of institutional harmonization that promotes trade and investment flows between countries (Alcacer & Ingram, 2013; Ingram, Robinson, & Busch, 2005; Rangan & Sengul, 2009). As Connelly et al. (2011: 56) observed, it is likely that "the value of signals diminishes as the number of signals increases." It follows that the reliance on such an intermediary signaler to make inferences about a host country's institutional quality will diminish in the presence of a more direct and deliberate signal such as IGO ties originating directly from the host country.

Hypothesis 3. The positive effect of larger investments by an activist SWF in a host country on observing firms' likelihood of full rather than partial acquisitions is weakened when the number of joint memberships of the home and host countries in IGOs increases.

METHODOLOGY

The Research Context: Norway's SWF and Firms' Cross-Border Acquisitions

We test our hypotheses based on the cross-border acquisitions undertaken by Norwegian and Swedish firms and the equity investments made by Norway's SWF.[2] Norway's SWF is overseen by the Ministry of Finance and managed by Norges Bank Investment Management (NBIM). It was established in 1990 to reduce Norway's direct reliance on oil revenues for government spending by investing such revenues to promote long-term sustainable development.

[2] Norway's SWF is also known as the Government Pension Fund Global. Despite its name, though, the fund is not earmarked for pension expenditures and is only invested abroad. Norway also has another SWF dedicated to domestic investments.

Accordingly, the fund invests in a global portfolio of financial instruments comprising foreign equities (60%), fixed income securities (35–40%), and real estate (5%) (Norway SWF, 2016). The Norwegian Ministry of Finance stipulates the geographic markets and the type of asset classes in which the fund should invest. The fund holds minority stakes in more than 9,000 firms worldwide, and is one of the largest shareholders in many of them (Norway SWF, 2016). Its market value grew from U.S.$20 billion in 1998 to U.S.$880 billion in 2015, exceeding Norway's GDP, and making it one of the world's largest SWF (Sovereign Wealth Fund Institute, 2016). Importantly, the investment record of Norway's SWF is transparent, well documented, and publicly available, providing rich data for analysis.

The fund's equity investments span a diverse range of industries and geographic regions: 50% are in Europe, 35% in the Americas, Africa, and Middle East, and 15% in Asia and Oceania. As with most large SWFs, Norway's SWF benchmarks itself to global markets against indices from the FTSE Group and Bloomberg Barclays, and has a long-term investment horizon that allows it to resist volatility in capital markets without having to make costly adjustments (Backer, 2014). Even though the SWF holds minority stakes in its targets, it is an active institutional investor (Chesterman, 2008) that uses both voice and exit strategies to change the ESG practices in specific targets and host countries' institutions (see Table 2).

As the following excerpt from the SWF's public website reveals, such activism is aimed at setting standards and creating "better market practices and well-functioning markets" (NBIM, 2016):

> We also work with standards covering sectors, specific markets, or topics such as corporate disclosure or corporate governance, as well as other standards that are narrower in scope. Such standards can aid in the promotion of good company practices. They are often developed by trade associations or companies, but may also be produced in partnerships between companies, authorities, investors, and NGOs.

It is noteworthy that the signaling effect of Norway's SWF owing to its standard-setting activities, though not explicitly intended, was anticipated by the Graver Committee's report, which established the basis for the SWF's responsible investment principles as follows (Graver et al., 2003):

> "The [Sovereign Wealth] Fund can also play a role as a model for other funds or investors. The size of the Fund may induce many other investors to track the Fund's activities closely. The decision whether and how to introduce ethical guidelines in *the Fund may send an important signal* [emphasis added] and may cause other funds to follow suit."

> "The [Sovereign Wealth] Fund can also exert influence indirectly through the market. By explicitly communicating a decision not to buy a particular share, *the Fund can send signals* [emphasis added] *to company executives*, other market participants, and a company's customers."

Anecdotal observations from interviews with executives in Norwegian companies as well as an extensive coverage of the SWF's activities by the local and global media are suggestive of the anticipated signaling effects on firms' international activities. The example of foreign investments by Telenor—Norway's state-owned telecommunications company—in India illustrates the possibility of such signaling effects. In 2010, Telenor, which held a majority stake in an Indian infrastructure company Unitech, faced contractual risk owing to a large corruption scandal involving the award of second-generation telecommunication licenses. So serious was the damage that, by 2012, Telenor threatened to write off its fixed and intangible assets in India by about U.S.$1 billion, entirely eliminating its financial exposure to India. At that time, Telenor held investments worth U.S.$3 billion in India (Business Standard, 2012). In 2013, however, Norway's SWF decided to invest U.S.$4 billion in the oil and gas, shipping, and hydropower industries in India (Business Standard, 2013). In a remarkable turn of events, Telenor not only decided to stay but also invested another U.S.$4 billion in the Indian telecom sector. Telenor thus reversed its stand on investments and deepened its commitment, increasing its 26% stake in the Indian joint venture to full ownership, immediately following the SWF's investments in India (Business Standard, 2014).

Although this example does not allow us to distinguish the SWF's signaling effect from the direct information flows that could have occurred between conational firms and their government, it does illustrate how SWF investment served as an accreditation of the host country's institutional environment. We examine such effects empirically next.

Sample

To test our hypotheses, we examined all cross-border acquisitions undertaken by 559 Norwegian

firms and 1,256 Swedish firms during the period 1998–2011, spanning 47 host countries in Europe, Asia, Latin America, and North America. Firms' acquisition data were obtained from Thomson SDC Platinum Mergers and Acquisitions database. Our coverage of firms' cross-border acquisitions extended back to 1998, when the SWF first initiated foreign equity holdings, and included countries where the SWF invested as well as countries where it did not invest. The unit of analysis was a firm's cross-border acquisition. Upon dropping observations with incomplete data, we arrived at a final sample of 4,003 firm acquisitions.

We included in our sample a comparison group of Swedish firms that share institutional traits of Norwegian firms along many dimensions. Such a research design allowed us to distinguish signaling effects from potential direct information flows between the SWF and its conational Norwegian firms (Hypothesis 2). Since our interest is in examining the signaling effect of Norway's SWF that only invests abroad, we excluded Swedish firms' acquisitions in Norway, which account for 5% of the total number of Swedish firms' acquisitions. Our results remain robust if we remove the corresponding cross-border acquisitions of Norwegian firms in Sweden, which account for 26% of Norwegian firms' total acquisitions.

Table 3 details the country-wise acquisitions for firms in our sample, including the cumulative value of SWF investments in each host country over the period 1998–2011.

Model Variables

Dependent variable. The latent construct of interest was the acquiring firm's willingness to make large commitments in host countries. We operationalized this construct as the acquirer's ownership choice—that is, the decision to make full versus partial acquisitions. As Reuer, Shenkar, and Ragozzino (2004: 23) observed, "If the firm takes less than 100% of the target's equity, the risk it bears declines proportionally, and more of the risk is borne by the target firm."

Following prior research, a dummy variable was coded as 1 (or full acquisition) when a firm acquired a 95–100% equity stake in a target, and 0 otherwise (Brouthers, 2002; Cui & Jiang, 2012). The acquirer's equity ownership level was obtained from the SDC database. This operationalization also reflects the modal distribution of our data wherein 77.7% of the acquisitions are full acquisitions. In a supplementary analysis, we employed the actual percentage of shares acquired by firms and found similar results.

Explanatory variable. Norway's SWF investments in a host country were calculated as the cumulative equity investments up to the observation year. We obtained data on the cross-border equity investments made by Norway's SWF directly from the electronic archival records of its global equity holdings (NBIM, 2017). As shown in Table 3, these investments ranged from 0 to a maximum of U.S. $513 billion in a given host country. To correct for the skewed distribution of SWF investments, we computed the natural log of the SWF investment plus 1, so that countries with no SWF investment took a value of 0.

Moderator variables. There were two moderator variables in our analysis. The first moderator, which we labelled "conational firm," was a dummy variable that took a value of 1 if the acquirer was headquartered in Norway, and 0 if its headquarter was in Sweden. The second moderator was the number of IGOs in which the home and host countries in the cross-border acquisition dyad jointly participated in the observation year. The data on IGO joint membership was retrieved from Pevehouse et al. (2004). We counted joint membership in only those IGOs whose core mission overlapped with the ESG mandate of the Norwegian SWF, thereby offering an alternative mechanism for gauging the institutional quality of the host country. Based on IGO mandates described in the *Yearbook of International Organizations*, we manually coded all 495 IGOS and identified 79 IGOs that met our criteria. To address the skew toward high IGO membership across our observations, we calculated the natural log of the count of IGOs plus 1 so that country pairs with no joint membership took a value of 0.

Control variables. To account for alternative explanations of ownership choices in acquisition transactions, we included a number of home- and host country-, target- and acquirer firm-, and acquisition-related characteristics used in the prior literature (see Table 4, below). We also included year dummies to account for unobservable sources of heterogeneity across time.

We accounted for the total bilateral foreign direct investment (FDI), which correlates with the institutional distances between home and host countries. For instance, economically interdependent countries based on bilateral FDI also appear to adopt common corporate governance standards (Khanna et al., 2006). Further, the ratio of the FDI from a firm's home country to the host country yields a measure of

TABLE 3
Firms' Cross Border Acquisitions and Norway's SWF Investments by Country

	Host country	No. of firm transactions	% of total firm transactions	Total SWF investment (in billions USD)[a]	% of total SWF investment[a]
1	Argentina	10	0.25	0.01	0.00
2	Australia	66	1.65	29.73	1.82
3	Austria	24	0.60	5.75	0.35
4	Belgium	56	1.40	14.32	0.87
5	Brazil	35	0.87	21.49	1.31
6	Canada	78	1.95	42.95	2.62
7	Chile	18	0.45	1.42	0.09
8	China	30	0.75	18.00	1.10
9	Czech Republic	38	0.95	1.04	0.06
10	Denmark	494	12.34	12.54	0.77
11	Egypt	2	0.05	0.63	0.04
12	Estonia	90	2.25	0.02	0.00
13	Finland	470	11.74	17.96	1.10
14	France	179	4.47	126.29	7.71
15	Germany	291	7.27	99.36	6.07
16	Greece	8	0.20	5.46	0.33
17	Hungary	19	0.47	1.23	0.08
18	Iceland	7	0.17	0.00	0.00
19	India	39	0.97	9.59	0.59
20	Indonesia	5	0.12	2.41	0.15
21	Ireland	20	0.50	6.87	0.42
22	Israel	4	0.10	1.99	0.12
23	Italy	64	1.60	41.30	2.52
24	Japan	27	0.67	117.75	7.19
25	South Korea	24	0.60	22.88	1.40
26	Latvia	15	0.37	0.00	0.00
27	Lithuania	34	0.85	0.00	0.00
28	Luxembourg	12	0.30	1.15	0.07
29	Malaysia	8	0.20	3.67	0.22
30	Mexico	10	0.25	5.83	0.36
31	Netherlands	144	3.60	43.68	2.67
32	New Zealand	10	0.25	0.78	0.05
33	Philippines	2	0.05	0.70	0.04
34	Poland	87	2.17	2.98	0.18
35	Portugal	14	0.35	5.46	0.33
36	Romania	2	0.05	0.00	0.00
37	Russia	98	2.45	14.87	0.91
38	Slovak Republic	9	0.22	0.00	0.00
39	Slovenia	7	0.17	0.00	0.00
40	South Africa	26	0.65	9.01	0.55
41	Spain	90	2.25	44.83	2.74
42	Sweden	366	9.14	32.94	2.01
43	Switzerland	64	1.60	94.23	5.75
44	Turkey	14	0.35	4.05	0.25
45	Ukraine	8	0.20	0.03	0.00
46	United Kingdom	390	9.74	259.14	15.83
47	United States	495	12.37	513.19	31.34
	Total	4,003	100.00	1,637.53	100.00

[a] Truncated values. 0.00 values due to relatively small SWF investment.

economic and political leverage for the acquiring firm (Holburn & Zelner, 2010). The FDI restrictiveness index, which accounts for the time-varying industry-level statutory restrictions and policies concerning foreign investments, captures a relevant aspect of the host country's regulatory environment. Apart from these regulatory and economic measures, we accounted for the physical distance (in miles) between the capital cities in the home and host countries. Finally, we included a composite measure

TABLE 4
Model Variables and Summary Statistics[a]

Variable	Description	Source	Mean	*SD*	Min.	Max.
Outcome variable: Full Acquisition	1 if acquirer owns 95–100% shares in target; 0 otherwise	SDC Platinum	0.78	0.42	0.00	1.00
Explanatory variable: Log SWF Investment	Natural log of cumulative investments by the SWF; Log (U.S.$ billion)	NBIM, Norwegian Ministry of Finance	2.06	1.64	0.00	6.24
Moderator variable: Co-nationality	1 if acquirer is Norwegian; 0 if acquirer is Swedish	SDC Platinum	0.30	0.46	0.00	1.00
Moderator variable: IGO Joint Membership	Log (count of IGOs + 1)	Pevehouse et al. (2004)	3.13	0.27	2.30	3.47
GDP Growth Rate in Host Country	The yearly percentage change in GDP of the host country	World Bank	2.67	2.86	−14.81	14.20
Control Variables:						
Total Bilateral FDI	The sum of bilateral FDI between host and acquirer countries (U.S.$ billions)	UNCTAD	2287.85	4728.94	−14300.00	25267.66
Economic Leverage	Ratio of the FDI from acquirer country to the host country and vice versa	UNCTAD	−13.00	268.13	−5038.00	1646.51
FDI Restrictiveness Index	Statutory restrictions on FDI in host country	OECD	0.09	0.083	0.004	0.63
Physical Distance	Physical distance (in thousands of miles) between capital cities in the host country and Norway/Sweden	Google	1.56	2.00	0.24	10.99
Cultural Distance	Average distance along Hofstede's four dimensions of culture (see Kogut & Singh, 1988)	Hofstede	2.26	1.74	0.05	9.81
Target Government Owned	1 if government holds > 50% stake in the target firm; 0 otherwise	SDC Platinum	0.03	0.18	0.00	1.00
Target Private	1 if target is privately held (i.e., not publicly traded); 0 otherwise	SDC Platinum	0.57	0.50	0.00	1.00
Target Regulated Industry	1 if target is in a regulated industry such as financial services and natural resources; 0 otherwise	SDC Platinum	0.14	0.34	0.00	1.00
Target Censored Industry	1 if target operates in industries such as tobacco, nuclear arms, etc. in which the Norwegian SWF has censored firms; 0 otherwise	NBIM	0.21	0.41	0.00	1.00
SWF Investment in Target	Prior investment by the Norwegian SWF in the target (U.S. $ billions)	NBIM	2.67	45.84	0.00	1907.36
SWF Ownership in Target	Percentage of target owned by the Norwegian SWF	NBIM	0.00	0.002	0.00	0.07
Number of Bidders	Number of bidders for the target	SDC Platinum	1.00	0.04	1.00	2.00
Related Industry	1 if target and acquirer firms are in the same industry based as described in SDC; 0 otherwise	SDC Platinum	0.40	0.49	0.00	1.00
Acquirer Private	1 if acquirer is privately held (i.e., not publicly traded); 0 otherwise	SDC Platinum	0.18	0.39	0.00	1.00
Acquirer Government Owned	1 if government holds > 50% stake in the target firm; 0 otherwise	SDC Platinum	0.06	0.24	0.00	1.00
Acquirer Regulated Industry	1 if target is in a regulated industry such as financial services and natural resources; 0 otherwise	SDC Platinum	0.23	0.42	0.00	1.00
Acquirer International Experience	Number of prior international acquisitions by acquirer	SDC Platinum	6.89	14.48	0.00	138.00
Acquirer Experience in Host Country	1 if prior acquisition in host country by acquirer; 0 otherwise	SDC Platinum	0.31	0.46	0.00	1.00

[a] $n = 4{,}003$.

for the cultural distance between the home and host countries, calculated as the average distance along Hofstede's four cultural dimensions (Kogut & Singh, 1988).

We controlled for a number of target firm characteristics. It is possible that acquirers encounter regulatory restrictions or perceive greater expropriation risks with respect to targets that are government owned, thereby affecting their ownership levels. Similarly, public versus private targets are held to different standards for transparency and accountability by external stakeholders, which in turn could alter their attractiveness as targets for full ownership. Acquirers are also more likely to take partial stakes in targets from regulated industries such as financial services or natural resources to minimize risk (García-Canal & Guillén, 2008). For their investments to be seen as legitimate, acquirers may choose to limit their ownership stakes in targets that reside in industries such as nuclear arms, land mines, mining, and tobacco that are censored by the Norwegian SWF (Vasudeva, 2013). Since the acquirer's ownership choice may be driven by the Norwegian SWF's prior investments in a target firm, we included the value of the total equity as well as the percentage of equity held by the SWF in a target firm. In the absence of financial measures for a large proportion of privately held acquirers (47%) and target firms (57%) in our sample, we used the number of firms that bid for a target as a proxy for the attractiveness of the target, which could affect the ownership stake. In addition to these target characteristics, we controlled for the relatedness of the acquirer and target, which could affect familiarity and, hence, ownership choices (Reuer et al., 2004). About 40% of the acquisitions in our sample were in related industries.

We constructed similar control variables for the acquiring firm. Private acquirers are less accountable to stakeholders compared to public firms and might be more likely to assume higher risks in their acquisition strategies. Likewise, acquirers who have the backing of their home government may respond to their government's investments in a host country differently (Megginson & Netter, 2001). About 6% of the acquirers in our sample were government-owned firms. Similarly, acquirers from regulated industries may exercise greater caution in their acquisition decisions (García-Canal & Guillén, 2008). About 23% of the acquirers in our sample belonged to highly regulated industries. Finally, we controlled for the acquirer's overall international acquisition experience and country-specific experience, which could contribute to its learning (Barkema & Schijven, 2008) and affect the extent to which it relies on external referents or signals. In our sample, 59% of the firms had conducted fewer than two acquisitions and 70% of them had no prior investment in a given host country.

Estimation

Our estimation approach was driven by two main considerations. First, ownership choice (full vs. partial acquisition) can only be observed conditional on firms' entry into a particular host country suggesting an underlying selection criterion. Second, unobserved factors associated with the SWF's investments could drive both firms' host country selection and ownership choices. To account for such selection-induced endogeneity (Wooldridge, 2010) that might bias our estimates of ownership choice, we used a two-stage Heckman model wherein we modelled the choice of entering a host country in the first stage, and, conditional on this choice, we estimated the ownership choice (Certo, Busenbark, Woo, & Semadeni, 2016).

In the first-stage selection model, firms face a polychotomous choice set of countries, among which they choose a country for their foreign acquisition. To model such a selection decision, we constructed a choice set for each acquisition that a firm undertakes by including countries within the host country's geographical region. Based on the assumption that, when considering internationalization, firms are likely to select countries from alternatives within a defined category such as a geographical region (e.g., Vaaler, Aguilera, & Flores, 2007), we created choice sets by assigning potential host countries to one of six regions: Africa, Asia, Europe, Latin America, Middle East, North America, and Oceania.

Accordingly, in the first-stage probit model, firms' host country selection was estimated as a function of host country and acquirer characteristics. The validity of using a probit estimation to model polychotomous choice sets was guided by prior literature that suggests that, as the choice set approaches 20 alternatives, the bias relative to using conditional logit models becomes negligible (Coupé, 2005; Katz, 2001). The second-stage probit model then estimated ownership choice as a function of the main explanatory variable (i.e., cumulative investment by Norway's SWF in a host country), the two moderator variables, and country, target, and acquirer control variables. We

use a robust variance estimator clustered by firm–host country dyads to account for the non-independence of observations within these dyads.

To identify firms' ownership choices in the model, in the first stage, we included an exclusion restriction:[6] the host country's GDP growth rate. FDI theory suggests that firms are often drawn to invest in countries with a growing GDP because they indicate expanding markets that represent opportunities (e.g., Nachum & Zaheer, 2005). However, GDP growth rate does not have a direct effect on the level of commitment or ownership choice that firms make, which is likely determined by the institutional quality of the host country (e.g., Delios & Henisz, 2000). Indeed, while investors are attracted to countries with high GDP growth rates, the institutional risk and uncertainty in many fast-growing economies often precludes large commitments or full acquisitions. Hence, GDP growth rate is a theoretically justifiable exclusion restriction in our model.

In a supplementary analysis not reported here, we used an alternative exclusion restriction that accounts for the attractiveness of a host country's labor market measured as the proportion of university graduates (or related tertiary education) in the total graduate age range (Schneider, Schulze-Bentrop, & Paunescu, 2010). Our findings remained robust to both exclusion restrictions.

The slope of the cumulative probability curve varies based on the values of the observations in the sample, which implies that, while the sign and significance of probit coefficients are meaningful, the magnitudes of coefficients are not directly interpretable. Likewise, coefficients of interaction terms do not represent cross-partial derivatives. Accordingly, we interpreted the effect sizes based on the average marginal effect (Hoetker, 2007). To aid the interpretation of the interaction coefficients, we present graphs generated by a simulation-based method (King, Tomz, & Wittenberg, 2000) that offer a more accurate interpretation of estimates generated from nonlinear models (Zelner, 2009).

RESULTS

Descriptive Statistics

Tables 4 and 5 provide the summary statistics and correlations of the model variables. Variance inflation factor values for our model variables range from 1.00 to 2.23, with a mean variance inflation factor of 1.42, thereby suggesting the absence of substantial multicollinearity.

Table 6 provides the results from the descriptive analysis comparing the observed rate of full versus partial acquisitions across various subgroups. The rate of full acquisitions is significantly greater in countries where the SWF investment is high (above the mean value) relative to where it is low (below the mean value), and the rate of full acquisitions increases as SWF investment increases across all subgroups. At the same time, this increase is significantly lower for conational (Norwegian) firms (8%) compared to Swedish firms (11%), and significantly greater when joint IGO memberships are low (below the mean) (23%) than when joint IGO memberships are high (above the mean) (3%). These findings based on the observed data suggest preliminary support for Hypotheses 1, 2, and 3.

Tests of Hypotheses

Model 1 in Table 7 reports the results from the first-stage selection model predicting entry into a host country. In Model 1, GDP growth rate has a positive and significant effect on the probability of a firm selecting a host country. The strength of the exclusion restriction is evaluated based on two parameters: the correlation between log SWF investment and the inverse Mill's ratio, and the value of the first-stage pseudo-R^2 (Certo et al., 2016). A correlation of -0.55 and a pseudo-R^2 value of 0.18 indicate moderate strength of the exclusion restriction. Together, these diagnostics support the suitability of GDP growth rate as an exclusion restriction.

From this first-stage analysis, we find that greater SWF investment in a host country increases the likelihood that the host country is selected for an acquisition. In particular, a one standard deviation increase in log SWF investment from its mean approximately doubles the probability (.023 to .049) of a firm entering that country ($p < .01$).

We now turn to the second-stage models estimating full versus partial acquisition conditioned on entry into a host country. Model 2 presents the estimates for the control variables, and Model 3 includes the main effects. Models 4 and 5 show the estimates for the interaction effects for co-nationality ties and joint IGO membership, respectively. Finally, Model 6 presents the full model including all the main and interaction effects.

Hypothesis 1 predicted that larger investments by Norway's SWF in a host country would increase the

[6] Following recent work (Certo et al., 2016), we adopt the terminology of exclusion restriction rather than instrument to emphasize that our main source of endogeneity is sample induced. We also distinguish the appropriate means to evaluate exclusion restriction validity from that in an instrumental regression setting.

probability that a firm entering that country would undertake a full rather than partial acquisition. Across all models (Models 3–6), we find a positive and significant effect of SWF investment ($p < .01$) on the probability of full versus partial acquisition. Figure 1 provides a graphical depiction of the estimated probability of full acquisition based on Model 3 with the main effects. In particular, a one standard deviation increase in log SWF investment to its mean value (corresponding to an increase in SWF investment from U.S.$1.5 billion to U.S.$7.8 billion) increases the probability of a firm's full acquisition by 7.2%. Hypothesis 1 is therefore supported. Illustratively, this effect implies that firms in our sample are approximately 7.2% more likely to make a full acquisition in Switzerland than in Belgium—countries that have received cumulative SWF investments of U.S. $7.6 billion and U.S.$1.4 billion, respectively, in 2003, but are otherwise similar in terms of their institutional and geographic characteristics.

Hypothesis 2 predicted that the positive effect of larger investments by Norway's SWF in a host country on the probability of full ownership by acquiring firms would be weakened for conational firms compared to Swedish firms. Based on Model 3, we find that, compared to conational firms, Swedish firms are 8.9% more likely to make full acquisitions in any host country ($p < .001$). Figure 2a shows consistently higher rates of full acquisitions for Swedish firms over different values of SWF investment. Based on the results in Model 6, a one standard deviation increase in log SWF investment to its mean value yields a two-fold increase in the full acquisition rate for Swedish firms compared to Norwegian firms. To test whether this difference in the predicted probability of full acquisition (for Norwegian firms compared to Swedish firms) is statistically different from 0, Figure 2b depicts the "difference line" (the predicted probability of full acquisition for Swedish firms subtracted from Norwegian firms) along with the 95% confidence intervals.[7] The downward sloping nature of this difference line illustrates a widening gap in the predicted probability of full acquisition by Swedish firms compared to Norwegian firms as the size of the SWF investment increases. Based on the confidence intervals shown in Figure 2b, this difference line is statistically different from 0 when the value of log SWF investment is greater than 1, or U.S.$2.7 billion (which represents 68% of our sample). Hypothesis 2 is therefore supported.

Hypothesis 3 posited that the positive effect of larger investments by Norway's SWF on the probability of firms' full acquisitions would be negatively moderated by joint IGO memberships between the home and host country. We assessed the effect of high and low levels of IGO membership based on one standard deviation above and below the mean, respectively. Across Models 3 to 6, the main effect of IGO membership is positive and highly significant ($p < .01$). Figure 3a depicts this relationship graphically, showing that, at any level of SWF investment, firms are more likely to make full acquisitions when IGO membership is high. This finding lends support to the notion that IGOs serve as a mechanism for fostering institutional harmonization between countries. In particular, for a one standard deviation increase in log SWF investment to its mean value, the difference in full acquisition rate reduces by 55% in host countries with high versus low IGO membership. Figure 3b shows the difference in predicted probability of full acquisition across high and low levels of IGO membership. This difference line lies in the positive region because the predicted probability of full acquisition is always greater at a high IGO level compared to a low IGO level. However, this difference line is downward sloping, which suggests that the difference in the predicted probability across high and low IGO levels diminishes as the level of SWF investment in a host country increases. Based on the confidence intervals shown in Figure 3b, the difference in the predicted probabilities is significant for observations in which the value of log SWF investment is less than or equal to 2 (or U.S.$7.8 billion, which is close to the mean value and represents 52% of our sample). These findings support Hypothesis 3.

Across Models 3 to 6, the inverse Mill's ratio is positive but not significant, suggesting that the unobserved variables affecting ownership choice in an acquisition are positively associated with the choice of host country selection. Recent advances in evaluating selection models suggest that, the stronger the exclusion restriction, the more likely the selection bias will be detected and reflected as a significant correction ratio. The moderate strength of the exclusion restriction therefore should detect the selection bias to the extent that it is present in our model (Certo et al., 2016).

The estimates for the control variables in Model 6 are mostly in accordance with theoretical expectations.

[7] When an independent variable is binary or has an empirical distribution driven by large differences in observed values, estimates of probability changes may be misleading. Interpretation based on the difference line avoids this problem (Zelner, 2009).

TABLE 5
Correlations[a,*]

	Variable	1	2	3	4	5	6	7	8	9	10
1	Full Acquisition	1.00									
2	Log SWF Investment	**0.16**	1.00								
3	Co-nationality	**−0.08**	−0.01	1.00							
4	IGO Joint Membership	**0.15**	**0.18**	**0.14**	1.00						
5	GDP Growth Rate in Host Country	**−0.07**	**−0.31**	−0.01	**−0.30**	1.00					
6	Total Bilateral FDI	**0.07**	**0.06**	**−0.17**	**0.04**	**0.04**	1.00				
7	Economic Leverage	**0.05**	**0.07**	0.03	**0.09**	**−0.07**	0.01	1.00			
8	FDI Restrictiveness Index	**−0.15**	**−0.23**	−0.01	**−0.43**	**0.34**	−0.02	0.02	1.00		
9	Physical Distance	0.01	**0.17**	**−0.09**	**−0.61**	**0.08**	0.03	**0.05**	**0.37**	1.00	
10	Cultural Distance	**−0.07**	**0.09**	**−0.29**	**−0.43**	**0.12**	**−0.11**	0.00	**0.28**	**0.34**	1.00
11	Target Government Owned	**−0.13**	**−0.08**	0.02	−0.02	0.02	0.02	**−0.06**	0.02	**−0.06**	−0.01
12	Target Private	**0.12**	0.02	**−0.09**	0.02	−0.01	**0.06**	0.01	**−0.03**	−0.01	0.02
13	Target Regulated Industry	**−0.08**	**−0.07**	**0.03**	**−0.05**	0.03	**−0.04**	0.02	**0.08**	**−0.06**	0.00
14	Target Censored Industry	0.02	**0.14**	0.00	−0.02	**−0.04**	0.02	0.01	0.01	**0.08**	**0.05**
15	SWF Investment in Target	−0.01	**0.04**	**0.07**	−0.01	−0.02	−0.02	0.01	0.00	0.02	0.00
16	SWF Ownership in Target	**−0.03**	**0.04**	**0.08**	0.00	**−0.03**	−0.02	**0.05**	0.00	0.03	0.01
17	Number of Bidders	−0.02	−0.01	−0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.00
18	Related Industry	**0.06**	−0.02	**−0.40**	**−0.07**	−0.02	**0.04**	−0.01	0.02	**0.04**	**0.14**
19	Acquirer Private	−0.01	−0.02	**0.17**	**0.09**	−0.02	−0.04	−0.01	0.00	**−0.10**	**−0.11**
20	Acquirer Government Owned	**−0.12**	**−0.07**	**0.18**	−0.02	0.01	0.00	−0.02	0.02	**−0.04**	**−0.04**
21	Acquirer Regulated Industry	**−0.14**	**−0.06**	**0.09**	−0.01	**0.04**	**−0.04**	0.00	**0.06**	**−0.11**	**−0.05**
22	Acquirer International Experience	0.00	**0.07**	**−0.08**	**−0.09**	−0.01	**−0.05**	0.01	0.02	**0.09**	**0.11**
23	Acquirer Experience in Host Country	−0.02	**0.13**	−0.03	0.01	0.00	**0.06**	0.00	**−0.03**	0.02	−0.02

Notably, SWF investments in individual target firms do not have a significant effect on the ownership choices of acquiring firms. We interpret this result to mean that, since the SWF's investments in individual firms tend to be uniformly small (typically less than 1% of the target firm's total equity), these investments may not convey much information about differences in the firms' quality when making equity choices. Norwegian firms, in particular, may refrain from acquiring wholly owned stakes in targets in which their SWF has already acquired a stake to avoid suspicion of insider trading by host country regulators.

Supplemental Analyses

Alternative specifications. To examine the sensitivity of our findings to the operationalization of the dependent variable, we employed the percentage shares acquired as an alternative dependent variable. Since this variable is bounded between 0 and 100, we re-estimated Model 6 using a Tobit specification. Results presented in Model 7 of Table 8 demonstrate a positive and significant coefficient for SWF investment. A one standard deviation increase in log SWF investment to its mean value increases the ownership of shares by 10.8% ($p < .01$). The graphical analyses for Tobit models (Bowen, 2010) lend further support for Hypotheses 1 to 3.

In an alternative specification of the dependent variable, for acquisitions by firms in manufacturing industries, we considered the choice of establishing a manufacturing versus distribution subsidiary in the host country. All else equal, establishing a manufacturing subsidiary requires greater capital investments in fixed assets, thereby reflecting a greater commitment by acquirers (Berry, Guillén, & Zhou, 2010). Model 8 in Table 8 shows that a one standard deviation increase in log SWF investment to its mean value increases firms' likelihood of acquiring a manufacturing versus distribution subsidiary by 12.4 times. This result lends further support to our theory that greater SWF investments signal a host country's institutional quality and increase firms' commitments.

Testing the institutional mechanisms. If greater investments by Norway's SWF serve as a signal of a host country's institutional quality, the reliance on such signals should reduce in countries such as the USA and the United Kingdom that are characterized by stronger corporate governance institutions and informational transparency (Starks & Wei, 2013). Not surprisingly, the USA and the United Kingdom account for 46% of the total SWF investments and 23% of the total acquisition transactions in our sample

TABLE 5
(Continued)

11	12	13	14	15	16	17	18	19	20	21	22	23
1.00												
−0.06	1.00											
0.01	**−0.12**	1.00										
−0.06	−0.01	**−0.12**	1.00									
−0.01	**−0.05**	**0.07**	**0.03**	1.00								
−0.01	**−0.08**	0.02	0.00	**0.36**	1.00							
−0.01	**−0.04**	0.01	0.00	0.00	0.00	1.00						
0.01	**0.10**	**−0.04**	−0.03	**−0.03**	**−0.04**	−0.01	1.00					
0.06	**−0.04**	0.02	0.01	−0.02	−0.01	−0.02	**−0.09**	1.00				
0.58	**−0.05**	0.03	**−0.08**	**0.10**	**0.08**	−0.01	**−0.07**	−0.01	1.00			
0.02	**−0.16**	**0.49**	**−0.06**	**0.05**	**0.06**	0.01	**−0.22**	**0.19**	**0.09**	1.00		
0.04	−0.02	−0.02	0.03	0.01	−0.01	−0.01	0.01	**0.04**	**0.07**	**0.12**	1.00	
0.03	−0.03	0.00	0.00	0.03	−0.01	0.01	−0.03	**−0.09**	**0.05**	**0.06**	**0.38**	1.00

[a] $n = 4{,}003$.
* $p < .05$ for correlations in bold

(see Table 3). Model 9 reveals a significant negative interaction between SWF investment and the indicator variable for acquisitions in the USA and the United Kingdom, which we confirm using graphical analysis. In agreement with the theory underpinning Hypotheses 2 and 3, this result supports the idea that signaling becomes less valuable under conditions of less information asymmetry and better corporate governance. It is worth noting, however, that, despite the higher institutional quality in the USA and the United Kingdom, Norway's SWF has initiated changes in corporate governance practices in these countries. Thus, while firms tend to rely less on signals in better-quality institutional contexts, our signaling theory applies to a broad array of countries.

To account for the possibility that the institutional attractiveness of host countries for Norwegian and Swedish firms may stem from the investments of other foreign institutional investors rather than those of Norway's SWF, we controlled for the time-varying foreign institutional investments in each host country. Using data from the OECD Institutional Investors Statistics (OECD, 2018), we calculated this measure as the value of institutional and pension fund shares issued by non-residents (foreign entities) in each host country. Although the limited availability of these data led to a reduction in the sample size, the results in Model 10, though weaker in significance, remain consistent with our reported findings.

Firm heterogeneity. We find that government ownership of a Norwegian acquirer does not alter the signaling effect of the SWF's investments on its foreign ownership choices (Model 11). We interpret this finding to mean that, in the context of Norway, which is characterized by a social–corporatist institutional environment (Jepperson, 2002), government-owned firms may not enjoy preferential access to information flows from the government. Further, we examine whether Swedish firms that have prior acquisition experience in Norway accrue informational advantages similar to those of Norwegian firms. To test this possibility, Model 12 excludes Swedish firms that invested in Norway within a five-year window prior to the focal acquisition. The differential effect of SWF investment on firms' likelihood of full acquisition between Norwegian and Swedish firms widens by 28%, providing additional support for the proximity to the signaler effect specified under Hypothesis 2. Finally, Model 13 reveals that the acquiring firm's own host country experience does not substitute for the novel information contained in the SWF's investment signal.

TABLE 6
Subgroup Comparisons of Rates of Full Acquisitions in Second Stage

Category		Rate of Full Acquisitions (%)	No. of Acquisitions	*p* value
All observations	Low SWF Investment	73%	1,579	≤.001
	High SWF Investment	83%	1,533	
Conational firm (Norwegian)	Low SWF Investment	69%	427	≤.01
	High SWF Investment	77%	441	
Non-conational firm (Swedish)	Low SWF Investment	75%	1,152	≤.001
	High SWF Investment	86%	1,092	
Low IGO membership	Low SWF Investment	62%	495	≤.001
	High SWF Investment	85%	512	
High IGO membership	Low SWF Investment	80%	1,084	≤.05
	High SWF Investment	83%	1,021	

DISCUSSION

Through this study, we found that a SWF's foreign investments can generate signals about host countries' institutional quality, and thereby serve to overcome the "lemons problem" arising from information asymmetry experienced by internationalizing firms. Building on the classical theory of two-party signaling (Akerlof, 1970; Connelly et al., 2011; Spence, 1973), combined with insights concerning the role of relational ties as intermediary signalers, our study contributes to a signaling theory of activist SWFs in three ways.

First, our conceptualization incorporates the signaling role of activist SWFs as third-party intermediaries to overcome information asymmetry between the transacting parties. The novelty of many SWFs as intermediary signalers is underpinned by their government ownership, large size, and institutional activism in host countries. Although prior studies have acknowledged the potential overseas role of national governments to secure the interests of their home country's firms, a theorization of such effects has relied mostly on political bargains (Henisz & Zelner, 2005) or intergovernmental mechanisms (e.g., Alcacer & Ingram, 2013). By holding the capacity to transform the corporate governance practices in host countries, our findings show that the size of a SWF's investments can serve as a signal of institutional quality. Moreover, a distinctive feature of SWFs as intermediary signalers emerges from the unintentional signals that their activities can generate for a broad range of receivers that prioritize similar institutional values.

Second, our findings allow us to distinguish the signaling effect of an intermediary from other information flows that might emanate from it. In this regard, we identify proximity to the sender, operationalized as co-nationality ties to the SWF, as a contingency that alters the value of the signal for the receivers. While proximity increases the signal's visibility and salience to the receiver, it also generates alternative mechanisms for information flows that reduce the reliance on the signal as a means to overcome information asymmetry. In this regard, we demonstrate the dual role that a sender plays for different receivers—as a signaler to some and a provider of information to others—and point at proximity to the sender as the condition that determines when each of these roles comes into play.

A combination of these informational and institutional mechanisms creates alternative channels for information flows and, hence, firms that are very proximate to the sender will likely benefit less from signaling. Likewise, firms that are very remote from the sender and share no common traits or institutional affinity with it will likely not attend to its signals. As our findings show in relation to Swedish firms' responses to Norway's SWF investments, firms from countries that are institutionally proximate but do not enjoy the same informational advantages as conational firms benefit the most from the SWF's investment signals.

Third, our theory incorporates the contingent role of the signaling environment, which we capture based on the IGO ties between the home and host countries. IGOs not only reduce the problem of institutional uncertainty by creating an alternative venue for information exchange between countries but also represent a direct and deliberate signal of the host country's commitment to institutional harmonization within a multilateral system. The finding that the value and intensity of the signal from a SWF's investments in a host country is diminished in the presence of IGO ties corroborates the importance of the institutional context within which signaling occurs (Connelly et al., 2011). It

TABLE 7
Two-Stage Probit Estimates of Full vs. Partial Acquisitions[a]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	First stage, DV: Country entry	Second Stage, DV: Full acquisition				
		Controls	Main effects	Interaction effects	Interaction effects	Full specification
Explanatory Variables						
Log SWF Investment	0.25***		0.12**	0.14***	0.82***	0.80**
(Hypothesis 1)	(0.01)		(0.04)	(0.04)	(0.24)	(0.24)
Co-nationality	−0.10***		−0.23***	−0.11	−0.22**	−0.12
	(0.02)		(0.07)	(0.10)	(0.07)	(0.10)
IGO Joint Membership	0.24***		0.64***	0.64***	0.82***	0.81***
	(0.06)		(0.14)	(0.14)	(0.16)	(0.16)
Log SWF Investment ×				−0.06†		−0.05
Co-nationality (Hypothesis 2)				(0.04)		(0.04)
Log SWF Investment × IGO					−0.23**	−0.21**
Joint Membership					(0.08)	(0.08)
(Hypothesis 3)						
GDP Growth Rate in	0.01**					
Host Country	(0.00)					
Inverse Mill's Ratio[b]		−0.43***	0.12	0.12	0.09	0.10
		(0.08)	(0.14)	(0.14)	(0.14)	(0.14)
Country Variables						
Total Bilateral FDI	0.04***	0.00	0.01†	0.01	0.01	0.01
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Economic Leverage	−0.00**	0.00**	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FDI Restrictiveness Index	0.87***	−2.07***	−1.20**	−1.18**	−1.26***	−1.25***
	(0.15)	(0.33)	(0.37)	(0.37)	(0.37)	(0.37)
Physical Distance	0.19***	−0.03	0.08**	0.08**	0.06*	0.06*
	(0.01)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Cultural Distance	−0.15***	0.00	−0.07**	−0.07**	−0.06*	−0.06*
	(0.01)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Target Variables						
Target Government Owned		−0.50**	−0.56***	−0.56**	−0.55***	−0.55***
		(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Target Private		0.26***	0.25***	0.25***	0.25***	0.26***
		(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Target Regulated Industry		0.00	0.02	0.03	0.03	0.04
		(0.08)	(0.08)	(0.08)	(0.09)	(0.09)
Target Censored Industry		−0.02	−0.03	−0.02	−0.02	−0.01
		(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
SWF Investment in Target		0.28	0.32	0.37	0.28	0.32
		(0.60)	(0.62)	(0.61)	(0.63)	(0.61)
SWF Ownership in Target		−11.39	−10.75	−10.26	−11.58	−11.16
		(12.44)	(12.22)	(12.30)	(12.26)	(12.31)
Number of Bidders		−0.30	−0.33	−0.34	−0.33	−0.34
		(0.59)	(0.60)	(0.59)	(0.60)	(0.60)
Acquisition Variable						
Related Industry		0.14*	0.08	0.08	0.08	0.08
		(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Acquirer Variables						
Acquirer Private	0.03	0.04	0.06	0.07	0.06	0.07
	(0.03)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Acquirer Government Owned	−0.03	−0.30*	−0.21†	−0.21†	−0.21†	−0.22†
	(0.04)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)

TABLE 7
(Continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
		Second Stage, DV: Full acquisition				
	First stage, DV: Country entry	Controls	Main effects	Interaction effects	Interaction effects	Full specification
Acquirer Regulated Industry	−0.05†	−0.30***	−0.32***	−0.32***	−0.32***	−0.31***
	(0.03)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Acquirer International Experience	−0.01***	0.01***	0.00†	0.00†	0.00†	0.00†
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Acquirer Experience in Host Country	0.85***	−0.31***	−0.08	−0.08	−0.10	−0.10
	(0.04)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)
Constant	−2.49***	1.93**	−1.15	−1.19	−1.61†	−1.61†
	(0.20)	(0.63)	(0.86)	(0.85)	(0.88)	(0.88)
Year Fixed Effects	YES	YES	YES	YES	YES	YES
R^2	0.18	0.09	0.10	0.10	0.10	0.11
Wald χ^2	2330.13	273.01	306.24	304.01	307.73	305.87
N	89,518	4,003	4,003	4,003	4,003	4,003

Note: Clustered standard errors by firm–country dyad in parentheses.
[a] 0.00 values are truncated values.
[b] Correlation between Log SWF Investment and the Inverse Mill's Ratio is −0.55.
*** $p < .001$
** $p < .01$
* $p < .05$
† $p < .10$ (two-tailed test)

also demonstrates the interaction between multiple signals, such that the intermediary's signal is weakened in the presence of a direct signal from the entity of interest.

In the realm of international management, while prior studies have noted the positive spillovers of trade on the environmental standards and labor and human rights practices in developing countries (e.g., Prakash & Potoski, 2010; Vogel, 1995), our findings point to such effects, mediated by institutional investors such as SWFs, in a wide range of countries, including developed countries. Relatedly, although

FIGURE 1
Relationship between SWF Investment and Probability of Full Acquisition

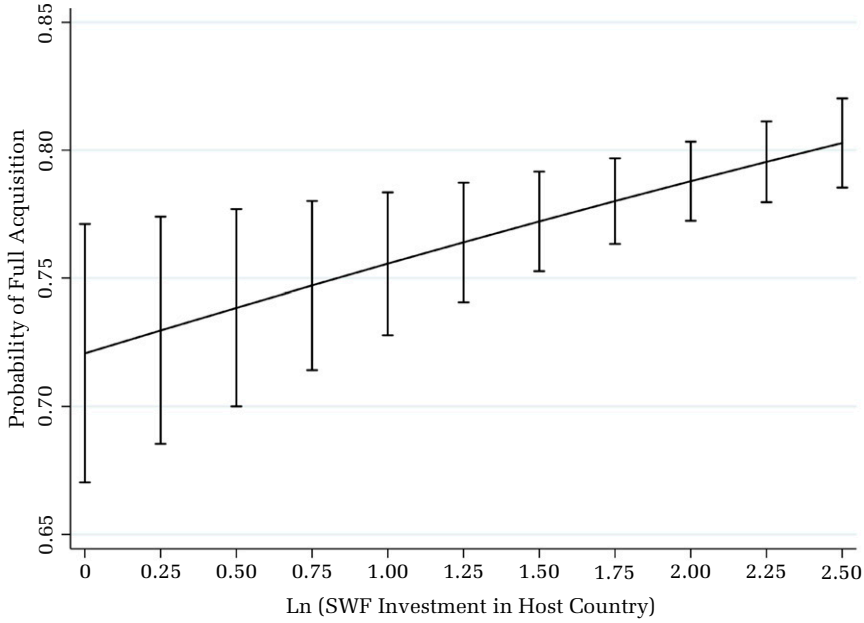


FIGURE 2a
Relationship between SWF Investment and Probability of Full Acquisition for Norwegian and Swedish Firms

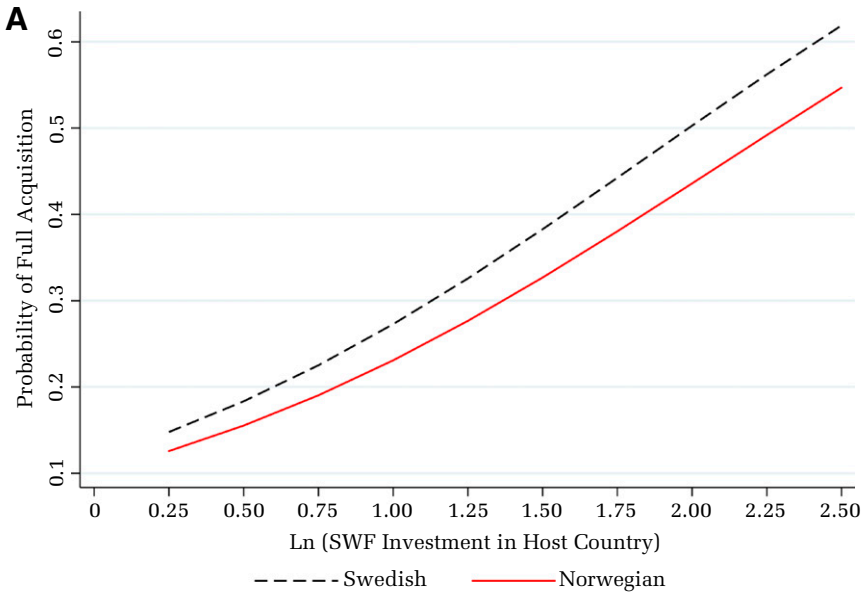
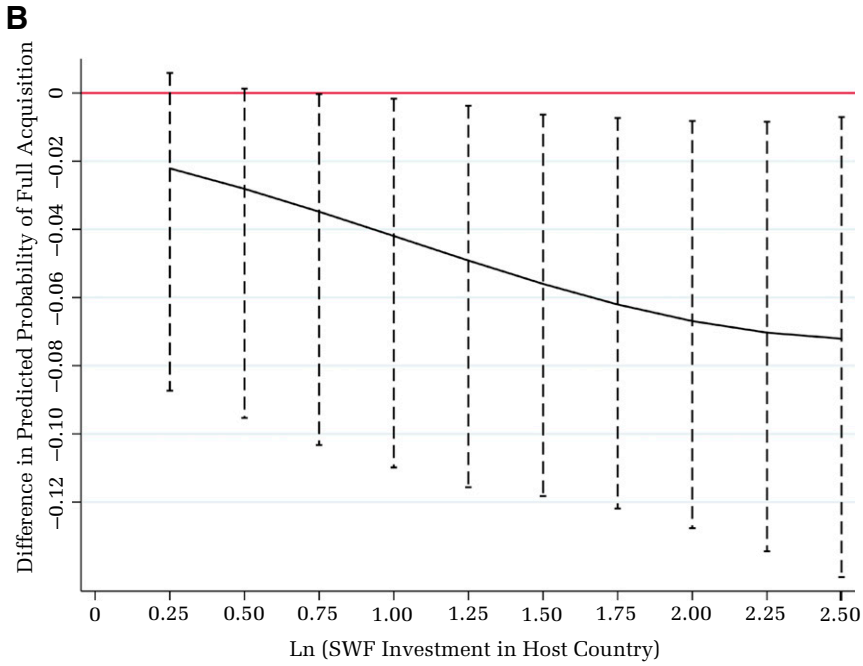
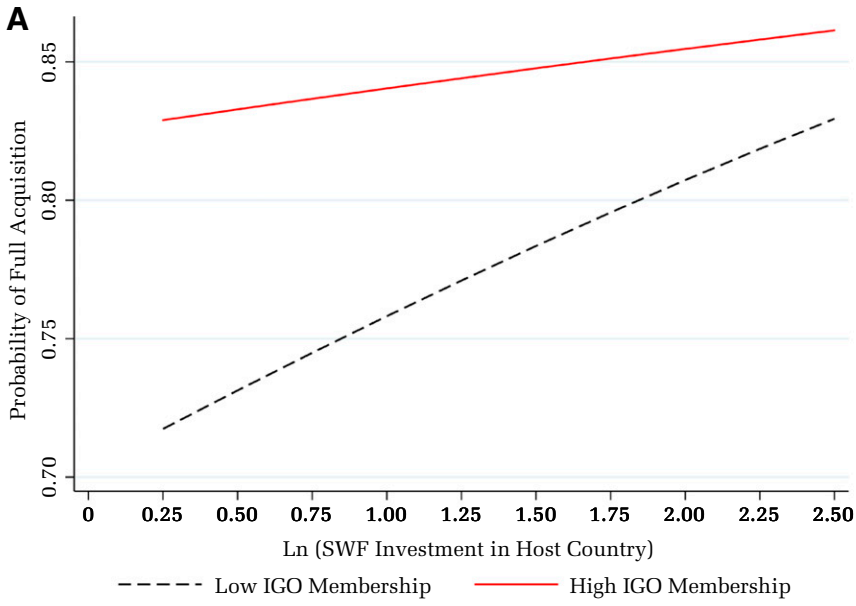


FIGURE 2b
Difference in Predicted Probabilities (Interaction Effect of Co-Nationality)



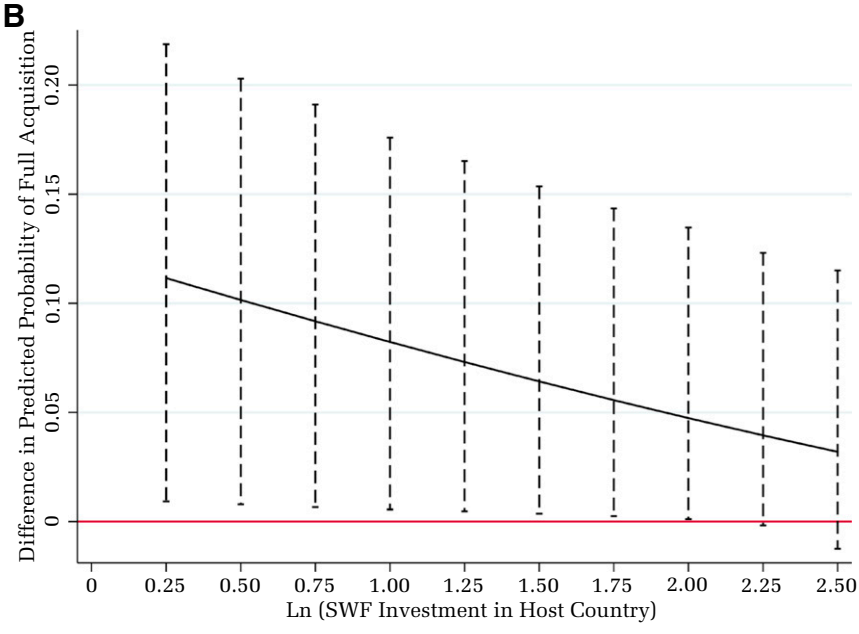
multinational firms (Guillén, 2002; Shaver, Mitchell, & Yeung, 1997), immigrants (Hernandez, 2014), and social activists (Soule, Swaminathan, & Tihanyi, 2014) can generate information spillovers for subsequent investors, the information contained in a SWF's investment signal is markedly different. First, in contrast to multinational firms, which tend to vary in terms of the size of their resources, internationalization approaches, and investment goals, a SWF is likely to pursue nationally determined goals, which makes the

FIGURE 3a
Relationship between SWF Investment and Probability of Full Acquisition for High vs. Low IGO Membership[a]



[a] 1 *SD* above and below mean level.

FIGURE 3b
Difference in Predicted Probabilities (Interaction Effect of IGO Membership)



information contained in its signals less noisy and more reliable. Second, the larger size of most SWFs compared to the average multinational firm increases the attention that a SWF's investments is likely to receive from observing audiences, and increases their potential impact. Third, whereas SWFs increasingly encounter pressures for greater transparency about their investments, the propensity to guard strategic information can constrain information flows from multinational firms. Finally, compared to a government-owned long

TABLE 8
Supplementary Analyses for Alternative Specifications and Contingencies[a]

Variables	Model 7 Tobit: % shares acquired in target	Model 8 Manuf. vs Distrib.	Model 9 USA and UK	Model 10 Foreign Inst. Investments	Model 11 Acq. Govt Own: Norwegian firms only	Model 12 Exc. Swedish firms with experience in Norway	Model 13 Prior Exp. In Host Country
Log SWF Investment	48.72**	1.46**	0.81***	1.06†	0.76	0.86***	0.80**
(Hypothesis 1)	(16.58)	(0.56)	(0.24)	(0.54)	(0.58)	(0.25)	(0.24)
Co-nationality	−4.37	1.42***	−0.12	−0.01		−0.10	−0.12
	(6.35)	(0.43)	(0.09)	(0.13)		(0.10)	(0.10)
IGO Joint Membership	56.21**	0.72	0.90***	1.07***	1.11***	0.82***	0.81***
	(9.56)	(0.55)	(0.16)	(0.21)	(0.31)	(0.16)	(0.16)
Log SWF Investment ×	−4.59†	−0.15	−0.05	−0.10*		−0.06	−0.05
Co-nationality (Hypothesis 2)	(2.39)	(0.13)	(0.04)	(0.05)		(0.04)	(0.04)
Log SWF Investment × IGO	−12.29*	−0.36†	−0.24**	−0.32†	−0.20	−0.23**	−0.21**
Joint Membership (Hypothesis 3)	(5.30)	(0.19)	(0.08)	(0.17)	(0.18)	(0.08)	(0.08)
USA and UK country dummy			0.73***				
			(0.19)				
Log SWF Investment × USA and UK country dummy			−0.12*				
			(0.05)				
Foreign Institutional Investments in Host Country				0.001			
				(0.00)			
Log SWF Investment × Acq. Govt. Owned					0.04		
					(0.09)		
Log SWF Investment × Acq. Exp. in Host Country							0.00
							(0.03)
Inverse Mill's Ratio[b]	10.54	0.77	0.10	0.08	0.22	0.14	0.10
	(9.12)	(0.51)	(0.14)	(0.18)	(0.21)	(0.14)	(0.14)
Control Variables							
Total Bilateral FDI	0.74	0.01	0.01	0.00	−0.01	0.01	0.01
	(0.53)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Economic Leverage	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FDI Restrictiveness Index	−81.96***	1.02	−1.12**	−0.91	−1.07	−1.27***	−1.25***
	(23.33)	(1.01)	(0.37)	(0.71)	(0.73)	(0.38)	(0.37)
Physical Distance	5.05**	0.02	0.06*	−0.01	0.04	0.07*	0.06*
	(1.92)	(0.10)	(0.03)	(0.06)	(0.05)	(0.03)	(0.03)
Cultural Distance	−4.63**	−0.11	−0.07**	−0.06†	−0.05	−0.07**	−0.06*
	(1.75)	(0.08)	(0.03)	(0.03)	(0.06)	(0.03)	(0.03)
Target Government Owned	−33.58***	−0.59	−0.53***	−0.52**	−0.66**	−0.52**	−0.55***
	(10.14)	(0.74)	(0.16)	(0.20)	(0.21)	(0.16)	(0.16)
Target Private	17.40***	−0.18	0.26***	0.30***	0.35***	0.25***	0.26***
	(3.72)	(0.17)	(0.05)	(0.07)	(0.09)	(0.05)	(0.05)
Target Regulated Industry	0.05	0.01	0.04	0.01	−0.04	0.05	0.04
	(5.78)	(0.77)	(0.08)	(0.10)	(0.13)	(0.09)	(0.09)
Target Censored Industry	−1.94	0.64***	−0.01	0.06	−0.01	0.04	−0.01
	(4.42)	(0.16)	(0.06)	(0.08)	(0.11)	(0.07)	(0.06)
SWF Investment in Target	35.32	0.21	0.37	4.70†	0.19	0.30	0.32
	(41.36)	(1.98)	(0.60)	(2.66)	(0.58)	(0.61)	(0.61)
SWF Ownership in Target	−1,414.21	5.40	−10.74	−9.00	−3.25	−9.25	−11.16
	(871.76)	(20.92)	(12.19)	(19.85)	(13.05)	(12.17)	(12.31)
Number of Bidders	−25.45		−0.44	−0.04		−0.35	−0.34
	(26.93)		(0.61)	(0.79)		(0.59)	(0.60)
Related Industry	7.14†	0.90***	0.07	0.14†	0.13	0.11†	0.08
	(4.28)	(0.16)	(0.06)	(0.08)	(0.15)	(0.06)	(0.06)
Acquirer Private	−5.90	−0.11	0.07	−0.00	0.27*	0.07	0.07
	(4.99)	(0.24)	(0.07)	(0.09)	(0.10)	(0.08)	(0.07)
Acquirer Government Owned	−14.06	−0.42	−0.21†	−0.07	−0.27	−0.20	−0.22†
	(8.61)	(0.67)	(0.13)	(0.18)	(0.22)	(0.13)	(0.13)
Acquirer Regulated Industry	−28.80***		−0.33***	−0.25**	−0.10	−0.32***	−0.31***
	(5.21)		(0.08)	(0.10)	(0.12)	(0.08)	(0.08)
Acquirer International Experience	0.37*	0.01	0.00†	0.00	−0.01	0.00	0.00†
	(0.15)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
Acquirer Experience in Host Country	−5.28	0.11	−0.10	−0.12	0.10	−0.09	−0.10
	(5.52)	(0.25)	(0.08)	(0.10)	(0.14)	(0.09)	(0.10)

TABLE 8
(Continued)

Variables	Model 7 Tobit: % shares acquired in target	Model 8 Manuf. vs Distrib.	Model 9 USA and UK	Model 10 Foreign Inst. Investments	Model 11 Acq. Govt Own: Norwegian firms only	Model 12 Exc. Swedish firms with experience in Norway	Model 13 Prior Exp. In Host Country
Constant	−20.39	−2.95	−1.89*	−2.91*	−3.27*	−1.73†	−1.61†
	(49.01)	(2.19)	(0.90)	(1.19)	(1.27)	(0.89)	(0.88)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.10	0.12	0.11	0.10	0.10	0.10	0.10
Wald χ^2	13.49	134.93	325.83	193.01	123.87	299.74	309.85
N	3,654	1,043	4,003	2,322	1,189	3,656	4,003

Note: Clustered standard errors by firm–country dyad in parentheses.

[a] 0.00 values are truncated values.

[b] First-stage regressions not shown. Inverse Mill's ratio recalculated for Models 8–12. Correlation between Log SWF Investment and the Inverse Mill's ratio ranges from −0.46 to −0.55. First-stage R^2 values range from 0.18 to 0.21, providing evidence of a moderate strength exclusion restriction.

$^{***}p < .001$
$^{**}p < .01$
$^{*}p < .05$
$^{\dagger}p < .10$ (two-tailed test)

term-oriented SWF, the potential for bringing about institutional transformation in a host country is considerably lower for any single multinational firm, thereby reducing the potential for generating reliable cues about a host country's future outlook.

Boundary Conditions and Future Research

Although we test our signaling theory of intermediaries in the context of the foreign investments made by Norway's SWF, the validity of our theory applies to a broad range of intermediaries such as activist institutional investors and SWFs. Notwithstanding important differences across SWFs in terms of their purpose, source of funding, transparency, asset allocation, and nature of activism (Aizenman & Glick, 2009; Fernandez & Eschweiler, 2008), like Norway's SWF, many SWFs have adopted a long-term investment horizon and situated their investments within the context of their national economic goals. Likewise, an increasing number of SWFs, particularly those originating from developed countries, operate as active institutional investors using a variety of influence tactics to improve the corporate governance practices in host countries (Dimson et al., 2015).

At the same time, a necessary condition for signaling to occur is that the signal must be clearly observable and become the focus of attention. In this regard, there exists considerable variability in the extent to which SWFs publicize their investments and the coverage they receive in public arenas. For example, the Abu Dhabi Investment Authority, the world's third largest SWF and the largest among the seven SWFs in the United Arab Emirates, is allegedly the world's most secretive SWF—it has never made its financial information public, including even the size of its assets. Observing firms will find it more difficult to discern the motivations and salutary effects of SWFs whose investment strategies are not transparent or well understood (Dimson et al., 2015). Likewise, the signals emanating from the politically motivated foreign investments of SWFs from China and Russia may benefit only a few politically connected firms that can interpret these signals (Hill & Knowlton, Inc. & Penn Schoen Berland, 2010; Shih, 2009).

Another defining feature of our signaling theory is that signalers activate certain changes in the entity of interest, and, although this institutional transformation may take time to take effect and become codifiable, observing firms will interpret a signaler's actions as a precursor to certain changes in the entity of interest. In the context of Norway's SWF, although it initiated its foreign investments in 1998, the substantive effects of its institutional activism on host countries' ESG practices have become apparent only since 2009. As Connelly et al. (2010: 56) noted, "receivers' interpretations of signals in the present could be moderated by their expectations or by what they strive to accomplish in the future via the signaling process." Future research could account for the actual policy changes that a SWF activates in host countries by coding for a SWF's ESG reforms, for example, and examine such effects on subsequent foreign investments. Although national level changes are accomplished only by large-scale social movements (Soule

et al., 2014), future research could also examine the interaction between the activities of SWFs and prominent extra-institutional actors (King & Soule, 2007).

While we recognize that not all SWFs hold the potential to influence a host country's institutional environment, they could increase the attractiveness of a host country for their home country's firms in different ways. As an illustration, a recent U.S. government report noted that one of China's SWFs, the China Investment Corporation, has targeted strategic foreign investments and taken active governance roles in the natural resources, utilities, and logistics sectors to overcome China's structural weakness in these domains (Koch-Weser & Haacke, 2013). Future research could examine the different roles of SWF investments such as facilitating access to critical technologies in foreign markets to advance domestic technological and economic goals.

To the extent that an SWF's investments are perceived to advance national strategic objectives by host country stakeholders, they could trigger adverse responses resulting in social activism and restrictive regulatory policies directed toward the SWF and its home country's firms (Sorkin, 2008). A related issue pertains to an SWF's image, which is intrinsically tied to its country's reputation. By advocating greater adherence to global standards, SWFs from Norway and Singapore tend to be viewed favorably despite their active governance roles in host countries. In contrast, SWFs from Libya, Algeria, Botswana, and Nigeria that do not hold such promise may encounter setbacks and challenges to their legitimacy in host countries (Hill & Knowlton, Inc. & Penn Schoen Berland, 2010). Similarly, investments by SWFs from less reputable countries may serve as a warning signal of potentially declining corporate governance practices in a host country (Adolph, Quince, & Prakash, 2017). While Norway's SWF epitomizes the salutary outcomes of a government-owned foreign institutional investor, future work could unpack the deterring role of certain intermediaries.

In conclusion, our study develops a signaling theory of activist SWFs as intermediaries that have transformed national governments from erstwhile domestic actors into global economic players. From a practical standpoint, our study draws managers' attention to SWF investments as a potentially useful signal of host countries' institutional environments. In particular, internationalizing firms that prioritize long-term objectives and specific institutional qualities in host countries could calibrate their investments to the activities of SWFs that seek similar goals.

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