LARGE INSTITUTIONAL INVESTORS:
THE CASE OF ACTIVE OWNERS

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We explore the governance implications of the unexpected announcement of Norway's sovereign wealth fund (NBIM) in November 2012 stating that it would improve the governance level of its portfolio. We document how the investment weights of the fund changed to achieve this objective by increasing (decreasing) its holdings in good (bad) governance firms. We also show how, firms for which the fund is very important and firms that are very important to the fund improved their governance relative to other firms. Both the "exit" and the "voice" channels seem to be relevant in this reaction. Our findings shed light on our understanding of shareholder activism among sovereign wealth funds.

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1. INTRODUCTION

Institutional investors can influence investee firms' policies and corporate governance (Gillan & Starks, 2000). Research in corporate governance and finance identifies two main channels that institutional investors deploy when they seek to influence their portfolio companies' strategies and want to "assure themselves of getting a return on their investment". On one hand, they may talk directly to management or boards to address the conflicting governance issues (the "voice" channel). On the other hand, institutional investors can "vote with their feet," by divesting (the "exit" channel). Thus, institutional investors, such as large shareholders, have used "voice" or "exit" to express their disagreement with the governance practices of their portfolio companies (Hirschman, 1970; McCahery, Sautner, & Starks, 2016). Moreover, both channels interact, as the threat of "exit" can reinforce the influence of investors' "voice".

An increasing share of diverse institutional investors (e.g., pension funds, mutual funds, hedge funds, private equity funds) is able to promote active ownership practices. It is key to continue our understanding of the goals and strategies pursued by these heterogeneous institutional investors (Gillan & Starks, 2007; Hoskisson, Hitt, Johnson, & Grossman, 2002; Schnatterly & Johnson, 2014). Agency theory has been enriched by the concept of heterogeneity of the "principals" which have different and sometimes conflicting objectives, depending on their stake size (Fich, Harford, & Tran, 2015), investment horizons (Connelly et al., 2010; Gaspar, Massa, & Matos, 2005) or non-market strategies (Aguilera, Capapé, & Santiso, 2016). Given this heterogeneity, which has important implications in the development of an extended agency theory, some investors are receiving stronger attention than others. Hedge funds, for example, are now better known and the debate about their influence in the short and the long run has received renewed efforts (Bebchuk, Brav, & Jiang, 2015), while other types of investors, such as pension funds or sovereign wealth funds have received less attention.

In this paper, we exploit a change in the investment stance of Norway's sovereign wealth fund to shed some light on the governance implications of sovereign wealth funds (SWFs). Specifically, we are interested in exploring the question "can sovereign wealth funds, as state-owned institutional investors, improve the corporate governance of their portfolio companies?" Our findings demonstrate that SWFs are able to improve significant governance practices that include the share of independent directors on boards, the share of women on boards, the size of staggered boards, the share of non-executive directors on boards and the amount of antitakeover provisions.

We show how Norway's sovereign wealth fund NBIM made use of both mechanisms "voice" and "exit" to change the corporate governance of the firms in their portfolio. To this aim, we exploit the unexpected announcement of the NBIM in November 2012 stating that they would improve the corporate governance of the firms in their portfolio by focusing on several specific dimensions. We start by constructing a fund-specific governance index that captures those governance dimensions that were explicitly covered in the NBIM's announcement. We then show in a difference in differences setting how, indeed, the governance of NBIM's portfolio improved after the announcement relative to that of firms outside the portfolio. This improvement can be decomposed into the change in the composition of the firms that integrate the portfolio and the change in governance of those firms that were already present in the portfolio at the time of the announcement. Our results show that both components are important to understand the overall change.

SWFs have not been specifically addressed in the literature on principal heterogeneity (Connelly et al., 2010; Hoskisson et al., 2002) or have merely been acknowledged but not analyzed (Goranova, Abouk, Nystrom, & Soofi, 2017). Yet, their importance is undeniable. The size of the SWFs industry, in terms of assets under management, is worth three times that of the hedge funds. Also, the nature of SWFs makes them an intriguing combination of private and public institutions, a new form of state capitalism that is growing (Musacchio & Lazzarini, 2014). Their capacity to influence corporations all over the planet is undeniable. In one example, Norges Bank Investment Management (NBIM), the asset owner of the largest SWF and our object of analysis in this paper, controls on average 1.3% of all listed equities globally. The figure rises to 2.5% when referring to European listed companies.

Our work contributes to strategy research in several ways. First, we add evidence on a different "principal" player—sovereign wealth funds—in the heterogeneous matrix of institutional investors which currently own the majority of shares of listed companies worldwide. Second, we enhance the understanding of how SWFs, with a dual objective of maximizing financial returns and increasing global political influence, may act as “engaged shareholders” in the long run, in contrast with “activist shareholders” more focused in short-run returns. Third, we demonstrate that SWFs, as long-term investors, do have an impact on their investee companies’ corporate governance, which they believe will enhance value of companies in the long-run.

2. THEORETICAL BACKGROUND

Agency theory has dominated corporate governance research in the areas of finance and management (Dalton, Hitt, Certo, & Dalton, 2007; Gompers et al., 2003). This theory predicts that well-monitored managers that align with principals will increase firm value. The literature has also discussed extensively corporate governance practices that align principals and agents’ interests, such as the independence of the board of directors and the importance of an effective market for corporate control. For the most part, theoretical insights support the assumption that better governance should improve company value in the short and long run. It follows that, in general, shareholder activism enhances board monitoring roles, enforces effective governance mechanisms, and is consistent with the agency assumption of alignment of interests (Gompers et al., 2003).

The classic dichotomy between agents and principals has been recently enriched with new boundary conditions. One of the main insights is the acknowledgment of heterogeneous principals (such as institutional investors, families and governments) acting simultaneously within a firm (Goranova et al., 2017; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). With heterogeneous principals, the fundamental problem of aligning conflicting interests between owners and managers does extend to scenarios where different owners may have different interests (Connelly et al., 2010; Hoskisson et al., 2002; Young et al., 2008); managers may prioritize demands from a set of owners at the expense of others (Bebchuk, Cohen, & Ferrell, 2009; Becht, Franks, Mayer, & Rossi, 2009; Goranova et al., 2017); owners might dedicate monitoring efforts for the largest stakes of their portfolios and free-ride in the smaller ones (Fich et al., 2015). Therefore, the heterogeneous set of principals' interests, often in direct conflict, forces us to move beyond agency theory to account for this renewed complexity.

This diversity of owners with heterogeneous interests is reflected in the mixed empirical results. Research shows that activism is beneficial for companies under certain circumstances (Cai & Walkling, 2011; Cuñat, Gine, & Guadalupe, 2012), whereas other results indicate that the value of activism is decreasing due to private tunneling of investors (Anabtawi & Stout, 2008), and misguided preferences over shareholder value that prioritize other stakeholders such as workers' rights (Agrawal, 2012) or investors' political gains (Woidtke, 2002). Also, with identification and endogenous choices, investors prefer better governed companies with lower monitoring costs (Leuz, Lins, & Warnock, 2009), which has led to mixed results.

In fact, there is a fierce theoretical and media debate between those who defend the value of shareholder activism in the long-run (Bebchuk et al., 2015) and those who claim the importance of managers, who have information advantages to design and implement the corporate strategy, and point to the short-term risks of activism (Lipton, 2015).

As owners, institutional investors have believed in the premise (which almost turned into ideology) which supports shareholder value maximization and the preeminence of principals over managers (Davis, 2009; Rappaport, 1986; Shleifer & Vishny, 1986). While most institutional investors have little incentives to demand better governance of their investee companies due to the costs of monitoring, these costs have decreased substantially and incorporating the gains of improved corporate governance is now more attainable (Del Guercio, Seery, & Woidtke, 2008; Goranova et al., 2017). There are at least three reasons to explain why the shareholder's value view has won over managers' interests and why institutional investors feel encouraged to adopt active approaches. First, new governance codes expanded globally after the Enron scandal in 2002, which involved serious governance misconduct and increased awareness in multiple countries (Aguilera and Cuervo-Cazurra, 2004); second, media currently exerts a reinforced pressure on issues such as CEO compensation or the reelection of board of directors (Bednar, 2012); third, after the global financial crisis of 2008, more governments became owners due to the bail-out process that followed and citizens' demands for increased monitoring roles grew accordingly (Tihanyi, Graffin, & George, 2014). All of these trends have led to a dominant position of investors over managers. We observe two interrelated consequences: lower agency costs and higher principal costs.

First, the legitimation and expansion of shareholder activism have facilitated the efficacy of active investors (Del Guercio et al., 2008). As a result, more activism implies lowering agency costs by decreasing misalignments of managers' incentives. The distance between managers, boards and shareholders is decreasing and the interactions are increasing. This is the positive outcome that results from more active institutional investors.

Yet, this process has also increased the heterogeneity of interests and therefore principal costs have grown. Principal costs refer to those derived from investors exercising control, in contrast with agent costs derived from managers exercising control (Goshen & Squire, 2017). Heterogeneity showed up when more diverse owners tried to achieve their (sometimes) conflicting goals. For example, meeting the demands of a large shareholder can come at the loss of other shareholders; indeed, managers may attend to some demands by placating influential investors and ignoring others (Goranova et al., 2017), incurring in principal costs. The more frequent behind-the-scenes interactions between managers and shareholders have reduced the agent costs while bringing "new" and growing principal costs into the equation (Bebchuk & Weisbach, 2010; Becht et al., 2009).

For this reason, understanding the heterogeneity of principals seems critical. In fact, one way to understand heterogeneity is to classify shareholders according to the style of their interactions with company managers and boards. We differentiate between "activists" and "engaged" shareholders.

On one hand, activists invest with a strategic plan in mind related to how the corporate governance of specific companies in any given sector should be. These activists find an underperforming company to implement and execute the governance strategy, and then leave the company after few years. Activists invest in a limited number of companies and aim to take controlling positions which allow them to have a short-term, strong impact and to implement the changes required. Activists aim for goals through intrusive interventions (i.e., firing a CEO, divesting subsidiaries or promoting spin-offs).

On the other hand, engaged shareholders, also known as stewards, are normally large and hold a very diversified portfolio of minority positions. Engaged shareholders are institutional investors that follow a buy-and-hold strategy. They look for implementing policies and strategies to improve the governance of their investee companies and thus improve the long-term value of the portfolio (Gillan & Starks, 2000). Engaged shareholders pressure firms to adopt more effective corporate governance practices. They tend to focus on governance's main mechanisms, such as board independence, to ensure a sustained long-term value of the company (Rappaport & Bogle, 2011). For the purposes of this paper, we consider NBIM as an engaged institutional investor.[1]

In summary, reduced monitoring costs allow more institutional investors to play a more active role. Consequently, the misalignment lowers between shareholders and managers, and thus agency costs are also lowered. Yet, the participation of more different types of shareholders in monitoring introduces larger principal costs due to heterogeneous principal's goals (Cronqvist & Fahlenbrach, 2009). Researchers have accounted for the different types of principals/owners, such as hedge funds (Agarwal, Daniel, & Naik, 2009), pension funds (Becht et al., 2009) or mutual funds (Cvijanović, Dasgupta, & Zachariadis, 2016). Most of this research analyzes the indirect effects of institutional pressure on corporate governance which produces changes in operating and market performance. However, in this paper, we focus on the direct effects that sovereign wealth funds have on the corporate governance of investee companies.

Given the shareholder heterogeneity, we focus on a rarely studied class of institutional investor: sovereign wealth funds. We add value to the current stream of literature that analyzes the impact of the heterogeneous goals of different owners.

3. CONTEXT: SOVEREIGN WEALTH FUNDS

SWFs are government-owned investment funds without explicit pension liabilities that typically pursue long-term investment strategies (Aguilera et al., 2016: 5).

The nature of a SWF is determined by its "sovereignty" (Megginson & Fotak, 2015). These funds follow dual-objectives of financial returns—like other mutual funds—and they also pursue broader economic and development returns for their countries. SWFs are a different class of institutional investors. The main reason is that this sovereignty is present in the pressure from politicians to use SWFs to obtain political gains or accomplish

[1] We will refer to NBIM as an engaged shareholder. Other authors cited in the paper talk about "active shareholders" or "stewards". All these terms refer to the same idea of investors exercising a monitoring effort of gathering information and trying to influence managers for the long run rather than trading.

wider macroeconomic goals (Bernstein, Lerner, & Schoar, 2013; Bortolotti, Fotak, & Megginson, 2015) and is also present in the fears of recipient countries of geopolitically-motivated investments in strategic industries (Clark, Dixon, & Monk, 2013).

SWFs are interested in the long-run and thus deviate from short-term-oriented strategies used by certain hedge funds. They are not public pension funds because they do not face pension liabilities and as such have more flexible asset allocation strategies with reduced liquidity constraints. Also, most of the SWFs are based in non-OECD countries with lower transparency and democracy index levels. All these characteristics make SWFs a different owner and principal, and explain why it makes sense to focus on them separately.

So far, research has determined that the market reaction to SWFs' investment announcements is positive in the short term (Dewenter, Han, & Malatesta, 2010; Kotter & Lel, 2011) yet lower than announcements made by investors not owned by governments (Bortolotti et al., 2015). This difference increases in the mid- to- long-run in the cases of SWFs taking the seats of boards, funds strictly controlled by their governments or under direct political influence (Bernstein et al., 2013; Bortolotti et al., 2015; Knill, Lee, & Mauck, 2012). This "liability of sovereignness" is explained and discounted by markets due to the potential conflicts between SWFs' political goals and target firms' financial performance.

In our research, we focus in a particular SWF—NBIM—because it is the largest one, it is a well-known engaged shareholder and it offers high levels of transparency. NBIM has released all its equity positions since its inception in 1998, so it is possible to capture all effects produced by this unique investor and sovereign fund.

3.1. Norges Bank Investment Management as engaged shareholder

NBIM manages the world's largest sovereign wealth fund, the Government Pension Fund – Global, by assets under management. In spite of the term "pension" in its name, it does not pay pensions but instead it saves and builds financial wealth for the future generations to prepare for the time when oil and natural gas reserves are depleted. As of March 2017, NBIM has assets under management worth US$920 billion. Equity investments represent more than 65% of its portfolio. It owns on average 1.3% of all equities listed globally, and its largest stakes are in well-recognized companies such as Nestlé, Royal Dutch Shell, Apple or Alphabet, with stakes above US$4bn respectively.

Given the size of the fund, its diversified scope (investments in 9,000 companies in 67 countries and many different industries[2]) and minority positions (few stakes above 10%), one might assume that NBIM engages in a passive shareholder strategy, which was true until recently (Bortolotti et al., 2015).

More specifically, in November 2012, NBIM published a critical discussion note ("Note" hereinafter) stating that effective corporate governance has a positive, direct and long-term impact on the value of companies based on scholarly evidence from the United States (Bebchuk et al., 2009; Gompers et al., 2003) and Europe (Renders, Gaeremynck, & Sercu, 2010). In this public announcement, NBIM explicitly intended to reveal that from that point onwards, NBIM would demand its portfolio companies to meet certain "corporate governance expectations" (NBIM, 2012). The language of the press release contained statements such as "NBIM's primary corporate-governance focus will consequently be on mechanisms shareholders can use directly and indirectly to influence companies towards sustained business success" or "NBIM operates a corporate-governance program. Setting out generic expectations for good corporate governance is one of several steps in this program and the topic of this discussion note" (NBIM, 2012: 3).

We argue that the Note marks a substantial milestone in the NBIM strategy. No one could anticipate this movement by an investor which held holdings in 7,427 companies at the end of 2012. In fact, the novelty of this strategy was covered by financial media in the weeks that followed the Note release: "It is a big change in how the oil fund operates and signifies a more active approach to its largest investments" (Milne, 2013a) or "Norway has just published an important note on what it expects in terms of corporate governance from the companies it invests with" (Carney, 2013). Comments from the CEO, Mr. Slyngstad, describe how they shifted into engaged/active shareholders: "I think active is a fair description. We think it is the responsibility of the larger investors to be more involved in what in the UK is referred to as stewardship and have a dialogue not just with the CEO and CFO but also the chairman of the board" (Milne, 2013b). This statement implies a

[2] See Table A2 and A3 in the appendix.

substantial change and we empirically test the implications of this new and different strategy.

While the engagement of NBIM with its companies goes back to its origins, its efforts mostly focused on the establishment of the Council on Ethics in 2004 and on setting "ethical guidelines" for the sovereign fund. These guidelines have allowed the Council to recommend the exclusion of companies from the fund's investment universe, or to place companies under observation. The ethical guidelines propose to exercise ownership rights and to make decisions on negative screening and exclusion of companies operating against the guidelines. Nevertheless, these efforts have been focused on investee companies involved in the production of cluster munitions, nuclear weapons, tobacco or other conduct-based violations, such as severe environmental damage or serious violations of human rights. In effect, the monitoring role of NBIM has been centered around the "negative screening" of companies involved in harmful production or wrong-doing. Yet, the explicit approach disclosed in the Note is universal and affects every single company in which NBIM is investing.

3.2. NBIM's search for effective ownership

NBIM expects its portfolio companies to behave according to a set of corporate governance principles outlined in the Note published in 2012. While NBIM acknowledges that the changes it proposes are profound and would take time to implement, it is clear about the benefits of setting priorities to enhance the governance of its portfolio companies. NBIM does not want to add another code of good corporate governance to the existing pool of codes, instead it addresses the challenges of an engaged minority shareholder from an "investment culture" approach. That is, while it takes into account the academic research on different corporate governance dimensions, it prefers to take its own practical approach, avoiding general statements.

We now summarize what NBIM mentions in the Note that it expects from the corporate governance of its portfolio companies and explain the five corporate governance variables that we choose for our governance index: *independent directors, staggered boards, anti-takeover devices, female on board and non-executive directors*.

The Note refers to independent directors repeatedly. Governance scholars agree on the importance of independent directors to supervise, evaluate and select top management properly (Gompers et al., 2003; Bebchuk et al., 2009; Aggarwal, Erel, Ferreira & Matos, 2011). NBIM's position on this debate is clear: "We can conclude that the single dimension of independence brings service to the oversight function expected of the board" (NBIM, 2012: 16). We included a related governance provision given the insistence on the importance of the board structure, *non-executive directors*. This provision has been studied frequently in the literature with reference to directors' term limits (Dou, Sahgal, & Zhang, 2015), their effectiveness to monitor and advise executive directors (Roberts, McNulty, & Stiles, 2005) and the competences and incentives of non-executive directors (Masulis & Mobbs, 2014; Zattoni & Cuomo, 2010).

There is a continuous reference to the concern NBIM has with *staggered boards*: all recommendations included in the board accountability section refer to the right of shareholders to "hold the board accountable and reserve the right to seek changes to the board when it deviates from our expectations" (Note: 2012: 26), that is, it will prevent any kind of staggered board so that all directors are kept accountable all the time.

Another variable explicitly mentioned in the Note is *anti-takeover devices*, which are mechanisms that impede a well-functioning market for corporate control too (Bebchuk et al., 2009). In the NBIM words: "The board should not try to protect itself from shareholders through takeover defenses or otherwise" (Note, 2012: 29).

Lastly, we want to capture the cultural diversity of the boards, regularly associated with enriched and wider views which help boards to understand better the business and improve advice and supervision roles. Indeed, there is some evidence that more culturally diverse boards improve the discussion angles and perspectives and the analysis of foreign acquisitions and provide information advantages (Masulis, Wang, & Xie, 2012). NBIM expects its investee companies to have more culturally diverse board of directors: "Alternative views, as well as the constructive challenging of management's proposals, are necessary contributions to excellence in decision-making and should be encouraged by fellow board members" (Note, 2012: 29). A main source of diversity on boards is determined by the share of *women on board*. There is an important global movement to increase the number of women on boards. Empirical evidence suggests that more women on boards improve firm performance (Liu, Wei, & Xie, 2014), as they tend to be more cautious on important corporate decisions, including acquisitions, than overconfident men (Huang & Kisgen, 2013; Levi, Li, & Zhang, 2014). Also, women are better monitors and require more audit efforts than men (Adams & Ferreira, 2009). Women bring different perspectives and backgrounds into the boardroom, enriching the quality of decisions adopted when assessing, monitoring or evaluating the top executive teams (Hillman, Shropshire, & Cannella, 2007).

4. DATA

4.1. Sample and data

In this paper, we study the data of a single sovereign wealth fund: NBIM. In this way, we avoid the datasets' bias towards more transparent or larger sovereign wealth funds present in datasets collected manually or via news aggregators. NBIM dataset is comprehensive: it details the yearly equity holdings of NBIM as of December since its inception in 1998. It represents more than 90,000 firm-year data points containing information such as the name of the company, the equity market value of the stake of NBIM in US dollars and the firm's industry.

The second database we use is the recently launched "Environment, Social and Governance (ESG)" dataset from Eikon (Thomson Reuters). It provides firm-level ESG variables for close to 6,000 public companies listed in multiple stock exchanges since 2002. We focused on the "governance" section of the database for our analysis. Given the novelty of the dataset, the coverage of the governance variables is still being enriched and the usage of the database is still limited to the best variables in terms of representativeness.

To build our dataset, we narrow it to the last 10 years. There are two reasons for trimming the sample to 2006. First, NBIM changed its investment strategy in 2006 and the share of equities in the portfolio grew from 40% to 60% as they started to invest in small- and mid-cap listed equities. Second, ESG data from Eikon is substantially richer from 2006 on. Most governance variables offer poor coverage before 2006 with null results well above 60%, while in 2015, the last available year, the missing data points are below 15% for the governance variables in our index. However, given the structure of our analysis and the timing of the shock (the Note is disclosed in 2012), in most of our regressions we use data from 2009 (in order to have 3 years before and 3 years after the event).

We collected information on governance and financial variables for each company and year of our sample. In total, we collected data on 5 governance provisions per company and year from 2006 to 2015. We collected all the corporate governance information from the ESG dataset in Eikon Thomson Reuters. See definitions of all these variables in Table A7 of the appendix. In addition to the governance variables, we added a set of financial variables: total assets, revenues, capital structure, performance and profitability measures. We also built a variable to capture the percentage of total shares in the hands of institutional investors. All of these variables were obtained for each company and for the same period in Eikon Thomson Reuters. We cross-referenced data from the two main databases (NBIM holdings and ESG variables), and, given the constraint of available financial data for some of them, we obtained a final sample of 4,200 companies per year.

4.2. The corporate governance index

In this section, we describe the five corporate governance variables which capture the five key practices described in the Note. We also add seven financial control variables.

There is a key variable related to the board composition which has been widely analyzed in the literature and is repeatedly included in the Note, *independent directors*, defined as the percentage of independent board members as reported by the company. Also, given the importance of board independence, we analyzed the role played by *non-executive directors*, defined as the percentage of non-executive board members. Two variables refer directly to the concerns NBIM has regarding board accountability: *staggered boards*, defined as a board in which directors are divided into separate classes (typically three) with each class being elected to overlapping terms; and *anti-takeover devices count*, which is defined as the number of anti-takeover devices in place in excess of two. The fifth variable included in our analysis to capture the cultural diversity of the board is *women on board*, measured as the percentage of women on the board.[3]

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[3] The variable board cultural diversity exists in Eikon ESG but has a coverage of less than 25% of our sample firms in our sample period. For that reason, we adopt women on board as a proxy for diversity, that exhibits a coverage above 75%.

We use the five individual governance provisions to construct the corporate governance index. For each company and year, the index assigns a value of 1 if the governance provision is in line with the NBIM expectations, and 0 otherwise. This additive indexes have been used regularly in the literature (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998; Gompers et al., 2003; Bebchuk et al., 2009; Aggarwal et al., 2012).

The variables *independent directors*, *non-executive directors*, and *women on board*, take value of 1 when it is above the median of the sample and zero otherwise. We use the median as the cutoff, as is done in La Porta et al. (1998). For example, since NBIM expects to have a higher share of independent directors in the board we add 1 to the index if the value of this variable is above the median, zero otherwise.

In the case of *anti-takeover devices*, it takes value of 1 when it is below the median and zero otherwise. Lastly, given *staggered boards* is a binary variable, we add 1 to the index when the board structure is not classified and zero otherwise.

Thus, for each company and year, we have a corporate governance index which ranges from 0 to 5, where 5 is a company with stronger shareholder rights (good governance) in line with the expectations of NBIM.

Additionally, we use seven control variables for some of the regressions. Definitions are included in Table A7 of the appendix.

4.3. Summary statistics

Tables A2 and A3 in the appendix cover country and industry summary statistics in the Eikon dataset. These tables classify firms that are in the portfolio of the NBIM in 2011 (treatment group) and control firms that are not in the portfolio of the NBIM in 2011. There is heterogeneity in the countries and industries that appear in the treatment and control groups and no significant differences seem to appear among the composition of the groups.

Table A4 in the appendix reports summary statistics of firm-year observations in 2011 for our sample. Firms are classified as treated firms (column 3) if they belong to the NBIM portfolio in 2011 or as control firms (column 2) if they are not in the portfolio of NBIM in 2011. Again, no significant differences seem to appear in governance provisions or financial characteristics among the two groups before the release of the Note.

5. ANALYSIS

For all our analysis, our treatment group will be the firms that belong to the portfolio of NBIM in December 2011. Our control group will be the firms that do not belong to the portfolio of NBIM in December 2011. Given that the Note is released in November 2012 (defined from now on as the "shock") and we do not want the formation of the groups to be affected by the "shock", we form our groups with information from December 2011 and not from December 2012.

First, we compute yearly cross-sectional regressions based on the following specification:

$$y_i = \sigma NBIM_i + \varepsilon_i \qquad (1)$$

where y_i is a measure of the governance index and $NBIM_i$ is a dummy variable that takes value one if the firm belongs to the NBIM portfolio in 2011 and zero otherwise. Results are shown in Figure 1. We observe that prior to the release of the Note in 2012, there is no significant difference among firms that are in and out of the portfolio of NBIM in 2011. However, after the release of the Note (in 2012), there is a strong significant positive difference among the governance index of the two groups.

The positive effect that we find can be due to a "voice" channel (the firms in the portfolio of NBIM receive treatment and improve their governance), or due to an "exit" or "rebalancing" channel (NBIM exits firms with poor governance and invests in firms with good governance). In order to decompose both effects, we first analyze entries and exits of NBIM.

5.1. Changes in the portfolio of firms

In Table A5 of the appendix we observe that NBIM has a spike in the amount of exits in 2011, some months before the Note. It seems that the fund, even before the release of the Note, starts to rebalance its portfolio. Moreover, in 2012 the amount of entries is particularly low relative to other years. It seems that the fund decreases its rapid expansion into new firms.[4]

Moreover, to test whether the fund is exiting firms with poor governance and entering firms with good governance, we compute yearly cross-sectional regressions of the following type:

$$y_i = \sigma \text{NBIM-Exit}_i + \beta X_i + \varepsilon_i \qquad (2)$$

where y_i is a measure of the governance index, NBIM-Exit$_i$ is a dummy variable that takes value one if the firm exits the NBIM portfolio that year and zero if it stays in the NBIM portfolio and X_i is a vector of control variables. Results in Table 1 show strong significant negative coefficients in 2011, 2012 and 2013, which indicates that NBIM exits firms with worst governance. These results are evidence that NBIM does use an exit channel some months before the Note and some months after the Note.

We develop a similar analysis to test for entry effects. We use the same specification but we substitute NBIM-Exit$_i$ for NBIM-Entry$_i$, which is a dummy variable that takes value one if the firm enters the NBIM portfolio during that year and zero if the firm is already in the NBIM portfolio. Results shown in Table 2 evidence that in 2011 and 2012 NBIM seems to be more concerned about the governance of the firms it enters in. In Table 3, we change the control group of NBIM-Entry$_i$, in this case the dummy variable takes value one if the firm enters the NBIM portfolio that year and zero if the firm is not part of NBIM that year. In this analysis, we compare the governance of the firms entering NBIM with the governance of the firms in our sample that remain out of the NBIM portfolio. Results are similar, in 2011 and 2012, NBIM seems to include in its portfolio firms with better governance.

To extend the analysis, we now examine increases and decreases of the portfolio holdings of NBIM by firm. We focus on increases/decreases that are double/halve or more of magnitude.[5] Following the "exit" rationale, in Table 4 we analyze whether NBIM

[4] This occurs despite the increase in the amount of holdings of NBIM from 2011 to 2012 (see Table A1 in the appendix).
[5] In Table A6 of the appendix we show the number of firms where the NBIM holdings are doubled/halved (or more) every year.

decreases significantly its stake in firms with worst governance. To do this, we use the following specification:

$$y_i = \sigma \text{NBIM-Halved}_i + \beta X_i + \varepsilon_i \qquad (3)$$

where y_i is a measure of the governance index, NBIM-Halved$_i$ is a dummy variable that takes value one if the NBIM's holdings of the firm are halved or more that year and zero otherwise, and X_i is a vector of control variables. Results show a strong decrease of the NBIM's holdings in firms with worst governance in 2011 and 2012.

We use an equivalent analysis to test the relation between governance and increases of NBIM in the equity stake of firms. The variable of interest is NBIM-Doubled$_i$, which is a dummy variable that takes value one if NBIM doubles (or more) it's equity stake in the firm or zero otherwise. Table 5 provides evidence that NBIM doubles (or more) its equity stake in firms with worst governance every year, except in 2012, when the fund seems to care more about not increasing its investment in firms with worst governance.

5.2. Changes in the governance of existing firms

We now turn to analyze the effect of the disclosure of the Note on the firms that already belong to NBIM before the fund starts to "rebalance" its portfolio. To accomplish this, we will quantify the changes in governance of the firms in the portfolio of NBIM and remove the marginal effect of firms that enter the NBIM portfolio once the fund starts "rebalancing" and investing in firms with better governance. First, we use the following specification:

$$y_{it} = \sigma \text{POST}_{(t \geq 2012)} * \text{NBIM}_i + \text{YEAR}_t + \text{NBIM}_i + \varepsilon_{it} \qquad (4)$$

where y_{it} is a measure of the governance index, NBIM$_i$ is a dummy variable that takes value

one if the firm belongs to the NBIM portfolio in 2011 and zero otherwise, YEAR$_t$ is a dummy variable that takes value one for each year and POST$_{(t \geq 2012)}$ is a dummy variable (structural break) that takes value 1 after the Note's release (2012–2015) and zero for previous years (2009–2011). In Table 6, columns 1, 2 and 3 are panel regressions with firm fixed effects. In column 2 we fix 2009 as our base year (omitted year), we do not use information from previous years in our analysis to maintain a balanced period of three years before and after the "shock".

Results in Table 6 show a significant increase in the governance of the firms' in the portfolio of NBIM in 2011. On average, firms in the portfolio of NBIM increase the governance index by 0.19 yearly after the disclosure of the Note relative to firms that are not in the portfolio of NBIM. Moreover, by interacting $NBIM_i$ with year dummies instead of $POST_{(t \geq 2012)}$, we are able to capture the speed of the changes in governance. The magnitude of the difference in governance among the two groups increases with time since changing governance provisions is slow.

In Tables 2 and 3, we have observed that NBIM enters in firms with better governance in 2011 and 2012. In order to isolate the effect that is driven by the "rebalancing" done by NBIM in 2011 and 2012, we introduce a dummy variable ($Entry11or12_i$) that takes value one if the firm is included in the NBIM's portfolio in 2011 or 2012. By interacting this dummy with $POST_{(t \geq 2012)}$ * $NBIM_i$ we capture the marginal effect of new firms on the change in governance. We observe that the effect of these new firms is negative relative to the rest of the firms in the portfolio of NBIM after the release of the Note. This is, the governance index of new entrant firms does not increase as much as the governance index of the rest of the firms in the portfolio of NBIM. Remarkably, when interacting a dummy variable (Doubled11or12) that takes value one for firms where NBIM doubles (or more) its stake in 2011 or 2012 we find that results point in the same direction, although they are smaller in size. After the release of the Note, the governance index of these firms does not increase as much as the governance index of the rest of the firms.

These results are evidence that the "voice" channel is especially effective for more "stable" firms, this is, for firms that were in the portfolio of NBIM before 2011. Moreover, the "voice" channel is mitigated for firms in which the holdings of the NBIM are doubled or rmore.

5.3. Fraction of the firm held by NBIM vs. fraction of NBIM's portfolio represented by the firm.

Fich, Harford & Tran, 2015 introduce the debate on whether institutional monitoring is greater depending on the fraction of the firm held by the institution or depending on the fraction of the institution's portfolio represented by the firm.

First, we use the following specification:

$$y_{it} = \sigma POST_{(t\geq 2012)} * NBIMF2011_i + YEAR_t + Firm_i + \varepsilon_{it} \qquad (5)$$

where y_{it} is a measure of the governance index, $NBIMF2011_i$ represents the fraction of the firm held by NBIM in 2011 or the fraction of NBIM's portfolio represented by the firm in 2011, $YEAR_t$ is a dummy variable that takes value one for each year, POST(t≥2012) is a dummy variable (structural break) that takes value 1 after the Note's release (2012–2015) and zero for previous years (2009–2011) and $Firm_i$ are firm fixed effects.

Results are shown in Table 7. We use panel regressions with firm fixed effects and only include firms in the portfolio of NBIM in 2011 in this analysis. In columns 1 and 2, $NBIMF2011_i$ represents the fraction of the firm held by NBIM in 2011, and in columns 3 and 4, $NBIMF2011_i$ represents the fraction of NBIM's portfolio represented by the firm in 2011. In columns 2 and 4 we fix 2009 as our base year (omitted year).

Results indicate that increasing by 1% the holdings of NBIM in the firm, increases on average the governance index by 0.18. Moreover, for every 1% increase that a firm represents in the portfolio of NBIM, the governance index rises by 0.425.

6. DSICUSSION AND CONCLUSION

We add evidence of the monitoring role of sovereign wealth funds. Our results shed light on the literature of shareholder activism and the growing theme of heterogeneous shareholders (Goranova & Ryan, 2014; Hoskisson et al., 2002; Schnatterly & Johnson, 2014). Regarding the literature on sovereign wealth funds, this research may help to understand how, without having a seat on the board, large funds can exert an influence (Vasudeva, 2013) and impact their investee companies' corporate governance.

A responsible and engaged owner can exert fruitful changes in the corporate governance provisions of its portfolio companies. In this paper, we show how Norway's

SWF is able to positively influence the governance quality of its portfolio companies. We use a quasi-natural experiment: the announcement made by NBIM in November 2012 which outlined what the SWF expected from its portfolio companies in terms of corporate governance. The release of that Note initiated a comprehensive strategy of engagement with portfolio companies.

We uncover an "exit" channel in which NBIM divests from firms with worst governance and a "voice" channel through which NBIM effectively improves the governance of its portfolio companies. This "voice" channel put in place through different mechanisms, most of them "behind-the-scenes" (McCahery et al., 2016), turns out to be effective and can be a way to circumvent the "liability of sovereignness" or the discount effect detected in the literature (Aguilera et al., 2016; Bortolotti et al., 2015).

Moreover, we show that both the fraction of the firm held by NBIM and the fraction of the NBIM's portfolio represented by the firm are key in influencing the firms. An increase in any of them is translated into a positive improvement of the governance of the firms.

By focusing on the direct effect ownership has on corporate governance, we also add to the discussion around the effects of institutional owners as long-term patient investors, instead of being driven by short-term gains (Bebchuk et al., 2015; Stathopoulos & Voulgaris, 2016). We include the sovereign wealth funds in the matrix of heterogeneous principals, among these, patient institutional investors.

In the end, institutional investors may choose between exiting a firm or talking to corporate executives and board of directors when they disagree with investee companies. We provide evidence of both channels. NBIM decided in 2012 to talk and engage more with companies. This "engagement strategy" yielded positive results in a short period of time. We shed light on a different investor class, sovereign wealth funds, and show how these particular state-owned, long-term investors play a relevant role in the configuration of new capitalism, where investors secure and increase value by engaging and not only trading.

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FIGURES & TABLES

Figure 1. Governance Index differences among treated and control firms

This graph plots the σ estimates from year-by-year regressions given by equation (1) and 90% confidence intervals. The σ estimates of equation (1) present yearly differences in governance between treated firms (firms that belong to the NBIM portfolio in 2011) and control firms (firms that do not belong to the NBIM portfolio in 2011). We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). Only one regressor is used, a dummy variable that takes value one if the firm belongs to the NBIM portfolio in 2011 and zero otherwise.

Table 1. Governance Index differences among firms that exit the portfolio of the NBIM and firms that stay

This table presents yearly differences in governance between firms that exit the NBIM portfolio and firms that stay. We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). The main variable of interest is NBIM-Exit which takes value one if the firm exits the NBIM portfolio that year and zero otherwise. For an exit, we impose that a firm must be at least two years in the NBIM holdings and then at least 2 years out of the NBIM holdings after leaving. Total Revenue is the revenue from all of the company's operating activities after deducting any sales adjustments and their equivalents. EBITDA over assets is the ratio of earnings before interest, taxes, depreciation, and amortization over total assets. Liabilities over Equity is the ratio of total liabilities over total equity. LT-Debt over Total Liabilities is the ratio of long-term debt over total liabilities. Institutional Investors Ownership is the sum of all shares held by institutional investors divided by total shares at the end of the fiscal year. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2009	2010	2011	2012	2013	2014
NBIM-Exit	-0.214	0.255	-0.533***	-0.691**	-0.440*	-0.074
	(0.345)	(0.353)	(0.140)	(0.270)	(0.262)	(0.190)
Total Revenue (billions)	0.000	0.000*	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Assets (billions)	-0.000*	-0.000***	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA over Assets	0.032	0.498**	0.275	0.561**	0.768***	0.573***
	(0.251)	(0.248)	(0.231)	(0.221)	(0.217)	(0.197)
Liabilities over Equity	-0.004	-0.003	0.000	0.003	0.002	0.005**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
LT-Debt over Total Liabilities	0.086	0.321***	0.316***	0.296***	0.415***	0.416***
	(0.119)	(0.105)	(0.105)	(0.101)	(0.096)	(0.094)
Institutional Investors Ownership	-0.003**	-0.001	0.001	0.002**	0.003***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	1,644	2,092	2,174	2,203	2,417	2,423
R-squared	0.006	0.014	0.013	0.015	0.022	0.023

Table 2. Governance Index differences among firms that enter the portfolio of the NBIM and firms that already belong to the portfolio of the NBIM

This table presents yearly differences in governance between firms that enter the NBIM portfolio and firms that already belong to the portfolio of the NBIM. We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). The main variable of interest is NBIM-Entry which takes value one if the firm enters the NBIM portfolio that year and zero if the firm already belongs to the portfolio of the NBIM. For an entry, we impose that a firm must be at least two years out of the NBIM holdings and then at least 2 years in the NBIM holdings after entering. Total Revenue is the revenue from all of the company's operating activities after deducting any sales adjustments and their equivalents. EBITDA over assets is the ratio of earnings before interest, taxes, depreciation, and amortization over total assets. Liabilities over Equity is the ratio of total liabilities over total equity. LT-Debt over Total Liabilities is the ratio of long-term debt over total liabilities. Institutional Investors Ownership is the sum of all shares held by institutional investors divided by total shares at the end of the fiscal year. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

VARIABLES	(1) 2009	(2) 2010	(3) 2011	(4) 2012	(5) 2013	(6) 2014
NBIM-Entry	-0.127	-0.228*	0.158	0.134	-0.283***	-0.334***
	(0.148)	(0.134)	(0.127)	(0.177)	(0.096)	(0.121)
Total Revenue (billions)	0.000*	0.000*	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Assets (billions)	-0.000**	-0.000***	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA over Assets	0.025	0.475*	0.240	0.559**	0.789***	0.570***
	(0.252)	(0.249)	(0.234)	(0.221)	(0.218)	(0.199)
Liabilities over Equity	-0.004	-0.004	0.000	0.003	0.002	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
LT-Debt over Total Liabilities	0.114	0.330***	0.328***	0.293***	0.416***	0.439***
	(0.119)	(0.105)	(0.107)	(0.102)	(0.096)	(0.095)
Institutional Investors Ownership	-0.003**	-0.001	0.001	0.003**	0.003**	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	1,633	2,082	2,106	2,186	2,399	2,389
R-squared	0.007	0.015	0.007	0.012	0.024	0.026

Table 3. Governance Index differences among firms that enter the portfolio of the NBIM and firms that are not in the portfolio of the NBIM

This table presents yearly differences in governance between firms that enter the NBIM portfolio and firms that do not belong to the portfolio of the NBIM. We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). The main variable of interest is NBIM-Entry which takes value one if the firm enters the NBIM portfolio that year and zero if the firm does not belong to the portfolio of the NBIM. For an entry, we impose that a firm must be at least two years out of the NBIM holdings and then at least 2 years in the NBIM holdings after entering. Total Revenue is the revenue from all of the company's operating activities after deducting any sales adjustments and their equivalents. EBITDA over assets is the ratio of earnings before interest, taxes, depreciation, and amortization over total assets. Liabilities over Equity is the ratio of total liabilities over total equity. LT-Debt over Total Liabilities is the ratio of long-term debt over total liabilities. Institutional Investors Ownership is the sum of all shares held by institutional investors divided by total shares at the end of the fiscal year. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	2009	2010	2011	2012	2013	2014
NBIM_Entry	-0.197	-0.376**	0.133	0.238	-0.125	-0.206
	(0.166)	(0.152)	(0.142)	(0.197)	(0.120)	(0.138)
Total Revenue (billions)	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Assets (billions)	0.000	0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA over Assets	-0.135	0.785*	0.718*	0.502	0.931***	0.880***
	(0.406)	(0.444)	(0.387)	(0.395)	(0.306)	(0.286)
Liabilities over Equity	-0.004	0.002	0.000	0.000	0.000	0.001
	(0.004)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
LT-Debt over Total Liabilities	0.187	0.164	0.486**	0.507**	0.694***	0.758***
	(0.261)	(0.235)	(0.213)	(0.216)	(0.213)	(0.203)
Institutional Investors Ownership	-0.002	-0.004	-0.002	-0.005**	-0.005**	-0.003
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	316	396	512	497	522	472
R-squared	0.019	0.038	0.021	0.032	0.049	0.065

Table 4. Governance Index differences for firms whose holdings are halved (or more) in the NBIM portfolio every year

This table presents yearly differences in governance between firms whose holdings are halved (or more) in the NBIM portfolio and the rest of the firms in the portfolio of the NBIM. We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). The main variable of interest is NBIM-Halved which takes value one if the firm's holdings have been cut to half (or more) and zero for the rest of the firms in the NBIM portfolio. Total Revenue is the revenue from all of the company's operating activities after deducting any sales adjustments and their equivalents. EBITDA over assets is the ratio of earnings before interest, taxes, depreciation, and amortization over total assets. Liabilities over Equity is the ratio of total liabilities over total equity. LT-Debt over Total Liabilities is the ratio of long-term debt over total liabilities. Institutional Investors Ownership is the sum of all shares held by institutional investors divided by total shares at the end of the fiscal year. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

VARIABLES	(1) 2010	(2) 2011	(3) 2012	(4) 2013	(5) 2014
NBIM-Halved	-0.064	-0.226***	-0.407***	-0.126	-0.197**
	(0.082)	(0.075)	(0.098)	(0.106)	(0.088)
Total Revenue (billions)	0.000*	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Assets (billions)	-0.000***	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA over Assets	0.492**	0.367	0.566***	0.796***	0.567***
	(0.248)	(0.227)	(0.219)	(0.217)	(0.196)
Liabilities over Equity	-0.003	0.000	0.003	0.002	0.005**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
LT-Debt over Total Liabilities	0.316***	0.331***	0.303***	0.423***	0.420***
	(0.105)	(0.104)	(0.100)	(0.096)	(0.094)
Institutional Investors Ownership	-0.001	0.001	0.002**	0.003***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	2,096	2,229	2,232	2,427	2,440
R-squared	0.014	0.011	0.020	0.021	0.025

Table 5. Governance Index differences for firms whose holdings are doubled (or more) in the NBIM portfolio every year

This table presents yearly differences in governance between firms whose holdings are doubled (or more) in the NBIM portfolio and the rest of the firms in the NBIM portfolio. We use cross-sectional regressions every year. The dependent variable is the Governance Index (definition in Section 4.3). The main variable of interest is NBIM-Doubled which takes value one if the firm's holdings have been doubled (or more) and zero for the rest of the firms in the NBIM portfolio. Total Revenue is the revenue from all of the company's operating activities after deducting any sales adjustments and their equivalents. EBITDA over assets is the ratio of earnings before interest, taxes, depreciation, and amortization over total assets. Liabilities over Equity is the ratio of total liabilities over total equity. LT-Debt over Total Liabilities is the ratio of long-term debt over total liabilities. Institutional Investors Ownership is the sum of all shares held by institutional investors divided by total shares at the end of the fiscal year. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	2010	2011	2012	2013	2014
NBIM-Doubled	-0.208***	-0.260***	-0.114	-0.343***	-0.316***
	(0.079)	(0.063)	(0.075)	(0.063)	(0.078)
Total Revenue (billions)	0.000*	-0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Assets (billions)	-0.000***	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EBITDA over Assets	0.490**	0.257	0.568**	0.758***	0.539***
	(0.249)	(0.233)	(0.221)	(0.217)	(0.198)
Liabilities over Equity	-0.004	-0.000	0.003	0.002	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
LT-Debt over Total Liabilities	0.334***	0.349***	0.296***	0.399***	0.419***
	(0.105)	(0.107)	(0.102)	(0.096)	(0.095)
Institutional Investors Ownership	-0.001	0.001	0.002**	0.003***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	2,082	2,106	2,186	2,399	2,389
R-squared	0.017	0.015	0.013	0.032	0.029

Table 6. The effect of the NBIM announcement on the governance of their firms

This table presents the effect of the NBIM announcement on firms that belong to the NBIM portfolio. We use panel regressions with firm fixed effects. The dependent variable is the Governance Index (definition in Section 4.3). Post is a dummy variable that takes value 1 for 2012-2015 and zero for 2009-2011. NBIM takes value one if the firm belongs to the NBIM portfolio in 2011 and zero otherwise. Post*NBIM is an interaction term of Post and NBIM. Entry11or12 is a dummy variable that takes value one for firms that enter the NBIM portfolio in 2011 or 2012 and zero otherwise. Doubled11or12 is a dummy variable that takes value one for firms whose holdings are doubled by NBIM and zero otherwise. Post*NBIM*Entry11or12 is a triple interaction between Post, NBIM and Entry11or12. Post*NBIM*Doubled11or12 is a triple interaction between Post, NBIM and Doubled11or12. Yeardummy201X is a dummy that takes value one for year 201X and zero otherwise. 2009 is the omitted reference year. NBIM*yeardummy201X is an interaction term between NBIM and yeardummy201X. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

VARIABLES	(1) FE	(2) FE-TD	(3) FE-Dec
Post*NBIM	0.164***		0.190***
	(0.026)		(0.026)
Post*NBIM*Entry11or12			-0.253***
			(0.058)
Post*NBIM*Doubled11or12			-0.090***
			(0.026)
NBIM*yeardummy2010		-0.034	
		(0.053)	
NBIM*yeardummy2011		0.037	
		(0.052)	
NBIM*yeardummy2012		0.118**	
		(0.051)	
NBIM*yeardummy2013		0.154***	
		(0.051)	
NBIM*yeardummy2014		0.194***	
		(0.050)	
NBIM*yeardummy2015		0.219***	
		(0.052)	
Firm fixed effects	YES	YES	YES
Year dummies	YES	YES	YES
Observations	19,192	19,192	19,192
R-squared	0.025	0.026	0.027
Number of id	3,632	3,632	3,632

Table 7. The effect of the NBIM announcement on the governance of their firms according to the fraction of the firm held by NBIM and the fraction of the NBIM's portfolio represented by the firm

This table presents the effect of the NBIM announcement on firms that belong to the NBIM portfolio according to the fraction of the firm held by NBIM in 2011 and the fraction of the NBIM's portfolio represented by the firm in 2011. We use panel regressions with firm fixed effects. Only firms that are in the portfolio of NBIM in 2011 are used. In columns 1 and 2, NBIMF2011 is the value of the NBIM holdings in the firm in 2011 divided by total market value of the firm in 2011, multiplied by 100. In columns 3 and 4, NBIMF2011 is the value of the NBIM holdings in the firm in 2011 divided by the total holdings of the NBIM in our database in 2011, multiplied by 100. The dependent variable is the Governance Index (definition in Section 4.3). Post is a dummy variable that takes value 1 for 2012-2015 and zero for 2009-2011. NBIMF2011*year201X is an interaction term between NBIMF2011 and the corresponding year dummy. Standard errors are shown in parentheses. ***, **, and * denote significance of 1%, 5%, and 10%, respectively.

VARIABLES	(1) %Firm	(2) %Firm-TD	(3) %Fund	(4) %Fund-TD
Post*NBIMF2011	0.180***		0.382***	
	(0.007)		(0.086)	
NBIMF2011*year2010		0.015		0.019
		(0.014)		(0.161)
NBIMF2011*year2011		0.117***		0.050
		(0.014)		(0.161)
NBIMF2011*year2012		0.207***		0.305*
		(0.014)		(0.161)
NBIMF2011*year2013		0.234***		0.471***
		(0.014)		(0.160)
NBIMF2011*year2014		0.242***		0.469***
		(0.014)		(0.160)
NBIMF2011*year2015		0.233***		0.376**
		(0.014)		(0.163)
Year dummies	YES	YES	YES	YES
Observations	15,262	15,262	15,281	15,281
R-squared	0.076	0.083	0.032	0.032
Number of id	2,620	2,620	2,626	2,626

APPENDIX

Table A1. NBIM holdings and Eikon (Thomson Reuters) coverage

This table presents NBIM total holdings by year (column 2) and the amounts covered by the Eikon (Thomson Reuters) database (column 3). Column 4 shows the percentage of the NBIM total holdings that are covered by the Eikon (Thomson Reuters) database. For each year it divides the value of column 2 by the value of column 3.

	NBIM total holdings ($ billions)	NBIM holdings matched with Eikon ($ billions)	Percentage covered
2008	160.53	115.44	71.9%
2009	284.73	210.49	73.9%
2010	325.76	240.04	73.7%
2011	325.19	243.45	74.9%
2012	417.83	318.58	76.2%
2013	515.69	388.91	75.4%
2014	526.81	397.79	75.5%
2015	519.50	399.86	77.0%

Table A2: Summary statistics by sector of economic activity

This table reports the number of companies in each group by sector of economic activity. In column 2, Non-NBIM are companies which do not belong to the portfolio of NBIM in 2011, they form our "control group". In column 3, NBIM are companies that belong to the portfolio of NBIM in 2011; they form our "treated group". Column 4 adds the number of firms in columns 2 and 3 for each sector of economic activity. Column percentages are shown below the number of companies.

Sector of Economic Activity	Non-NBIM	NBIM	Total
Accommodation and Food Services	30	45	75
	2.4%	1.5%	1.8%
Administrative, Support, Waste Management, Remediation Services	15	44	59
	1.2%	1.5%	1.4%
Agriculture, Forestry, Fishing and Hunting	7	9	16
	0.5%	0.3%	0.4%
Arts, Entertainment, and Recreation	6	19	25
	0.5%	0.6%	0.6%
Construction	50	115	165
	3.9%	3.9%	3.9%
Educational Services	5	9	14
	0.4%	0.3%	0.3%
Finance and Insurance	247	438	685
	19.4%	14.8%	16.2%
Health Care and Social Assistance	21	21	42
	1.6%	0.7%	1.0%
Information	109	193	302
	8.6%	6.5%	7.1%
Manufacturing	309	1,021.0	1,330.0
	24.3%	34.6%	31.5%
Mining, Quarrying, and Oil and Gas Extraction	137	256	393
	10.8%	8.7%	9.3%
Other Services (except Public Administration)	3	8	11
	0.2%	0.3%	0.3%
Professional, Scientific, and Technical Services	58	117	175
	4.6%	4.0%	4.1%
Real Estate and Rental and Leasing	95	163	258
	7.5%	5.5%	6.1%
Retail Trade	56	165	221
	4.4%	5.6%	5.2%
Transportation and Warehousing	45	127	172
	3.5%	4.3%	4.1%
Utilities	52	134	186
	4.1%	4.5%	4.4%
Wholesale Trade	28	68	96
	2.2%	2.3%	2.3%
Total	1273	2952	4225
	100.0%	100.0%	100.0%

Table A3: Summary statistics by country

This table reports the number of companies in each group by country. In column 2, Non-NBIM are companies which do not belong to the portfolio of NBIM in 2011. In column 3, NBIM are companies that belong to the portfolio of NBIM in 2011. Column 4 adds the number of firms in columns 2 and 3 for each country.

Country	Non-NBIM	NBIM	Total
Australia	161	167	328
Austria	2	11	13
Bahrain	8	0	8
Belgium	4	20	24
Brazil	39	42	81
Canada	86	179	265
Chile	6	16	22
China	71	66	137
Colombia	4	7	11
Cyprus	2	0	2
Czech Republic	0	3	3
Denmark	3	19	22
Egypt	2	9	11
Finland	0	21	21
France	12	80	92
Germany	9	71	80
Greece	4	14	18
Hong Kong	20	109	129
Hungary	0	4	4
India	47	42	89
Indonesia	26	6	32
Ireland	0	13	13
Ireland	10	0	10
Israel	3	14	17
Italy	5	35	40
Japan	22	348	370
Jordan	1	0	1
Kazakhstan	1	0	1
Kuwait	11	0	11
Luxembourg	3	1	4
Malaysia	17	30	47
Malta	1	0	1
Mexico	14	19	33
Morocco	2	1	3
Netherlands	14	21	35
New Zealand	25	12	37
Nigeria	1	0	1
Norway	16	0	16
Oman	9	0	9
Papua New Guinea	1	0	1
Peru	0	2	2
Philippines	8	17	25
Poland	7	23	30
Portugal	0	10	10
Qatar	12	0	12
Russia	15	16	31
Saudi Arabia	14llh	0	14
Singapore	7	30	37
South Africa	76	36	112
South Korea	56	56	112
Spain	11	35	46
Sri Lanka	1	0	1
Sweden	11	43	54
Switzerland	9	56	65
Taiwan	9	106	115
Thailand	25	8	33
Turkey	0	18	18
United Arab Emirates	9	4	13
United Kingdom	126	245	371
United States	214	871	1,085
Zimbabwe	1	0	1
Total	1,273	2,956	4,229

Table A4: Summary statistics in 2011

This table reports summary statistics of firm-year observations in 2011. Numbers reported are cross-sectional averages and standard deviations (in parentheses) for corporate governance and financial variables. Column 2 provides summary statistics for the companies that do not belong to the portfolio of NBIM in 2011 (control group). Column 3 provides summary statistics for the companies which belong to the portfolio of NBIM in 2011 (treatment group). Definitions for all variables are shown in Section 4 and in this appendix.

	Non-NBIM	NBIM
NBIM Governance Index	2.49	2.50
	(1.18)	(1.14)
Independent Board Members	51.51	53.07
	(24.93)	(29.03)
Staggered Board Structure	0.47	0.44
	(0.50)	(0.50)
Antitakeover Devices	1.81	2.68
	(2.41)	(2.83)
Female on Board	9.93	10.21
	(11.16)	(10.35)
Non-Executive Board Members	77.98	72.13
	(16.56)	(25.67)
Total Revenue (billions)	641.78	535.41
	(3573.46)	(4894.41)
Total Assets (billions)	2189.73	1508.97
	(19318.74)	(14596.65)
EBITDA over Assets	0.10	0.12
	(0.20)	(0.11)
Liabilities over Equity	2.65	2.33
	(30.21)	(8.14)
LT-Debt over Total Liabilities	0.30	0.29
	(0.27)	(0.24)
Institutional Investors Ownership	62.35	67.41
	(25.13)	(23.55)
Observations	1194	2956

Table A5: Number of firms that enter and exit the NBIM portfolio every year

This table reports the number of firms the NBIM yearly exits and entries. We impose that for an exit/entry a firm must be at least two years in/out the NBIM holdings and then at least 2 years out/in the NBIM holdings.

	Exits	Entries
2009	43	137
2010	22	127
2011	101	141
2012	29	83
2013	33	225
2014	52	201

Table A6: Number of firms that are halved/doubled in the NBIM portfolio every year

This table reports the number of firms in which the NBIM holdings are halved/doubled (or more) every year. Entries are counted as a doubled observation. Exits are counted as a halved observation.

	Halved or more	Doubled or more
2008	107	1581
2009	215	540
2010	308	379
2011	416	594
2012	201	440
2013	182	529
2014	254	415
2015	375	344
Total	2058	4822

Table A7. Definition of variables

Corporate governance variable	Definition
Anti-takeover Devices Count	The number of anti-takeover devices in place in excess of two
Independent Directors	Percentage of independent board members as reported by the company
Staggered Boards	Board in which directors are divided into separate classes (typically three) with each class being elected to overlapping terms
Non-Executive Directors	The percentage of non-executive board members
Women on Board	The percentage of women on the board
Financial variables	**Definition**
Total Revenue	Revenue from all of a company's operating activities after deducting any sales adjustments and their equivalents
Total Assets	Total assets of a company
Performance	The ratio of EBITDA to total assets,
Capital Structure	The ratio of total liabilities to total equity
Long-term debt over total liabilities	The ratio of long-term debt, defined as long-term debt and capital lease obligations, to total liabilities.
Ratio EBITDA over revenue	The ratio of EBITDA to total revenue.
Institutional investors	The sum of all shares held by institutional investors divided by total shares, at the end of the fiscal year

Definitions by Eikon ESG database.