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The Systemic Governance Influence of Expectation Documents: Evidence from a Universal Owner

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Abstract

We examine expectation documents' effectiveness as an activism tool. We use as a natural experiment, the unforeseen release by the Norwegian sovereign wealth fund of a corporate governance expectation document. We introduce a novel, three-way analytical decomposition of the firms, the fund, and their joint response to this document. Firms' governance practices adapt to the fund's new portfolio-wide governance preferences, with heterogeneous responses across ownership and firm characteristics. The fund's investment polices also change, even at the expense of financial returns. Overall, our research demonstrates the potential effectiveness of expectation documents as an emerging low-cost activism tool for universal investors.

Keywords: Expectation Documents, Corporate Governance, Institutional Ownership

JEL Classifications: F30, G32, G34

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I. Introduction

Institutional investors have multiple governance mechanisms at their disposal to exert external control over their investees, including private negotiations with boards, shareholder proposals, requesting board representation, or launching proxy fights (Del Guercio and Hawkins, 1999; Gillan and Starks, 2000; and Wahal, 1996). While these traditional mechanisms that target specific firms tend to be costly and resource demanding (Gantchev. 2013), expectation documents have emerged as a new and growing low-cost activism tool that aims to influence an investor's entire portfolio. However, finance literature has not studied these expectation documents' systemic influence; nor do we know about their effectiveness as an activism tool to diffuse investor preferences. Regardless, their importance is growing, as universal owners such as BlackRock, Vanguard, State Street or the Japanese Government Pension Investment Fund, to cite just a few, increasingly rely on them to influence their portfolio firms.[1]

We study the impact of the expectation document released by the Norges Bank Investment Management (NBIM) fund to improve the corporate governance practices of the firms in its portfolio.[2] In November 2012, NBIM unexpectedly released an expectation document (hereafter, the "Note"), detailing its explicit preferences regarding the corporate governance practices of all its investee firms. NBIM's Note is an early example of an expectation document. It identifies a set of "good" corporate governance practices (i.e., effective board monitoring and strong minority shareholder rights) for which we have detailed data that we can capture in a governance score.

We introduce a novel quantitative decomposition of the overall effect of expectation

[1] Beyond these individual investor efforts, several platforms such as the Institutional Investors Group on Climate Change (IGCC) allow multiple investors to exert systemic influence by jointly adhering to collective expectation documents. IGCC has 230 members across 15 countries, with over €30 trillion in assets under management. Platforms that put together multiple investors share the limitations for active monitoring with large universal investors.

[2] The Norges Bank Investment Management (NBIM) is the asset manager of the Norwegian sovereign wealth fund (SWF). It is the largest SWF in the world and holds around 1.5% on average of all listed stocks globally.

documents that serves as a useful analytical roadmap. The decomposition is also applicable to any investor activism tool that targets a broad population of firms. In our setting, the overall effect of the Note in the governance of NBIM's portfolio can be decomposed into three components: i) the increase in the governance score of those firms that were already present in the fund's portfolio at the time of the announcement; ii) the change in the composition of the firms that integrated the fund's portfolio; and, iii) the new joint correlation between the firms' governance changes and the fund's changes in investment strategy. We next summarize our results regarding each of these components.

Using the difference-in-differences estimation strategy, we first show how firms that were part of NBIM's portfolio at the time of the Note's release increase their corporate governance score to meet NBIM's corporate governance expectations. This effect monotonically increases in the fund's shares in investee firms. We provide ample evidence showing that firms' changes in governance are effectively driven by the preferences established in the Note and not by aggregate governance trends or other alternative explanations. The increase in their governance scores is also weakly monotonic in terms of the firms' shares in the fund's portfolio; this is consistent with expectation documents similarly targeting all firms, aiming to achieve systemic influence.

We explore the heterogeneous reactions of investee firms according to different firm and institutional characteristics. We find that smaller, less liquid firms which exhibited worse financial performance change their governance more to align with the Note's stated preferences. Interestingly, smaller firms were precisely those for which it was less cost-effective for a universal owner to conduct firm-specific engagement, and less liquid firms were also those for which the threat of exit was less credible (Edmans and Manso (2011). Our results, therefore, suggest that expectation documents can help offset some of the inherent limitations in the engagement tactics

of large universal owners. In addition, we uncover that, for investee firms to react to the Note, the firms' countries have to provide a minimum necessary governance quality threshold.

Second, we show that NBIM changes its investment policy to meet its preferences, as stated in the Note. The fund increases its investments in firms with higher preexisting governance scores and decreases its investments in those with lower preexisting governance scores. This effect is only significant when we focus on NBIM's discretionary investments and exclude the investments driven by NBIM's benchmark investment policy, indicating that this outcome is a deliberate shift in investment strategy. We provide further evidence of NBIM's commitment to the Note's expectations by showing that the fund is willing to accept lower financial returns in exchange for 'better governance.' This group of results illustrates that the fund took actions that plausibly reinforced the Note's effectiveness. This also helps validate our study's identification strategy, showing that the Note's release coincided with the implementation of effective changes in the fund's investment policy.

Third, and in keeping with the last component of our decomposition analysis, we explore the new correlations between the firms' changes in governance and the changes in the fund's investment stance. We reveal that, after the Note was issued, the changes in governance and in investment weights are more closely correlated. Taken together, our results illustrate that all three components contributed to heighten the Note's influence. Quantitatively, the most important explanatory factor for the change in the governance score of NBIM's portfolio is the investee firms' reactions to the Note's announcement.

Our work contributes to existing literature in several ways. First, we analyze the effect of expectation documents, which are increasingly an element in the shareholder engagement toolbox and have not been explored in finance literature so far. Second, we introduce a decomposition methodology to evaluate the overall impact of any portfolio-wide activism tool. Third, we show

causal evidence of the firms' and fund's reactions to the Note. We discover a heterogeneous response by firms across ownership levels, firm characteristics, and country institutions, which speaks to the effectiveness of these expectation documents. Fourth, our novel evidence reveals how expectation documents that disseminate changes in universal active owner preferences can modify firms' governance practices in a systemic fashion. In this sense, we depart from most preexisting studies examining specific engagement interactions between given funds and given firms which could be driven by the firms' particular needs or properties.[3] Finally, we shed some light on the dual objectives of universal owners to maximize their financial returns and increase their global influence. We show that NBIM was indeed willing to sacrifice financial returns over the short term to extend its influence and increase the governance level of its portfolio over the long term. These dual objectives may allow other universal owners to affect global practices systemically.

II. Related Literature

The influence of institutional investors on firms has been studied extensively (see Maug, 1998; Bushee, 2001; Gillan and Starks, 2003; Ferreira and Matos, 2008; Brav, Jiang, and Kim, 2010; Denes, Karpoff, and McWilliams, 2017; and Kang, Kim, Kim, and Low, 2021). Some early work focuses on pension fund activism, such as the CalPERS' focus list, targeting specific companies (Smith, 1996; and Del Guercio and Hawkins, 1999). However, recent attention has shifted to highly vocal activist institutional investors, such as hedge funds, that accumulate substantive ownership and engage in aggressive shareholder activist campaigns (Gillan and Starks, 2000; Klein and Zur, 2009; Bebchuk, Brav, and Jiang, 2015; and Brav, Jiang, and Kim, 2015). At

[3] That is, by analyzing the effect expectation documents have, we depart from the literature that focuses on individual firm interventions that target firm-specific governance issues (see, e.g., Dimson, Karakas, and Li, 2015), firms' social and environmental issues (see, e.g., Smith (1996) on CalPERS' targeted firms), and preferences that apply to subgroups of firms within a portfolio (see, e.g., Barber, 2007).

the other end of the activism spectrum are institutional owners, passively managing their broad portfolios through index and exchange-traded funds. Hawley and Williams (2000) suggest complementarity between these two forms of influence when passive investors follow activist investors' voting strategies (Appel, Gormley, and Keim, 2016). Somewhere between these two poles –activists and passive investors– are institutional investors who hold minority positions in hundreds or thousands of firms (universal owners) and with the potential to exert systemic influence on the market, particularly on their portfolio firms, via *active institutional ownership* (Aghion, Van Reenen, and Zingales, 2013).[4] These active owners often seek to enhance their portfolio firms' corporate governance practices because they believe it will lead to better firm financial performance in the long run (Appel et al., 2016).

Active institutional owners tend to have long-term mandates and highly diversified holdings. They have incentives to monitor managers and strengthen minority shareholder rights (Del Guercio and Hawkins, 1999). They can also engage with investees' managers and exercise 'voice' strategies in various ways, including formal engagements via proxy voting, informal behind-the-scene interactions with portfolio companies, and by releasing negative screening lists.[5]

Our study differs from existing research exploring private interactions between active institutional investors and specific companies in that we follow systemic firm reactions to a public announcement.[6] This literature studies private exchanges (i.e., conversations, letters, and phone calls) from a single investor, such as TIAA-CREF (Carleton, Nelson, and Weisbach,

[4] Our paper can be included in the recent debate on the role of universal owners in systemic corporate governance. For example, Bebchuk and Hirst (2019) suggest that the renewed stewardship effort by Vanguard, BlackRock, and State Street should be insufficient due to their incentive structure. However, Fisch, Hamdani, and Davidoff Salomon (2018) suggest that competition between passive and active managers for investors would foster stewardship among passive managers, as described by Appel, Gormley, and Keim (2016).

[5] These engagement strategies may vary across types of investors. For example, Briere, Pouget and Ureche (2018) contrasted the voting behavior of NBIM to that of BlackRock. Parrino, Sias, and Starks (2003) explore the entry and management strategies of institutional investors.

1998), the Hermes fund (Becht, Franks, Mayer, and Rossi, 2009), an unidentified responsible investor (Dimson et al., 2015) or survey data research, detailing the behind-the-scene engagement strategies (McCahery, Sautner, and Starks, 2016). Other studies analyze investors and focus on CalPERS, which targets a few selected firms. They show the negative screening effects on firms' financial performance (Smith, 1996;, Nelson, 2006; and Barber, 2007), which proved to be less effective as an engagement strategy (Kim, Wan, Wang, and Yang, 2019). Our approach is different in that we investigate the response of thousands of companies to a novel, less costly, and universally diffused engagement channel. We do not focus on a 'negative screening' mechanism but, rather, on a positive or 'inspiring' expectation document that aims to improve the governance of its targets instead of signaling those who fail to comply. This type of call to action has recently become quite popular among institutional asset managers given the benefits of immediately reaching wide audiences in today's increasingly digitalized world.[7]

III. The Norges Bank Investment Management

Sovereign Wealth Funds (SWFs) are government-owned investment funds without explicit liabilities that typically adopt long-term investment strategies (Aguilera, Capapé, and Santiso, 2016). An important trait of these SWFs is that they often pursue multiple objectives (Clark, Dixon, and Monk, 2013), pairing financial returns with broader goals (Bernstein, Lerner, and Schoar, 2013; and Megginson and Fotak, 2015). In this study, we focus on NBIM, which manages the

[7] An example of this is Larry Fink's "Letter(s) to CEOs" (2019, 2020 and 2021), describing how the CEO of BlackRock, the world's largest asset manager with over $7 trillion in assets under management, asked companies to change specific governance and risk management practices. BlackRock required specific changes in areas such as long-term strategy and purpose, board oversight responsibilities, and climate-change and sustainability reporting. Those who failed to comply would be signaled out and face higher capital costs in the future. Goldman Sachs (GS) provides another example of how universal owners and advisory firms can exert systemic influence in the market. With $1.5 trillion in assets under management, GS' CEO announced that the advisory firm would not take companies public if they had all-male corporate boards (Son, 2020).

world's largest SWF by assets under management, the Government Pension Fund – Global.[8] As of June 2021, NBIM had assets worth 11,673 billion kroner (US$1.36 trillion) under management, with minority positions in more than 9,100 companies in 73 countries. Its equity investments represented more than 72% of its portfolio, and NBIM owns, on average, 1.5% of all equities listed globally.

NBIM has an explicit, publicly disclosed investment strategy since it uses the FTSE Global Cap index as its benchmark. Norwegian firms are excluded, and the fund also applies time-invariant country corrections that reweight every country to account for their links with the Norwegian economy. However, the fund can *deviate* from this investment benchmark by including, excluding, overweighting, or underweighting any firm in its portfolio. Moreover, it can drop firms based on a lack of engagement with the fund or discrepancies with the fund's ethical guidelines. We are precisely interested in this fund's discretion as an engagement tool to shape systemic governance change.

More formally, to examine how NBIM evaluates firms and decides to continue investing in them, or alternatively dropping them from its portfolio, NBIM's investment intensity in a given firm *i*, from country *c*, at time *t* can be represented as follows:

$$\text{Investment}_{ict} = I(\text{Ethics}_{it}=1) \times I(\text{Engage}_{it}=1) \times (\text{FTSE Global}_{it} \times \text{Country}_{c} + \text{Stance}_{it}) \quad (1),$$

where $I(\text{Ethics}_{it}=1)$ indicates that the firm fulfills the NBIM's Council on Ethics requirements; $I(\text{Engage}_{it}=1)$ indicates that the firm is not excluded due to a lack of individual engagement with the fund; FTSE Global_{it} is the firm's weight according to the FTSE Global Cap index; Country_{c} refers to time-invariant country adjustments; and Stance_{it} is the specific position (overinvestment or underinvestment) that the fund has on a firm relative to the benchmark.

[8] In spite of the term "pension" in its name, it does not pay pensions; instead, it preserves and builds financial wealth for future generations to prepare for the time when the country's oil and natural gas reserves are depleted.

The rich information disclosed by NBIM allows us to: (1) identify why a firm is included/excluded in its portfolio; and (2) which changes in investment emanate from discretionary elements ($Ethics_{it}$, $Engage_{it,}$ or $Stance_{it}$) or from the fund's mechanical rebalancing (FTSE $Global_{it}$ x $Country_{c}$). We use these discretionary and automatic elements in NBIM's investment policy as part of our identification strategy since they reveal the changes in investment that are exogenous or endogenous to NBIM's preferences.

A. A Natural Experiment: NBIM's Changed Focus on Corporate Governance in 2012

On November 19th, 2012, NBIM released an expectation document ("Note") entitled *Corporate Governance,* declaring that effective corporate governance had a direct, long-term and positive impact on firm value.[9] This was a completely different tactic from NBIM's initial shareholder engagement efforts, which started in 2004 with its Council on Ethics and a focus on negative ethical targeted screening. In this Note, NBIM explicitly declared that, from that point onwards, it would request all its portfolio firms to meet certain 'corporate governance expectations.' The Note had two unique features: it was the first and only publicly available note requesting investee firms to adopt specific corporate governance practices during our sample period, and it portrayed an unequivocal, universal expectation applicable to every single firm in which NBIM invested (NBIM 2012: 7). We remain agnostic on whether the Note marked a critical turning point in NBIM's corporate governance strategy or if it served to publicly announce to the market an existing trend in its internal preferences.[10] Either of these two options is valid for our analysis. In October 2011, NBIM announced that it was in the process of changing its corporate

[9] https://www.nbim.no/en/publications/discussion-notes/2012/corporate-governance/.

[10] The Note's language contains statements such as "NBIM's primary corporate-governance focus will consequently be on mechanisms shareholders can use directly and indirectly to influence companies toward sustained business success" and "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).

governance approach and that it would launch an expectation document with its specific preferences in 2012. This occurred that year and crystalized with the Note's publication in November.[11] This illustrates that the Note represented a key turning point in the fund's internal governance preferences, making it a legitimate signal for external stakeholders on NBIM's governance expectations.[12]

Our use of the Note as a natural experiment also contributes to disentangle the causal impact of investor preferences on firm practices. Isolating the direct causal systemic influence of active owners on investee firms' policies has proved difficult historically. Investors' decisions and firms' policies are jointly codetermined, thus creating an inherent problem of endogeneity. The unexpected nature of the Note for portfolio companies, its significance within NBIM, and the fact that the Note applied to the entire portfolio universe, provides us with a valuable source of variation that can be considered exogenous from the firms' point of view.[13]

IV. Data Description and Model Specification

A. Sample

Our sample consists of a full panel of all the firms in the "Environmental, Social and Governance" (ESG) dataset from Eikon (Thomson Reuters), which provides firm-level

[11] Indeed, a few months before the Note's publication, NBIM dismantled its separate corporate governance unit, created in 2005, which had been supporting ethical issues, and incorporated governance professionals into its equity investment team.

[12] In fact, this strategy's novelty was covered by financial media in the weeks that followed the Note's release in November 2012. For example, CNBC wrote the following: "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, and reported in the *Financial Times* stressed how the fund shifted into active ownership, as follows: "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, 2013).

[13] More generally, SWFs provide useful evidence about shareholder influence, as they often have public, time-varying preferences on issues beyond stock returns. In this paper, we focus on the Norwegian SWFs' fostering of "good corporate governance" as part of our empirical strategy. Other examples include the open stance towards environmentally friendly investments found in New Zealand's fund or the aim of diversifying the United Arab Emirate's economy in that country's funds.

governance, financial, and accounting data. The Eikon database provides firm-level ESG variables for more than 4,200 public companies listed in multiple stock exchanges dating back to 2002. We merge the Eikon universe with NBIM's yearly equity holdings. We identify the FTSE Global Cap Index constituents and weights from the FTSE Russell Help Desk. Given the structure of our analysis and the Note's timing, we use yearly data for the period 2009–2015 in our main specifications. Given the availability of governance and financial data, we obtain a final sample of 4,200 companies per year.[14] All our yearly data are measured at the end of December.

As a measure of firm-level corporate governance, throughout our study, we use a single governance index that we obtain from Eikon ESG's management score. According to Eikon, the management score "measures a company's commitment and effectiveness towards following best practice corporate governance principles." This is the index based on the population of pre-constructed Eikon indices that most closely matches the content of NBIM's expectation document. The index incorporates 34 corporate governance indicators, including: board independence; CEO–Chairman separation; board diversity; board skills and background; staggered boards; and the existence of audit, nomination, and compensation committees.[15]

Each governance indicator is first transformed into a percentile score, from 0 to 100, according to each company's ranking for each indicator across the whole sample. The governance index then weights the 34 rank indicators equally to assign an overall governance score to each

[14] For consistency and to avoid sample attrition, we drop firms from our main analysis that have one or more missing values for our main variable of interest (the governance index) during the central period of analysis (2009–2015). We are left with a sample of approximately 15,000 observations.

[15] Eikon provides index scores at the firm level, grouped into the following 3 categories: environmental, social, and governance. Within the governance category, Eikon provides 3 indexes, as follows: Management, Shareholders, and CSR. We use the Management Score since it best matches the Note's focus on governance expectations, and it is Eikon's most complete governance index (it includes 34 indicators). The other 2 indexes within the Governance category are Shareholders and CSR, which are much more restrictive and only include 12 and 8 indicators, respectively. A detailed explanation on the construction of the *governance index* is provided in Table IA1 in the Internet Appendix.

company. This re-ranking procedure is useful since it nets out aggregate trends in corporate governance and facilitates the interpretation of the results. Since we employ difference-in-differences specifications (comparing treatment and control firms), this re-ranking should not have any qualitative impact on results. As a robustness check, we also report results based on the indicators themselves, without the ranking transformation.[16] We also run additional tests by decomposing the ESG management index into three sub-indices based on whether each indicator is explicitly, partly, or not mentioned in NBIM's Note (see Section VI.B.1).

Finally, we draw on some additional databases. We measure country-level minority shareholder protection from the World Bank's Doing Business report. We obtain stock prices and market-related data from Eikon, and the global factors (*RMRF*, *SMB*, *HML* and *UMD)* from Kenneth French's website. To construct monthly returns in U.S. dollars, we employ the *total return index* (which incorporates reinvested dividends) from Eikon.

B. Descriptive Statistics

Table 1 details the summary statistics for our main sample. The governance index includes scores from 0 to 100, with scores closest to 100 indicating that the company boasts quality good governance relative to all the companies in the Eikon ESG dataset. In our sample, the average company has a governance score of 52.8, and the standard deviation is 28.7. The average fraction of NBIM's portfolio represented by a firm's market value (which we define as the fund weight) is 0.04%. The average fraction of the firm's market value held by NBIM (which we define as the firm weight) is 0.84%.

[16] More specifically, to have results on aggregate governance changes that can be interpreted as changes in the "number of indicators" and not as changes in a "ranking index," we also construct a governance index in levels following Eikon's methodology. All information and results are included in Section VI.B.1.

Table IA2 in the Internet Appendix presents the changes in NBIM's total equity holdings, as well as the percentage of NBIM holdings that we track in our final sample. Table IA3 in the Internet Appendix reports summary statistics for firm characteristics, splitting the sample into those that belonged to NBIM in December 2011, just before the Note's release, and those that did not. Finally, Tables IA4 and IA5 in the Internet Appendix report the industry and country composition of our sample when the Note was published.

V. Three-step Decomposition

We adopt a decomposition procedure to analyze the effect of any activism tool that targets a broad population of firms. We apply it to explore the impact of NBIM's Note on the aggregate governance of its portfolio. For this, we define $\mathrm{G_{it}}$ as an aggregate governance index of the NBIM portfolio $\mathrm{G_{it}} = \sum_{i=0}^{I} \mathrm{w_{it} g_{it}}$ that measures the overall corporate governance quality of NBIM's portfolio according to the preferences it stated in its Note. w_{it} is the investment weight of firm *i* at time *t* in the NBIM portfolio, and g_{it} is the governance score of firm *i* at time *t*. The changes in the overall corporate governance level of NBIM's portfolio (ΔG_{it}) can thus be expressed as:

$$\Delta \mathrm{G_{it}} = \sum_{i=0}^{I} \mathrm{w_{it+1} g_{it+1}} - \sum_{i=0}^{I} \mathrm{w_{it} g_{it}} \quad (2)$$

We define $\Delta \mathrm{w_{it}} = \mathrm{w_{it+1}} - \mathrm{w_{it}}$ and $\Delta \mathrm{g_{it}} = \mathrm{g_{it+1}} - \mathrm{g_{it}}$ to obtain:

$$\Delta \mathrm{G_{it}} = \sum_{i=0}^{I} (\mathrm{w_{it}} + \Delta \mathrm{w_{it}})(\mathrm{g_{it}} + \Delta \mathrm{g_{it}}) - \sum_{i=0}^{I} \mathrm{w_{it} g_{it}} \quad (3)$$

By re-arranging terms, we can decompose ΔG_{it} as follows:

$$\Delta \mathrm{G_{it}} = \sum_{i=0}^{I} (\mathrm{w_{it}} \Delta \mathrm{g_{it}}) + \sum_{i=0}^{I} \Delta \mathrm{w_{it} g_{it}} + \sum_{i=0}^{I} \Delta \mathrm{w_{it}} \Delta \mathrm{g_{it}} \quad (4)$$

Each term in Equation (4) has a clear economic interpretation. The first term depends on the firms' decision to change their governance, potentially to meet NBIM governance expectations. This term has fixed NBIM weights prior to the release of the Note and allows for the firm

governance scores to change. Intuitively, it is similar to a standard intent-to-treat specification in which the firms' treatment depends on fixed, predetermined (2011) NBIM investment weights. Similarly, it can be interpreted as a reduced form of instrumental variable (IV) regression, in which we instrument NBIM's post-2012 weights with a cross-sectional snapshot of 2011 weights. In the first term, G_{it} changes are driven by changes in the corporate governance score of NBIM's investee companies. The second term encompasses the reweighting carried out by NBIM after adopting its new governance strategy. NBIM could potentially exit (enter) firms with worse (better) governance or decrease (increase) its portfolio holdings of firms with worse (better) governance. In this second term, the firms' governance score is fixed prior to the Note's release, and the changes in G_{it} are only driven by NBIM's investment strategy. Finally, the third term measures firms' changes in corporate governance that include changes in NBIM's weights. Overall, NBIM could potentially change its holdings in a firm due to changes in the latter's governance or vice-versa.[17]

VI. Empirical Analyses

We undertake the three-step decomposition analysis to organize the remainder of the paper, in keeping with the econometric counterparts in Equation (4). We analyze each term of the decomposition in a separate section. Section VI.A explores the overall change in the NBIM portfolio's governance score after the Note's release. Section VI.B analyzes the first term in Equation (4), fixing the NBIM weights prior to the Note's publication and allowing the firm governance scores to change. In this way, this section measures how the firms responded to the Note's release in an intent-to-treat structure that uses NBIM's fixed holdings before the release of the Note as proxies of the NBIM influence after its release. Next, Section VI.C focuses on the

[17] We explicitly calculate the scores for each of the analytical decomposition's terms in Equation (4) and show the results in a separate section at the end of the Internet Appendix (see Table IA23).

changes in NBIM's investment strategy, our second term in Equation (4). It takes the governance scores of each firm as given and predetermined and explores the investment strategy changes and their impact on the overall fund change in governance. Section VI.D explores the third term in Equation (4) and shows how the correlation between the changes in governance scores and the changes in investment weights were altered by the Note.

A. Overall Change in the NBIM Portfolio's Governance Score

We start by exploring the Note's overall effect (the term ΔG_{it} in Equation (2)) on the governance score of the firms included in NBIM's portfolio and then decompose this effect. This is also a useful descriptive result given that NBIM's stakeholders may be interested in whether their investments are backing firms whose governance is aligned with the Note's objectives.

We estimate the following cross-sectional regression for every year *t* (2007 – 2015):

$$Governance_{\mathrm{i}} = \alpha + \sigma NBIM_i + \varepsilon_i \qquad (5),$$

where the $Governance_i$ dependent variable is the governance score of firm *i* in year *t*, and $NBIM_i$ is a dummy variable that equals a one (1) if firm *i* belongs to the NBIM portfolio at time *t*, and zero (0) otherwise. The coefficient of interest σ calculates the average differential governance between firms included in the NBIM portfolio and firms outside it for every year *t*.

Figure 1 and Table 2 show our results.[18] Before the Note's publication (pre-2012), we find no significant governance differences across firms inside and outside NBIM's portfolio and no trend regarding this difference. However, after it was issued (post-2012), firms in the NBIM portfolio exhibit significantly higher governance scores relative to firms outside the portfolio. The difference between the periods is statistically significant and economically large, amounting to 4.8 to 7.5 score points in the governance index. That is, if there were 100 representative companies,

[18] In Table IA6 in the Internet Appendix we show that our results are qualitatively similar when we weight our regressions by firm size.

the firms inside the NBIM portfolio would, on average, increase their governance rankings by 4.8 to 7.5 positions after the announcement. As discussed above, this positive, overall effect on governance quality can be due to firms reacting to the NBIM's new governance preferences (the firms in the NBIM portfolio received treatment and changed their governance practices) or due to 'rebalancing' (NBIM dropped firms with low governance scores and invested in firms with high governance scores). We explore these components in detail in the following sections.

In addition, we also find similar results when using continuous measures of the NBIM investment weights and carrying out pooled OLS regressions to estimate the Note's overall effect on the governance of NBIM's portfolio.[19]

Taken together, this set of results shows that the overall governance characteristics of the NBIM portfolio moved closer to NBIM's governance preferences after the 2012 Note. Moreover, these results are consistent with the Note's unexpected nature, since we observe no pre-trends before 2012 and significant increases after its release. In the next two sections, we analyze which part of the governance changes can be attributed to changes in the governance characteristics of the firms in NBIM's portfolio and which part to changes in the fund's investment strategy.

B. Changes in the Governance of NBIM Portfolio Firms

In this section, we analyze the change in governance among NBIM portfolio firms after the release of the 2012 Note. Following the decomposition explained in Section V, we instrument NBIM's post-2012 weights with the cross-sectional weights in 2011. In this way, this section

[19] The results are shown in Table IA7 in the Internet Appendix. We include the full sample of firms in this analysis (including those firms outside the NBIM portfolio with a weight of zero). We use both NBIM fund and firm weights. The NBIM fund weight is the fraction that NBIM's holding in a given firm represents over the total NBIM portfolio. The NBIM firm weight is the fraction of the firm's market value held by NBIM. Results show how the portfolio of firms constructed with fund weights increased its average governance score after the Note's announcement by an average of 9.5 percentile scores. This means that firms that increased their average governance score after the Note's release gained more weight in NBIM's total portfolio. The results are not statistically significant when we focus on firm weights.

measures the firms' response to the Note's release in an intent-to-treat structure that uses the fixed holdings of NBIM before the release of the Note as proxies of the NBIM influence after its release. By setting the weights in 2011, we keep the changes in NBIM's investment strategy from acting as a confounding factor for the changes in governance among NBIM portfolio firms (for example, firms with a higher governance score were more likely to be added to the NBIM portfolio after the announcement). We use both reduced form regressions and two-stage least square (2SLS) regressions. The reduced form results inform about the direction of the effect of the announcement on the governance changes of firms in NBIM's portfolio; however, only the 2SLS estimates can be quantitatively interpreted as the treatment on the treated firms.

The reduced form regression we use is as follows:

$$\text{Governance}_{\text{izt}} = \sigma_1 Post_{(\text{t}\geq 2012)} * NBIM_{iz2011} + Post_{(\text{t}\geq 2012)} * \delta_z + \alpha_t + \mu_i + \varepsilon_{izt} \quad (6),$$

where $\text{Governance}_{\text{izt}}$ is the governance score of firm *i*, in country *z*, in year *t*. $Post_{(\text{t}\geq 2012)}$ is a dummy variable that takes the value of one after the Note's release (2012–2015), while zero encompasses previous years (2009–2011). Similarly, $NBIM_{iz2011}$ is a dummy variable equal to one if firm *i* belonged to the NBIM portfolio in 2011, while a zero is used if this is not the case. δ_z, α_t and μ_i represent country, year, and firm dummies, respectively.[20]

In the reduced-form regression, we employ a difference-in-differences estimator that compares the evolution of the governance score of the firms included in NBIM's portfolio in December 2011 (a year before the Note' release), relative to the governance of those not included.[21] In the two-stage least square (2SLS) regressions, we explicitly instrument NBIM's holdings the

[20] Results are similar if we exclude δ_z from $Post_{(\text{t}\geq 2012)} * \delta_z$, or replace it with country-year dummies ($\text{Year}_\text{t} * \delta_z$). We opt for an intermediate approach that neutralizes potential country confounding effects, while retaining more degrees of freedom.

[21] Results are similar if we do not include $Post_{(\text{t}\geq 2012)} * \delta_z$, or if we include a more saturated model with country-year dummies ($\text{Year}_\text{t} * \delta_z$). We opt for an intermediate approach that neutralizes potential country confounding effects, while retaining more degrees of freedom.

years after the Note's release (2012–2015), with its holdings on December 2011.[22] Results are illustrated in Table 3. The first two columns detail results from the reduced form regressions, while columns 3, 4, and 5 report results for 2SLS regressions. Our findings reveal a significant increase in the governance scores of firms' in the NBIM portfolio starting in 2012. On average, the 2SLS regressions indicate that firms included in NBIM's portfolio improve their governance scores by 7 score points yearly after the Note's disclosure relative to firms not included in the portfolio. Moreover, by interacting $NBIM_i$ with year dummies (with 2009 as the omitted category) in the 2SLS specification, we can interpret the lagged effects of the changes in governance. The magnitude of the difference in governance among the two groups increases quite sharply in 2012 but also monotonically increases with time after the Note's issuance. This momentum, post 2012, is consistent with the idea that some corporate governance changes take time to be implemented.

1. Validity of the Empirical Strategy and Robustness Tests

In this section, we provide further evidence that changes in firm governance are driven by the Note, hence validating our empirical strategy and ruling out alternative explanations. First, we compare the average characteristics for NBIM and non-NBIM firms in 2010 and 2011. Overall, we do not find any significant differences between the two groups, evidencing that both groups are indeed comparable and mitigating concerns that omitted variables could be driving our findings (see Table IA3 in the Internet Appendix).[23]

Second, given that NBIM partially tracks the FTSE Global Cap Index, we show that the results of the estimations in Table 3 are not driven by global differential trends in governance

[22] See Table IA8 in the Internet Appendix for first-stage regressions showing that the relevance condition of our instrument is satisfied. Note that the first-stage shows that there is enough persistence in NBIM's holdings to make the instrument valid for holdings four years after the Note's release, allowing us to analyze its long-term effects.

[23] In Tables IA4 and IAV in the Internet Appendix we also compare summary statistics by country and industry for NBIM and non-NBIM firms in 2011. We find a similar composition for both groups. Still, to account for heterogeneity at the country level, all our main specifications include Country*Post-event fixed effects.

practices or common aggregate shocks such as the 2007 financial crisis. For this purpose, in Table 4 we classify firms in 2011 into the following four groups: firms in NBIM's portfolio but not included in the FTSE Global Cap Index (NBIM's discretionary portfolio); firms in the FTSE Global Cap Index and included in the NBIM portfolio (nondiscretionary firms, since NBIM's investment strategy follows this benchmark); firms in the FTSE Global Cap Index but not held by NBIM; and firms excluded by NBIM's Ethics Council. The omitted group contains firms that did not belong to FTSE or to NBIM and that were not excluded by NBIM's Ethics Council during our study period.[24] We observe that the firms that significantly improved their governance score after the Note's release were those in which NBIM was invested. After the Note's publication, relative to the excluded category, we do not observe a significant increase in the governance scores of firms in the FTSE Global Cap Index that were not part of NBIM's portfolio. Only firms that were held by NBIM (independently of whether they were also in FTSE) exhibit improvements in governance. Overall, the results in Table 4 demonstrate that the general evolution of the governance score of the firms in the FTSE Global Cap Index (NBIM's benchmark) is not a relevant confounding factor for our results.

Third, we conduct a series of additional tests that add further robustness to the results in Table 4. In Table IA9 in the Internet Appendix, we show that our results are robust enough to use regressions weighted by firm size and that they are not exclusively driven by small firms. Moreover, to avoid potential biases caused by changes in NBIM's portfolio in 2011 (the year before the Note's release), we lag the instrument a further year to fix the weights in 2010 (see Table IA10

[24] Sample size for each group is 1,946 observations for OnlyNBIM_{11}, 13,076 observations for NBIMFTSE_{11}, 658 observations for OnlyFTSE_{11}, 161 observations for $\text{Excluded-ethics}_{11}$, and 1,547 observations for the omitted group.

in the Internet Appendix).[25] We also use nearest-neighbor propensity score matching with replacement to rebalance firms in the control group and make their number and characteristics closer to the treatment group (see Table IA11 in the Internet Appendix). We find similar results to those included in Table 4.

Fourth, we replicate our analysis, replacing the ranked governance index provided by Eikon with a governance index in levels in which we do not re-rank firms every year. In our main analysis, while the coefficients can be interpreted as changes in a ranking, the coefficients on a specification in levels can be interpreted directly as changes in the number of governance indicators. We find qualitatively similar results to those in Table 4 (see Table IA12 in the Internet Appendix). After the Note's publication, on average, firms included in NBIM's portfolio in 2011 improve 0.84 governance indicators per year more than firms outside the portfolio in 2011.[26] Note that the ranking transformation mechanically neutralizes the impact of aggregate trends and reduces the impact of outliers. However, the difference-in-differences specification also aims to eliminate the effect of aggregate trends, and there are no major outliers in the index. Hence, it is unsurprising that both specifications yield similar qualitative results.

Fifth, throughout the paper, we use the Eikon ESG management index, given that it is the pre-constructed index in Eikon that most closely tracks the Note's content. However, as a robustness check, we also manually classify the governance indicators of the Eikon management

[25] Fixing the weights in 2010 reinforces the exogeneity of the instrument (strengthens the validity of the exclusion restriction) but decreases its relevance. In Table IA in the Internet Appendix we show that results are unchanged when we fix NBIM portfolio weights in 2010 as our treatment.

[26] To construct a governance index in levels, we follow the methodology used by Eikon to construct indexes. However, instead of ranking the firms for each of the 34 indicators, each firm takes an absolute value between 0 and 1 for each indicator (independently of other firms' governance), where 1 represents "good governance" and 0 "poor governance". Eikon provides a value between 0 and 1 for 29 of the 34 indicators. For the other 5 indicators regarding board composition and executive compensation (values are reported in €), we linearly rescale and normalize the values to set them between 0 and 1. As in Eikon, the governance index is the equally-weighted sum of the non-missing indicators, so a firm-year observation can take a value between 0 and 34. The weights are calculated excluding indicators with missing data. We drop firms with more than 10% of its indicators missing. A detailed explanation of the 34 indicators and the construction of Eikon's index is provided in Table IA1 in the Internet Appendix.

index according to whether the governance practices are highlighted in the Note or not. To do so, we classify the governance index's 34 indicators into 3 groups. The first group includes the 13 indicators that are explicitly mentioned in the Note. Following the same criteria used for the governance index in levels, we create an index with these 13 indicators. We then create an index with 9 indicators that are partially mentioned or related to the Note. Finally, we create an index with the remaining 12 indicators that are not explicitly mentioned in the Note. We find that the effect is only significant for the index that includes the indicators that are clearly mentioned in the Note (see Table IA13 in the Internet Appendix.). In fact, the coefficient on $NBIM_{11}$ monotonically increases as the governance index gets closer to the Note's specific content. Even when we apply the specification used in Table 4, we find that the coefficients on $OnlyNBIM_{11}$ and $NBIMFTSE_{11}$ are only significant for the subgroup of provisions that are mentioned in the Note. That is, the more closely we define the index to the Note's specific content, the stronger the reaction of NBIM relative to non-NBIM firms. This provides further robust evidence that the change in governance that we observe after 2012 is a direct reaction to NBIM's expectation document and not to other governance trends.[27]

Sixth, we expand our sample years to include 2006, 2007, and 2008 in our analysis. We then replicate Table 3 and confirm that there are no preexisting differential trends across the longer pre-period sample. The treatment and control groups follow parallel trends before the Note was released in 2012 (see Table IA14 in the Internet Appendix). Finally, we also conduct several placebo tests, defining the placebo pre- and post- periods within the period before the Note (2006–2011) and find no significant results (see Table IA15 in the Internet Appendix).

[27] In Table IA13 in the Internet Appendix we explain how we classify the 34 indicators into the 3 groups. Note that we prefer not to use this subindex in our main analyses since there is some degree of discretion when classifying indicators. Thus, we restrict all our analyses to the preconstructed governance index provided by Eikon.

Together, all these results provide strong evidence that our findings are driven by the Note's release and not by aggregate governance changes or other confounding factors. In sum, we show that, before the Note, the treatment and control groups exhibit similar governance quality and that there are no pre-trends in the governance index. Additionally, we demonstrate that our results are not driven by global differential trends in governance or NBIM's benchmark and that the changes in governance that we capture were dictated by the indicators highlighted in the Note.

2. Skin in the Firm Versus Strong Voice

Institutional investor monitoring is likely to depend on both the fraction of the firm held by the institution and the fraction of the institution's portfolio represented by the firm. Fich, Harford, and Tran (2015) show that institutional monitoring is greater when the firm represents a higher fraction in the institution's portfolio. However, expectation documents constitute a unique form of activism in which a single document is released to influence all portfolio firms equally. In Table 5, we analyze whether the increase in the governance score after the Note's publication depended on the fraction of the firm held by NBIM or the fraction that the firm represented for NBIM. We use a quantile specification as follows:

$$\text{Governance}_{\text{izt}} = \sum_{q=1}^{Q} \sigma_q Post_{(\text{t}\geq 2012)} I_q (NBIM_{Weight_{iz2011}}) + Post_{(\text{t}\geq 2012)} * \delta_z + \alpha_t + \mu_i + \varepsilon_{izt} \quad (7),$$

where $\text{Governance}_{\text{izt}}$ is the governance score of firm *i*, in country *z*, in year *t*. I_q are dummies allocated to the quartiles of the NBIM weights (zero weight is the omitted category), and $NBIM_Weight_{i2011}$ represents the fraction of the firm held by NBIM in 2011 (firm weights) or the fraction of NBIM's portfolio (fund weights) represented by the firm in 2011. The coefficients of interest are σ_q and are detailed in columns 4 and 5 in Table 5.

In columns 1, 2, and 3 in Table 5, we use a linear regression model. Instead of using quartiles, we include a continuous measure of ownership intensity $NBIM_Weight_{iz2011}$. This continuous measure can be based on firm weights (column 1), fund weights (column 2), or both (column 3). The results of the linear specification indicate a positive relationship with firm weights. The firms in which NBIM had greater weight increase their governance score more after the Note's publication. However, the quantile specifications in Table 5 reveal a much richer structure.[28] In column 4, firms' reactions is largely driven by the intensive margin. While firms in the bottom quantile (below 0.062%) in terms of NBIM's participation in their shareholder groups do not significantly react to the announcement, the effect grows monotonically to 7.7 rank points among those firms in which NBIM has a substantial weight within its shareholder group.[29] This is consistent with NBIM's influence growing with its share of firm ownership and with a necessary minimum ownership threshold to exert influence on its investee firms. This is an interesting characteristic of expectation documents, given that Fich et al. (2015), Kempf, Manconi, and Spalt (2017), and Liu, Low, Masulis, and Zhang (2020) show that investors rationally devote less monitoring time to firms that represent a smaller weight in their portfolio.

The analysis of fund weights in column 5 reveals a different pattern. The reaction of firms seems to have been largely driven by the extensive margin. Being part of NBIM's portfolio made a very significant difference (4.2 reduced-form score points), even if the firm represented a small part of NBIM's investments. This shows that the Note clearly had an effect on firms included in NBIM's portfolio relative to firms outside the portfolio. However, we do not find important differences when comparing the different quartiles, suggesting that the Note's systemic influence

[28] The thresholds for the firm weight quartiles are 0.062%, 0.654% and 0.972%, respectively. The thresholds for the fund weight quartiles are 0.005%, 0.013%, and 0.033%, respectively.
[29] We conduct Wald tests and find that the differences between the coefficient of the highest quartile and the other three lower quartiles are significant for the firm weights.

across all its investee firms did not depend on the weight of firms in NBIM's portfolio. This result coincides with the systemic influence that would be expected from a single expectation document applicable to NBIM's entire portfolio. Moreover, this shows that expectation documents can help fill the gaps left by other forms of stewardship that tend to focus more on larger investments.

Overall, the results of this section suggest that NBIM had a significant and similar influence on firms that exhibited different levels of importance within its portfolio. This is a unique characteristic of the influence exerted through expectation documents. However, the reaction of firms to this homogeneous influence may have been different, and, in fact, we find that the greater NBIM's shareholder presence, the greater the reaction of firms. This is in line with Appel et al. (2016) who observed how increasing ownership by passive institutional investors accelerates changes in governance dimensions such as board independence or the removal of takeover defenses. It is also worth emphasizing that the monotonicity of the quantile coefficients in the firm weights lends further support to our hypothesis that the effects that we capture were driven by NBIM's influence and not by other potential confounding factors.

3. Heterogeneous Effects

In this section, we explore the heterogeneous reactions of the firms' responses to the Note, contingent on their characteristics before its publication in 2011. We evaluate the following firm features: total assets, market value, performance (EBITDA over revenues), liquidity, governance score, and the minority investors protection score of the firm's country of incorporation. We use the following specifications:

$$\text{Governance}_{\text{izt}} = Post_{(\text{t}\geq 2012)} * \delta_z + \sum_{q=1}^{Q} \sigma_q Post_{(\text{t}\geq 2012)} * I_q(Feature_{iz2011}) + \sum_{q=1}^{Q} \vartheta_q Post_{(\text{t}\geq 2012)} * I_q(Feature_{iz2011}) * NBIM_{iz2011} + \alpha_t + \mu_i + \varepsilon_{izt} \quad (8),$$

where $\text{Governance}_{\text{izt}}$ is the governance score of firm *i*, in country *z*, in year *t*. I_q are dummy variables equal to one for firms in the ith quartile in 2011 of the analyzed feature. All other variables are analogous to those defined in Equation (7). The coefficients of interest are ϑ_q, which indicate the average governance difference after 2011 for each feature and quartile between firms included in NBIM's portfolio in 2011 and firms not included in 2011.

We detail results in Table 6. First, we observe that the increase in the governance score after the Note's release was greater for smaller firms (columns 1 and 2) and not statistically significant for the largest firms in the portfolio (top quartile). This finding suggests that expectation documents can serve as an engagement tool to precisely reach those firms for which a more dedicated stewardship role is less cost-effective. Indeed, Schwartz-Ziv and Wermers (2020) argue that investors have a limited ability to monitor smaller firms and that they focus on bigger firms. Column 3 shows that firms with the worst preexisting financial performance reacted more to NBIM's announcement and that that firms in the highest quartile of preexisting financial performance did not significantly change their governance. This may be because poor-performing firms sought to improve their governance to compensate for poor financial results and to remain attractive to NBIM. We explore this potential trade-off in Section VI.C.2 and provide further insights into these results. These results contribute to the debate on whether active owners should target and engage with profitable or poorly performing firms (Klein and Zur, 2009; Becht et al., 2009; and Dimson et al., 2015).

In column 4, we show that firms with high stock liquidity did not react to the Note's release, while firms with lower liquidity were much more sensitive. This result is interesting, as less liquid firms may be the ones for which the exit mechanism is less of a credible threat (Edmans and Manso, 2011). It also extends McCahery et al.'s (2016) finding that active owners pursue high-touch

engagement with the most illiquid firms. According to both arguments, our results show that the expectation document has a more intense impact on those firms for which other, more resource-consuming engagements are less likely to be cost-effective.

Interestingly, the logic seems to be completely different if we move from the firms' financial characteristics to their institutional features. In column 5 we show that firms in the two middle quartiles of preexisting governance scores are the ones which react the most to the Note's release. The firms in the lowest quartile of the past governance scores do not react to the expectation document. It may have been more costly for these firms to improve their governance score, or they may have found themselves too distant from NBIM's newly expected standards. Similarly, firms in the highest quartile of the past governance scores react less. This reduced effect might have occurred either because there was scant room to improve their governance score or because they already fulfilled NBIM's expected governance standards.

Finally, in column 6 we observe that firms incorporated in countries with weak national investor protection provisions did not improve their governance scores, while the opposite was true for firms incorporated in countries providing stronger investor protection. These findings suggest that the influence active owners have on firm policies is contingent on the quality of the national corporate governance mechanisms in which firms are embedded (Doidge, Karolyi, and Schultz, 2007).[30] There seems to be a minimum national governance threshold for active owners to influence through expectation documents.[31]

C. Changes in NBIM's Investment Strategy

[30] Relatedly, Aggarwal, Erel, Ferreira, and Matos (2011) provide evidence regarding how investors' country-driven preferences match with firm's policies.
[31] Note that we include Country dummies and Post*Country dummies in all the regressions except in this one.

We now turn to examine whether NBIM rebalanced its portfolio according to its new governance preferences as indicated in its expectation document. Determining whether the release of NBIM's Note was met with an effective change in its own investment policy is important for several reasons. First, it validates our identification strategy by showing that the fund's announcement produced actual changes in its investment preferences. Second, it provides some insight on how the content in expectation documents is reinforced with the fund's other governance-related actions. And, third, it analyzes the second element of the quantitative decomposition of the portfolio's overall governance effect (see Equation (4)).

We provide two independent sets of tests. First, we show that the firms' governance level becomes more relevant after the Note's release in determining the entry and exit of firms in NBIM's portfolio. Second, we show that a trade-off between returns and governance arose after the Note's publication. NBIM was willing to sacrifice financial returns to achieve better governance.

1. Walk the Talk? Rebalancing NBIM's Portfolio to Align with the Note

We first explore whether NBIM practices what it preached and rebalanced its portfolio to align its policies with the new Note. We do this by analyzing the entry and exit channel, that is, whether NBIM invested in firms with higher governance scores and exited those with lower governance scores after the announcement. There is a potential issue associated with endogenous changes in firm governance due to the Note's release potentially acting as a confounding factor for the changes in NBIM's investment strategy. To avoid this, we keep the governance index fixed at a point in time before the announcement (2011). Intuitively, we define the firms' inherent governance levels before the release and keeping them constant throughout our analysis, as in the second term of the decomposition in Equation (4).

To analyze the entry channel, we estimate the following logistic model:

$$\text{Prob}(y_{it} = 1) = \frac{\exp(z_{it})}{1+\exp(z_{it})} \quad (9),$$

where y_{it}=*NBIM_entry*$_{it}$, a dummy variable that takes the value of one if firm *i* enters the NBIM portfolio in year *t* and a value of zero according to two different control groups. We can compare the governance of firms that entered NBIM's portfolio to the governance of firms not included in the portfolio (*NonNBIM* control group) or to the firms belonging to the NBIM portfolio (NBIM control group). We estimate $z_{it} = \sigma_1 Post_{(t\geq 2012)} * Governance_{i2011} + \sigma_2 Governance_{i2011} + \alpha_t + \varepsilon_{it}$, where *Governance*$_{i2011}$ is the governance index score of firm *i* fixed in year 2011 (before the release), and $Post_{(t\geq 2012)}$ is a dummy variable that takes a value of one after the Note's release (2012–2015) and a zero for previous years (2009–2011).

We report the odds ratios of the probit model in Table 7.[32] Each column compares the predetermined governance score of entrants to the score of a different control group (Non-NBIM firms and NBIM firms). We find that the *Post*Governance*$_{2011}$ coefficient is bigger than one in both specifications. That is, the fund gave greater weight to corporate governance when selecting entrants after the Note's release (columns 1 and 2). This effect is large and statistically significant. Being 10% higher in the governance score ranking increased the chances of firms entering the portfolio by 6% – 7%. The *Governance*$_{2011}$ coefficient is significantly below one in all columns. In addition, the coefficient is lower in column 2 than in column 1, reflecting that, in general, the firms included in NBIM's portfolio had higher scores than those outside.[33]

In columns 3 and 4 in Table 7, we exclude those entries that coincide with a change in the FTSE Global Cap index' composition. The entries induced by the FTSE index' recomposition are

[32] Table IA16 in the Internet Appendix shows the estimates from logistic regressions and average marginal effects that correspond to the odds ratios shown in Table 7.

[33] This can also be seen in Table IA17 in the Internet Appendix, where we compare the average governance score before and after the Note's release for firms inside and outside NBIM's portfolio as well as also for firms that entered and exited the portfolio. More importantly, when comparing the exits (entries) of NBIM before and after the Note's release, we find that NBIM exited (entered) firms with lower (higher) average governance scores after the release.

mechanical changes driven by the fund's benchmark. By excluding these exogenous changes, we keep only those entries that are more discretionary to the fund. Indeed, when we focus only on the discretionary entries selected by NBIM (non-FTSE), we find stronger results. Being 10% higher in the score ranking increased a firm's chances of entering the portfolio by 8% – 10%.[34] In columns 5 and 6 we carry out the same analysis for those changes in NBIM's portfolio that occurred simultaneously with FTSE's reconstitution. Although NBIM retained some discretion and did not necessarily follow these reconstitutions, in general, the index' reconstitutions entailed rebalancing NBIM's portfolio in cases that were less discretionary and more exogenous to the fund's preferences. Consistently, results for this subsample do not show a significant effect on the Post * Governance_{2011} coefficient. This indicates that the results in columns 1 and 2 were driven by the non-FTSE transitions analyzed in columns 3 and 4.

We undertake a similar analysis to test for exit effects. The results of odds ratios are shown in Table 8.[35] Consistent with our entry analysis, after the Note's release, a better governance score reduced the probability of exiting NBIM. This effect is quantitatively important: ten rank positions in the governance score reduced the probability of exiting by about 7%. Again, once we focus on the fund's more discretionary exits (columns 3 and 4), this probability increases to 9%. Conversely, in columns 5 and 6 we focus on exits driven by NBIM's benchmark and show odds ratios that are statistically indistinguishable from one, in fact, exhibiting point estimates in the opposite direction. The effect that the governance level had before the Note's release is inconclusive.

[34] Table IA18 in the Internet Appendix reports the yearly number of company entries and exits carried out by NBIM during our sample period. We further classify whether these entries and exits were discretionary or driven by the FTSE Global Cap Index' composition.

[35] Table IA19 in the Internet Appendix shows the estimates from our logistic regressions and average marginal effects that correspond to the odds ratios shown in Table 8. Table IA20 in the Internet Appendix shows that these results are robust when excluding the year 2011.

Overall, the results in Tables 7 and 8 show that NBIM starts to give greater weight to firms' inherent governance (i.e., fixed at 2011 levels) after the Note's release when deciding to include or exclude those firms from its portfolio. This supports the hypothesis that the fund did indeed change its investment strategy after the Note's publication.[36] This effect is driven by the fund's more discretionary decisions and is not present in NBIM's more mechanical decisions driven by reconstitutions of its benchmark, the FTSE Global Cap Index.

2. Trade-off Between Financial Returns and Governance

Another way to examine NBIM's change in preferences is to explore whether the choices regarding its portfolio reflect a different trade-off between financial returns and governance after the Note's release. That is, the aim is to test whether, after the Note's release, NBIM was willing to forgo some financial returns in exchange for governance characteristics more aligned with the preferences stated in its Note. To explore this, we construct portfolios that track the financial performance of NBIM's investments before and after the Note's release. We decompose NBIM's investment portfolio into non-discretionary investments (firms that also belonged to the FTSE Global Cap Index) and discretionary investments (firms that did not belong to the FTSE Global Cap Index). Focusing on discretionary investments, we can compare the returns between high and low governance portfolios to understand whether NBIM was willing to trade returns in exchange for better corporate governance. The non-discretionary portfolio comprises firms in which NBIM was mechanically forced to invest due its benchmark strategy and acted as a control group that captured the general evolution of the governance–returns trade-off in the economy.

[36] This improvement occurred despite the large increase in the number of NBIM holdings from 2011 to 2012 (see Table IA2 in the Internet Appendix), which would make cherry-picking stocks with high governance scores after the Note's release more difficult.

We compute rolling monthly abnormal returns for each firm in NBIM's portfolio in line with Carhart's (1997) four-factor model. For each year *t*, we decompose NBIM's discretionary and non-discretionary portfolios into five equal-sized portfolios, ranking firms according to their governance index. For all the firms in each of the 10 portfolios, we average the monthly alphas and obtain the equally-weighted monthly alpha of each portfolio. Next, for each portfolio, we average the equally-weighted monthly alphas from periods 2009–2011 (pre-event alphas) and average the equally-weighted monthly alphas from 2012–2015 (post-event alphas).[37]

We report the alphas of the low governance portfolio in row 1 of Panel A in Table 9. The alphas of the high governance portfolios are reported in row 5. We report the difference between the highest and lowest governance portfolio alphas in the last row. Before NBIM released its Note (columns 1 and 3), we do not appreciate any significant difference between the alphas in the low governance and high governance portfolio. In column 2 we observe that this is also the case post-publication for non-discretionary investments (non-significant alpha differential of -0.036%). However, we do observe a trade-off between governance and returns for discretionary investments post-release. There is a differential return between the high and the low governance portfolios of -0.793%. In fact, the alpha of the low-governance portfolio is positive and statistically significant (0.574%), indicating that NBIM was only willing to include low-governance firms in its discretionary portfolio if their returns were expected to be high. Moreover, the alpha of the high-governance portfolio post announcement is negative (-0.219%). This indicates that NBIM was willing to incorporate 'better' governance firms into its portfolio, even if their expected abnormal returns were low. Results are qualitatively similar for the value-weighted portfolios in Panel B of Table 9.

[37] We also compute market value weighted results. We calculate the average alpha of each portfolio each month and then we weight firms' alphas with the market value weight that each firm has in NBIM's portfolio.

In conclusion, in Section VI.C we show that NBIM rebalanced its portfolio according to its new governance expectations. After releasing its Note, NBIM entrants had better inherent governance, while firms exiting NBIM had worse inherent governance. These effects were driven by the discretionary investment changes made by NBIM. Moreover, we provide insight into NBIM's change in preferences across returns and governance after the Note's publication. Jointly, these results validate the identification assumption that NBIM did indeed change its preferences following the 2012 release. In the next section, we analyze if the change in the firms' governance correlates with the change in NBIM's investment weights.

D. Correlation of NBIM Investments and Governance Changes

In this section, we explore the third term in Equation (4) and analyze whether the changes in firm governance were linked to NBIM's investment changes. Although establishing causality in this last part of the analysis is challenging, we explore this last term to complete the decomposition of the Note's effects.

We estimate pooled OLS regressions to analyze whether there is a correlation between the changes in firm governance and the changes in the investments made by NBIM and whether this correlation changed before and/or after the Note's release. The results shown in Table IA21 in the Internet Appendix indicate that the correlation between the changes in governance and changes in investment weights became high and statistically significant only after the release, whereas the two seem uncorrelated before then. We also perform Granger causality tests to better understand the relation between governance innovations and innovations in investment changes. We find that lagged changes in governance predict changes in fund weights after the Note's publication. However, the reverse effect is not statistically significant. These results provide evidence that NBIM reacted and increased its investment weights in firms that improved their governance index

after the Note's release. In other words, NBIM reweighted its portfolio holdings not only according to the firms' level of governance (as shown in section VI.C) but also according to the changes in those levels of governance. On the other hand, we do not find evidence that lagged changes in fund weights predict changes in firm governance. This implies that firms did not react differently to the Note if their weight in NBIM's portfolio changed, which is consistent with the uniform activism promoted by a single expectation document. These results are shown in Table IA22 in the Internet Appendix.

VII. Discussion and Conclusions

We explore the effectiveness of expectation documents using a note released by NBIM in November 2012 as a quasi-natural experiment. The Note served to outline the fund's governance preferences for its investment portfolio. We introduce an analytical decomposition as a roadmap that can be generalized to analyze the effect of any activism tool targeting a broad portfolio of firms. We uncover the following results: i) the fund's overall governance increased following the Note's release; ii) firms reacted to the fund's new policy by improving their governance score – these results are heterogeneous across firm characteristics and monotonically increasing in NBIM's stake holdings in the firms–; iii) the fund's investment stance changed, focusing more on firms with higher governance scores and indicating its willingness to sacrifice financial returns to achieve better governance; and iv) following the Note's publication, the fund's marginal changes in investment weights became more reactive to recent changes in the firms' governance scores. Quantitatively, most of the overall effect comes from the investee firms' reactions.

Our findings shed light on shareholder activism literature and contribute to the debate on the engagement tools used by different types of investors. Expectation documents are particularly attractive for universal owners, as they can diffuse their preferences to the entire market. They are

also appealing to active owners, allowing them to complement their Notes with a credible threat of exit. SWFs share these universal and active features with some pension funds and mutual fund families. The effectiveness of these expectation documents for investors which are universal though not active (such as index funds) or for those that are active but have a narrower investment scope remains an open research question.

Expectation documents by SWFs indicate changes in their publicly visible preferences, which often include elements beyond profit maximization. They represent a useful source of variation from a research perspective, revealing time-varying preferences regarding measurable dimensions beyond profits. In particular, we show that unanticipated changes in these preferences can be useful to extract information about how firms respond and cater to their investors' preferences.

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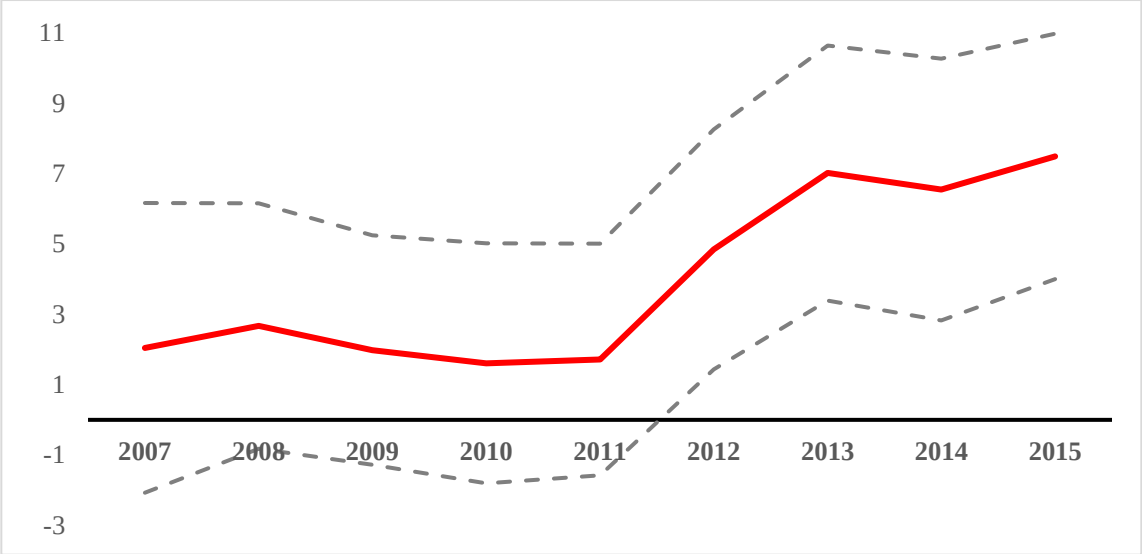
FIGURES & TABLES

Figure 1
Governance Index Differences among NBIM and Non-NBIM Firms



Notes. This graph plots the estimates from year-by-year cross-sectional regressions and 90% confidence intervals. The dependent variable is the Governance Index. Only one regressor is used, a dummy variable that takes the value of one if the firm belongs to the NBIM portfolio in year *t* and zero otherwise. The estimates plotted are yearly differences in governance between treated firms (firms that belong to the NBIM portfolio) and control firms (firms that do not belong to the NBIM portfolio).

Table 1
Summary Statistics

	Mean	Standard Deviation	25%	Median	75%	Obs.
Governance Index	52.849	28.68	28.424	53.880	78.125	17388
NBIM Weight (fund)	0.037	0.10	0.003	0.010	0.028	17388
NBIM Weight (firm)	0.842	1.23	0.008	0.513	0.907	17388
Δgovernance Index$_{(t+1,t)}$	1.117	18.24	-8.351	0.379	10.655	14904
$\lvert\Delta$governance Index$_{(t+1,t)}\rvert$	13.195	12.64	3.632	9.386	18.881	14904

Notes. This table reports mean, standard deviation, 25th-percentile, median, 75th-percentile, and number of observations for each variable by firm. The Governance Index is an index ranked from 0 to 100 and measures a company's commitment to and effectiveness of applying best-practice corporate governance principles. NBIM Weight (fund) is the fraction of NBIM's portfolio represented by the firm's market value. NBIM Weight (firm) is the fraction of the firm's market value held by NBIM. Δgovernance Index$_{(t+1,t)}$ measures the difference between the firm's score in t+1 and *t*. $\lvert\Delta$governance Index$_{(t+1,t)}\rvert$ measures the difference in absolute value between the firm's score in t+1 and *t*.

Table 2
Governance Differences among NBIM and Non-NBIM Firms

	2007	2008	2009	2010	2011	2012	2013	2014	2015
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
NBIM	2.048	2.667	1.983	1.606	1.714	4.845***	7.016***	6.548***	7.489***
	(2.102)	(1.782)	(1.663)	(1.740)	(1.681)	(1.739)	(1.851)	(1.899)	(1.780)
Observations	1,422	2,123	2,484	2,484	2,484	2,484	2,484	2,484	2,484
R-squared	0.001	0.001	0.001	0.000	0.000	0.003	0.006	0.005	0.007

Notes. This table presents estimates of yearly cross-sectional OLS regressions of governance index differences among NBIM and non-NBIM firms. The dependent variable is the Governance Index. For each year *t*, one explanatory variable is used (NBIM), a dummy variable that takes the value of one if the firm belongs to the NBIM portfolio in that year and zero otherwise. Standard errors are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 3
NBIM's Effect on Firm Governance: Instrumental Variables

	Reduced form		2SLS		
	(1)	(2)	(3)	(4)	(5)
$NBIM_{11}$*Post	4.798***	4.666***	7.437***	7.283***	
	(1.255)	(1.142)	(1.677)	(1.769)	
$NBIM_{11}$*year2010					1.372
					(1.342)
$NBIM_{11}$*year2011					2.149
					(1.379)
$NBIM_{11}$*year2012					6.322***
					(1.927)
$NBIM_{11}$*year2013					7.379***
					(2.460)
$NBIM_{11}$*year2014					9.985***
					(3.117)
$NBIM_{11}$*year2015					14.269***
					(3.474)
Year dummies	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes	Yes
Observations	17,388	17,388	17,388	17,388	17,388
R-squared	0.021	0.731			

Notes. This table reports instrumental variable estimates of the effect of the Note's release on the governance of NBIM portfolio firms. The dependent variable is the Governance score measured at the firm level. Column 1 reports estimates of a pooled OLS regression. Columns 2 and 3 include firm fixed effects. NBIM ($NBIM_{11}$) is a dummy variable equal to one for firms in NBIM's portfolio (in 2011) and zero otherwise. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. In columns 3 and 4, Post*NBIM is instrumented with Post*$NBIM_{11}$. In column 5, year* is a dummy variable for the years 2010, 2011, 2012, 2013, 2014, and 2015, the reference year is 2009. NBIM*year2012, NBIM*year2013, NBIM*year2014, and NBIM*year2015 are instrumented with $NBIM_{11}$*year2012, $NBIM_{11}$*year2013, $NBIM_{11}$*year2014, and $NBIM_{11}$*year2015. Year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4
NBIM Effect on Firm Governance – Discretionary Investments

	(1)	(2)	(3)	(4)
$NBIM_{11}$*Post	4.666***		4.011***	
	(1.142)		(1.290)	
$FTSE_{11}$*Post		2.836***	1.215	
		(0.980)	(1.101)	
$OnlyNBIM_{11}$*Post				4.008**
				(1.736)
$NBIMFTSE_{11}$*Post				4.993***
				(1.372)
$OnlyFTSE_{11}$*Post				1.562
				(2.545)
Excluded-$ethics_{11}$*Post				-2.386
				(3.918)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	17,388	17,388	17,388	17,388
R-squared	0.731	0.731	0.731	0.731

Notes. This table reports estimates of the effect of the Note's release on the governance of NBIM portfolio firms. The dependent variable is the Governance Index. $NBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 and zero otherwise. $FTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 and zero otherwise. $OnlyNBIM_{11}$ is a dummy variable equal to one for firms in NBIM's portfolio in 2011 that did not belong to FTSE in 2011. $OnlyFTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 that did not belong to NBIM in 2011 or was excluded by NBIM's ethics committee in 2011. $NBIMFTSE_{11}$ is a dummy variable equal to one for firms both in NBIM's portfolio in 2011 and in the FTSE in 2011. Excluded-$ethics_{11}$ is a dummy variable equal to one for firms that were excluded from NBIM holdings by the fund's ethics committee by 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 5
NBIM Effect on Firm Governance – Extensive vs. Intensive Margin

	Firm (1)	Fund (2)	Firm+Fund (3)	Firm (4)	Fund (5)
Post*NBIM_Weight$_{11}$(firm)	1.11***		1.15***		
	(0.41)		(0.42)		
Post* NBIM_Weight$_{11}$(fund)		-0.66	-2.03		
		(2.84)	(2.78)		
Post* I(% quartile1)$_{11}$				2.01	4.22***
				(1.75)	(1.33)
Post* I(% quartile2)$_{11}$				3.40**	3.78***
				(1.45)	(1.30)
Post* I(% quartile3)$_{11}$				4.92***	4.79***
				(1.51)	(1.31)
Post* I(% quartile4)$_{11}$				7.65***	5.81***
				(1.57)	(1.30)
Firm & Year fixed effects	Yes	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes	Yes
Observations	17,318	17,388	17,318	17,318	17,388
R-squared	0.731	0.730	0.731	0.732	0.731

Notes. This table reports OLS estimates from panel regressions with firm fixed effects. The dependent variable is the Governance Index. NBIM_Weight$_{11}$(firm) is the fraction of the firm's market value held by NBIM in 2011. NBIM_Weight$_{11}$(fund) is the fraction of the NBIM's portfolio represented by the firm's market value in 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. In column 4, I(% quartile`i´)$_{11}$ is a dummy variable equal to one for firms in the $i^{th}$ quartile of NBIM_Weight$_{11}$(firm). In column 5, I(% quartile`i´)$_{11}$ is a dummy variable equal to one for firms in the ith quartile of NBIM_Weight$_{11}$(fund). In columns 4 and 5, the reference group is formed by all the firms that were not in the portfolio of NBIM in 2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 6
NBIM Effect on Firm Governance – Heterogeneous Effects

	Assets (1)	MV (2)	Perform. (3)	Liquidity (4)	Govern. (5)	IP (6)
Post*NBIM$_{11}$*Q(% quartile1)$_{11}$	7.37***	6.51**	8.12***	6.34***	2.78	2.56
	(2.72)	(2.56)	(2.69)	(2.08)	(1.99)	(1.91)
Post*NBIM$_{11}$*Q(% quartile2)$_{11}$	6.74***	7.45***	6.67***	7.05***	6.79***	1.70
	(2.15)	(2.22)	(2.27)	(2.43)	(2.16)	(1.77)
Post*NBIM$_{11}$*Q(% quartile3)$_{11}$	4.47**	4.07*	4.19*	4.22*	6.22**	5.23**
	(2.00)	(2.13)	(2.44)	(2.33)	(2.46)	(2.57)
Post*NBIM$_{11}$*Q(% quartile4)$_{11}$	0.58	0.23	3.12	0.09	4.13**	5.37*
	(2.12)	(2.01)	(2.03)	(2.04)	(2.00)	(2.77)
Firm & Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	No	Yes	No
Post*Q(% quartile`i´)	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,367	17,318	15,890	17,073	17,388	17,381
R-squared	0.73	0.73	0.73	0.73	0.73	0.73

Notes. This table reports OLS estimates from panel regressions with firm fixed effects. The dependent variable is the Governance Index. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. NBIM$_{11}$ is a dummy variable equal to one for firms in NBIM's portfolio in 2011 and zero otherwise. For each feature analyzed, we create quartiles, so that Q(% quartile`i´)$_{11}$ is a dummy variable equal to one for firms in the ith quartile of each feature in 2011. In column 1 we classify NBIM portfolio firms according to total assets. In column 2 we classify NBIM portfolio firms according to total market value. In column 3 we classify NBIM portfolio firms according to performance (EBITDA over revenues). In column 4 we classify NBIM portfolio firms according to their governance index. In column 5 we classify NBIM portfolio firms according to their country's score regarding the protection of minority investors (World Bank, 2019). In column 6 we classify NBIM portfolio firms according to their liquidity (daily volume traded / daily absolute return). The coefficients reported are those of the interaction of Post*NBIM*Q(% quartile`i´)$_{11}$. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 7
Governance Differences for Firms Entering NBIM's Portfolio

	FULL SAMPLE		Non-FTSE		FTSE	
ENTRY	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	1.007**	1.006**	1.010**	1.008**	1.003	1.001
	(0.003)	(0.003)	(0.005)	(0.004)	(0.005)	(0.005)
$Governance_{2011}$	0.995**	0.988***	0.994*	0.987***	0.996	0.989***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)
Time & Post*Country dum.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,687	14,307	2,366	13,471	2,110	13,185
Pseudo R-squared	0.0734	0.108	0.154	0.182	0.0309	0.0479

Notes. This table reports odds ratios from logistic regressions. The dependent variable is NBIM_entry, a dummy equal to one for firms that enter the NBIM portfolio in year *t* and do not belong to the NBIM portfolio in year *t-1*. This dummy is equal to zero according to the control group selected. In columns 1, 3, and 5, NBIM_entry is equal to zero for firms that did not belong to the NBIM portfolio the previous and subsequent 2 years. In columns 2, 4, and 6, NBIM_entry is equal to zero for firms that belonged to the NBIM portfolio the previous and subsequent 2 years. The variable $Governance_{2011}$ is the Governance Index fixed in the year 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Year dummies, and interactions of the dummy Post and country dummies are included but not reported. In columns 1 and 2 we use the full sample of firms. In columns 3 and 4 we exclude the entries that are driven by entries in the FTSE Global Cap. In columns 5 and 6 we only include the entries that are driven by entries in the FTSE Global Cap. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate statistical significance relative to a coefficient of 1 at the 1%, 5% and 10% levels, respectively.

Table 8
Governance Differences for Firms Exiting NBIM's Portfolio

	FULL SAMPLE		Non-FTSE		FTSE	
EXIT	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	0.993	0.993*	0.991**	0.991**	1.014	1.012
	(0.004)	(0.004)	(0.005)	(0.004)	(0.012)	(0.010)
$Governance_{2011}$	1.002	0.996*	1.003	0.996	1.000	0.992
	(0.003)	(0.002)	(0.003)	(0.002)	(0.006)	(0.006)
Time & Post*Country dum.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,347	13,491	2,308	13,449	1,697	10,793
Pseudo R-squared	0.149	0.131	0.164	0.142	0.0941	0.0799

Notes. This table reports odds ratios from logistic regressions. The dependent variable is NBIM_exit, a dummy equal to one for firms that belonged to the NBIM portfolio in year t-1 and exited the NBIM portfolio in year t. This dummy is equal to zero according to the control group selected. The control group varies in each column. In columns 1, 3, and 5, NBIM_exit is equal to zero for firms that did not belong to NBIM's portfolio the previous and subsequent 2 years. In columns 2, 4, and 6, NBIM_exit is equal to zero for firms that belonged to NBIM's portfolio the previous and subsequent 2 years. The variable $Governance_{2011}$ is the Governance Index fixed in the year 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Year dummies, and interactions of the dummy Post and country dummies are included but not reported. In columns 1 and 2 we use the full sample of firms. In columns 3 and 4 we exclude the exits that were driven by exits from the FTSE Global Cap. In columns 5 and 6 we only include the exits that were driven by exits in the FTSE Global Cap. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate statistical significance relative to a coefficient of 1 at the 1%, 5% and 10% levels, respectively.

Table 9
Governance-Returns Trade-off in NBIM's Portfolio

Panel A: Equally-weighted

Governance portfolios	Non-Discretionary		Discretionary	
	Pre-Event	Post-Event	Pre-Event	Post-Event
	(1)	(2)	(3)	(4)
1 (Low)	0.299	-0.024	0.198	0.574
	(0.08)	(0.05)	(0.25)	(0.20)
2	0.125	0.022	0.221	0.387
	(0.09)	(0.05)	(0.23)	(0.23)
3	0.376	0.061	0.460	0.173
	(0.08)	(0.05)	(0.21)	(0.18)
4	0.41	0.00	0.26	-0.24
	(0.07)	(0.05)	(0.23)	(0.19)
5 (High)	0.230	-0.060	0.166	-0.219
	(0.07)	(0.05)	(0.24)	(0.15)
Difference High-Low	-0.069	-0.036	-0.031	-0.793***

Panel B: Value-weighted

Governance portfolios	Non-Discretionary		Discretionary	
	Pre-Event	Post-Event	Pre-Event	Post-Event
	(1)	(2)	(3)	(4)
1 (Low)	0.421	0.117	0.328	0.590
	(0.07)	(0.04)	(0.23)	(0.16)
2	0.289	0.029	0.171	-0.507
	(0.07)	(0.04)	(0.18)	(0.14)
3	0.285	0.001	0.678	0.113
	(0.06)	(0.04)	(0.15)	(0.11)
4	0.342	0.095	0.672	-0.518
	(0.06)	(0.04)	(0.17)	(0.11)
5 (High)	0.190	-0.133	0.651	-0.594
	(0.06)	(0.04)	(0.16)	(0.09)
Difference High-Low	-0.231	-0.250	0.323	-1.184***

Notes. This table reports mean alphas (calculated through Carhart's (1997) four factor model) and standard errors in parentheses. We decompose NBIM's portfolio into non-discretionary firms (those that belong to the FTSE Global Cap Index) and discretionary firms (those that do not belong to the FTSE Global Cap Index). Pre-event is for the period 2009–2011. Post-Event is for the period 2012–2015. Panel A shows equally-weighted results. Panel B shows market value-weighted results. The last row reports differences between alphas in the high and low governance portfolios. ***, ** and * indicate statistical significance of these differences at the 1%, 5% and 10% levels, respectively.

The Systemic Governance Influence of Expectation Documents: Evidence from a Universal Owner

INTERNET APPENDIX (Not for publication)

Table IA1. Definitions of the 34 indicators included in the governance index and construction of the score

Board Cultural Diversity	Percentage of board members that have a cultural background different from the location of the corporate headquarters.
Executive Members Gender Diversity	Percentage of female executive members.
Board Functions Policy	Does the company have a policy for maintaining effective board functions?
Board Meeting Attendance Average	The average overall attendance percentage of board meetings as reported by the company.
Succession Plan	Does the company have a succession plan for executive management (key board members) in the event of unforeseen circumstances?
External Consultants	Do the board or board committees have the authority to hire external advisers or consultants without management's approval?
Audit Committee Independence	Percentage of independent board members on the audit committee as stipulated by the company.
Audit Committee Mgt Independence	Does the company report that all audit committee members are non-executives?
Compensation Committee Independence	Percentage of independent board members on the compensation committee as stipulated by the company.
Compensation Committee Mgt Independence	Does the company report that all compensation committee members are non-executives?
Nomination Committee Independence	Percentage of non-executive board members on the nomination committee.
Nomination Committee Involvement	Percentage of nomination committee members who are significant shareholders (more than 5%).
Board Attendance	Does the company publish information about the attendance of the individual board members at board meetings?
Board Structure Policy	Does the company have a policy for maintaining a well-balanced membership of the board?
Board Size More Ten Less Eight	Total number of board members which are in excess of ten or below eight.
Board Background and Skills	Does the company describe the professional experience or skills or the age of every board member?

Female on Board	Percentage of female on the board.
Board Specific Skills	Percentage of board members who have either an industry specific background or a strong financial background.
Experienced Board	Average number of years each board member has been on the board.
Non-Executive Board Members	Percentage of non-executive board members.
Independent Board Members	Percentage of independent board members as reported by the company.
CEO-Chairman Separation	Does the CEO simultaneously chair the board or has the chairman of the board been the CEO of the company?
Board Member Affiliations	Average number of other corporate affiliations for the board member.
Board Individual Reelection	Are all board members individually subject to re-election (no classified or staggered board structure)?
Executive Compensation Policy	Does the company have a policy for performance-oriented compensation that attracts and retains the senior executives and board members?
Compensation Improvement Tools	Does the company have the necessary internal improvement and information tools for the board members to develop appropriate compensation/remuneration to attract and retain key executives?
CEO Compensation Link to TSR	Is the CEO's compensation linked to total shareholder return (TSR)?
Total Senior Executives Compensation	The total compensation paid to all senior executives as reported by the company.
Shareholders Approval Stock Compensation Plan	Does the company require that shareholder approval is obtained prior to the adoption of any stock based compensation plans?
Executive Individual Compensation	Does the company provide information about the total individual compensation of all executives and board members?
Highest Remuneration Package	Highest remuneration package within the company in US dollars.
Executive Compensation LT Objectives	Is the management and board members remuneration partly linked to objectives or targets which are more than two years forward looking?
Sustainability Compensation Incentives	Is the senior executive's compensation linked to CSR/H&S/Sustainability targets?
Internal Audit Department Reporting	Does the internal audit department report to the audit committee of the board?

Source: Management Score of Eikon ESG.

How Eikon ESG builds the score for the Governance Index

Source: Eikon ESG

We have collected information on the corporate governance practices of firms from Eikon's ESG dataset. The governance index measures a company's relative performance on 34 governance indicators listed in Table IA1, based on company-reported information. The index takes values from 0 to 100. We obtain one governance score per company and year.

Each indicator within the index is calculated as a "percentile score", which ranks companies according to each indicator. It is based on three factors: How many companies are worse than the current one? How many companies have the same value? And how many companies have a value at all? For each indicator, we obtain a score. The formula to calculate the score of each indicator is described in this equation:

$$\frac{\text{n.of companies with a worst value} + \frac{\text{n.of companies with the same value included in the current one}}{2}}{n.of\ companies\ with\ a\ value} \quad \text{(A1)}$$

Thus, after calculating the score of the 34 indicators per company, we derive the average scores for individual companies as the equally-weighted sum of the 34 indicators, as described in this equation:

$$\text{average score} = \sum_{s=1}^{S} \text{score} \ / \ 34 \qquad \text{(A2)}$$

The last step to obtain the governance index, takes the average scores for each company obtained in equation (A2) and repeats the formula in equation (A1), to rank again companies according to their average scores.

$$Governance\ score = \frac{\text{n.of companies with a worst average score} + \frac{\text{n.of companies with the same average score included in the current one}}{2}}{n.of\ companies\ with\ an\ average\ score}$$

(A3)

Table IA2. NBIM holdings and Eikon (Thomson Reuters) coverage

	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%

Notes. 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 3 by the value of column 2.

Table IA3. Summary statistics for Non NBIM and NBIM firms

	Non NBIM	NBIM	Difference
Governance Index	51.00	52.08	-1.077
	(28.50)	(28.82)	(-0.68)
Total Revenues (billions)	652.29	600.26	52.03
	(4545.57)	(5329.86)	(0.18)
Total Assets (billions)	3741.01	1743.48	1997.5
	(28420.18)	(16026.61)	(1.26)
Capital Structure (Liabilities over Equity)	3.91	2.51	1.400
	(18.43)	(8.65)	(1.38)
Performance (EBITDA over Revenue)	0.16	-7.30	7.462
	(1.23)	(470.54)	(1.00)
Return on Assets	0.07	0.07	-0.002
	(0.11)	(0.10)	(-0.43)
Institutional Investors Ownership	66.72	66.64	0.082
	(24.67)	(23.87)	(0.06)

Notes. This table reports mean and standard deviation of several variables for firms that do not belong to NBIM in 2011 (676 observations) and firms that belong to NBIM in 2011 (4,292 observations). The last column shows the difference and the t-value for the difference in means between the non NBIM group and the NBIM group. The sample covers the period 2010 and 2011.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA4. Summary statistics by sector of economic activity

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%

Notes. 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.

Table IA5. Summary statistics by 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	10	13	23
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	14	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

Notes. 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.

Table IA6. Governance differences among NBIM and non-NBIM firms (weighted by size)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
NBIM	1.543	2.799	1.910	1.199	1.533	4.540***	6.688***	6.258***	7.084***
	(2.133)	(1.808)	(1.689)	(1.760)	(1.685)	(1.749)	(1.874)	(1.913)	(1.798)
Observations	1,418	2,117	2,481	2,481	2,481	2,483	2,480	2,478	2,484
R-squared	0.000	0.001	0.001	0.000	0.000	0.003	0.005	0.004	0.006

Notes. This table presents estimates of yearly cross-sectional OLS regressions (weighted by the logarithm of assets) of governance index differences among NBIM and non-NBIM firms. The dependent variable is the Governance Index. For each year *t*, one explanatory variable is used (NBIM), a dummy variable that takes the value of one if the firm belongs to the NBIM portfolio in that year and zero otherwise. Standard errors are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA7. Governance differences among fund and firm weights

	Fund Weight (1)	Firm Weight (2)
NBIM_Weight	37.652***	1.360***
	(2.280)	(0.278)
Post*NBIM_Weight	9.483**	-0.449
	(3.725)	(0.355)
Observations	21,034	20,948
R-squared	0.030	0.007

Notes. This table shows estimates from OLS regressions of the effect of fund and firm weights on the governance index. The dependent variable is the Governance Index. In column 1, the independent variables are NBIM weight fund (fraction of the NBIM's portfolio represented by the firm), an interaction of NBIM weight fund and Post (a dummy variable that takes the value of one for the period 2012–2015 and zero for the period 2009–2011), and year dummies. Column 2 is analogous to column 1, but instead of NBIM weight fund, we now use NBIM weight firm, which is the percentage of the firm's market value held by NBIM. Standard errors are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA8. First stage: relevance of NBIM-2011

	Relevance	Relevance with year dummies
	(1)	(2)
$NBIM_{11}$*Post	0.642***	
	(0.022)	
$NBIM_{11}$*year2012		0.805***
		(0.021)
$NBIM_{11}$*year2013		0.666***
		(0.026)
$NBIM_{11}$*year2014		0.587***
		(0.027)
$NBIM_{11}$*year2015		0.515***
		(0.028)
Year dummies	Yes	Yes
Post*Country dummies	Yes	Yes
Observations	17,388	17,388
R-squared	0.951	0.952

Notes. This table reports the results from OLS regressions. The dependent variable is the dummy NBIM. For each year *t*, this dummy is equal to one for firms that belong to the portfolio of NBIM, and zero otherwise. $NBIM_{11}$ is a dummy equal to one for firms that belong to the portfolio of NBIM in 2011, and zero otherwise. Post is a dummy equal to one for the period 2012–2015, and zero otherwise. In column 2, we add interactions of NBIM with year dummies for 2012, 2013, 2014 and 2015. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA9. The effect of NBIM on governance (weighted by size)

	(1)	(2)	(3)	(4)
$NBIM_{11}$*Post	4.400***		3.673***	
	(1.231)		(1.391)	
$FTSE_{11}$*Post		2.865***	1.407	
		(1.070)	(1.204)	
$OnlyNBIM_{11}$*Post				3.815**
				(1.892)
$NBIMFTSE_{11}$*Post				4.913***
				(1.494)
$OnlyFTSE_{11}$*Post				1.980
				(2.807)
Excluded-$ethics_{11}$*Post				-1.917
				(4.113)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	17,368	17,368	17,368	17,368
R-squared	0.734	0.734	0.734	0.734

Notes. This table reports estimates of panel regressions (weighted by the logarithm of assets) of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is the Governance Index. $NBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 and zero otherwise. $FTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 and zero otherwise. $OnlyNBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 that do not belong to FTSE in 2011. $OnlyFTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 that do not belong to NBIM in 2011 or have not been excluded by the ethics committee of NBIM in 2011. $NBIMFTSE_{11}$ is a dummy variable equal to one for firms both in the portfolio of NBIM in 2011 and in the FTSE in 2011. Excluded-$ethics_{11}$ is a dummy variable equal to one for firms that have been excluded from NBIM holdings by the ethics committee of NBIM by 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA10. The effect of NBIM on governance (Investment categories fixed in 2010)

	(1)	(2)	(3)	(4)
$NBIM_{10}$*Post	4.341***		3.741***	
	(1.209)		(1.416)	
$FTSE_{10}$*Post		2.549***	0.968	
		(0.962)	(1.125)	
$OnlyNBIM_{10}$*Post				3.000*
				(1.703)
$NBIMFTSE_{10}$*Post				4.192***
				(1.349)
$OnlyFTSE_{10}$*Post				-1.057
				(3.359)
Excluded-$ethics_{10}$*Post				-2.404
				(4.185)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	17,388	17,388	17,388	17,388
R-squared	0.731	0.731	0.731	0.731

Notes. This table reports estimates of panel regressions of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is the Governance Index. $NBIM_{10}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2010 and zero otherwise. $FTSE_{10}$ is a dummy variable equal to one for firms in the FTSE in 2010 and zero otherwise. $OnlyNBIM_{10}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2010 that do not belong to FTSE in 2010. $OnlyFTSE_{10}$ is a dummy variable equal to one for firms in the FTSE in 2010 that do not belong to NBIM in 2010 or have not been excluded by the ethics committee of NBIM in 2010. $NBIMFTSE_{10}$ is a dummy variable equal to one for firms both in the portfolio of NBIM in 2010 and in the FTSE in 2010. Excluded-$ethics_{10}$ is a dummy variable equal to one for firms that have been excluded from NBIM holdings by the ethics committee of NBIM by 2010. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA11. The effect of NBIM on governance – reweighting the control group

	(1)	(2)	(3)	(4)
$NBIM_{11}$*Post	5.885***		6.132***	
	(1.376)		(1.700)	
$FTSE_{11}$*Post		3.198**	-0.420	
		(1.456)	(1.766)	
$OnlyNBIM_{11}$*Post				5.621***
				(2.039)
$NBIMFTSE_{11}$*Post				5.226***
				(1.581)
$OnlyFTSE_{11}$*Post				-1.294
				(2.865)
Excluded-$ethics_{11}$*Post				-3.415
				(4.759)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	26,712	26,712	26,712	26,712
R-squared	0.728	0.726	0.728	0.728

Notes. This table reports estimates of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is the Governance Index. $NBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 (treatment) and zero otherwise (control). We use propensity score matching so that each treated observation has one nearest neighbor in the control group (with replacement). $FTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 and zero otherwise. $OnlyNBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 that do not belong to FTSE in 2011. $OnlyFTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 that do not belong to NBIM in 2011 or have not been excluded by the ethics committee of NBIM in 2011. $NBIMFTSE_{11}$ is a dummy variable equal to one for firms both in the portfolio of NBIM in 2011 and in the FTSE in 2011. Excluded-ethics11 is a dummy variable equal to one for firms that have been excluded from NBIM holdings by the ethics committee of NBIM by 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA12. The effect of NBIM on governance in levels – non yearly ranked

	(1)	(2)	(3)	(4)
$NBIM_{11}$*Post	0.843***		1.113***	
	(0.291)		(0.314)	
$FTSE_{11}$*Post		-0.053	-0.481*	
		(0.230)	(0.247)	
$OnlyNBIM_{11}$*Post				0.954**
				(0.431)
$NBIMFTSE_{11}$*Post				0.503
				(0.358)
$OnlyFTSE_{11}$*Post				-0.443
				(0.578)
Excluded-$ethics_{11}$*Post				-1.606*
				(0.877)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	10,589	10,589	10,589	10,589
R-squared	0.869	0.869	0.869	0.869

Notes. This table reports estimates of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is the Governance score in levels (instead of using the yearly ranked scores provided by Eikon, we construct the index as the equally-weighted sum of the 34 indicators contained in the index as provided by Eikon. Each indicator takes a value between 0 and 1). $NBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 and zero otherwise. $FTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 and zero otherwise. $OnlyNBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 that do not belong to FTSE in 2011. $OnlyFTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 that do not belong to NBIM in 2011 or have not been excluded by the ethics committee of NBIM in 2011. $NBIMFTSE_{11}$ is a dummy variable equal to one for firms both in the portfolio of NBIM in 2011 and in the FTSE in 2011. Excluded-$ethics_{11}$ is a dummy variable equal to one for firms that have been excluded from NBIM holdings by the ethics committee of NBIM by 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA13. The effect of NBIM on firm governance decomposed according to NBIM's Note

	(Yes)	(Partial)	(No)	(Yes)	(Partial)	(No)
$NBIM_{11}$*Post	1.531***	0.672	0.204			
	(0.477)	(0.434)	(0.381)			
$OnlyNBIM_{11}$*Post				1.595**	0.681	0.530
				(0.722)	(0.665)	(0.551)
$NBIMFTSE_{11}$*Post				1.209**	0.003	0.069
				(0.570)	(0.546)	(0.447)
$OnlyFTSE_{11}$*Post				-0.606	-0.987	-0.009
				(1.072)	(0.990)	(0.856)
Excluded-$ethics_{11}$*Post				-1.237	-3.242***	-0.550
				(1.454)	(0.992)	(1.216)
Firm & Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,589	10,589	10,589	10,589	10,589	10,589
R-squared	0.828	0.733	0.810	0.828	0.733	0.810

Notes. This table reports estimates of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is a governance score in levels (instead of using the yearly ranked scores provided by Eikon, we construct an index as the equally-weighted sum of the indicators contained in the index. Each indicator takes a value between 0 and 1). We use 3 indexes: Yes, Partial and No. Their construction details are explained below. $NBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 and zero otherwise. $OnlyNBIM_{11}$ is a dummy variable equal to one for firms in the portfolio of NBIM in 2011 that do not belong to FTSE in 2011. $NBIMFTSE_{11}$ is a dummy variable equal to one for firms both in the portfolio of NBIM in 2011 and in the FTSE in 2011. $OnlyFTSE_{11}$ is a dummy variable equal to one for firms in the FTSE in 2011 that do not belong to NBIM in 2011 or have not been excluded by the ethics committee of NBIM in 2011. Excluded-ethics11 is a dummy variable equal to one for firms that have been excluded from NBIM holdings by the ethics committee of NBIM by 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Firm fixed effects, year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Decomposition of Eikon's Management Score according to NBIM's Note

We have analyzed the Note published by NBIM and the 34 variables included in the Management Score provided by Eikon. The Note refers to an overall interest in improving corporate governance, and it focuses on two big areas of action: board accountability and minority shareholder protection. The Note includes both general statements and very specific expectations. For example, the Note explains that NBIM expects the board to act as "representatives of the owners of the equity capital, without discrimination" or that "board should provide comprehensive information in a timely manner so that shareholders can make an informed voting decision in board elections." Also, NBIM makes very specific requests and it expects "credible representation of independent directors on the board" or expresses that the "roles of chairman and CEO are fundamentally different and should not be held by the same person." Thus, in some cases, specific variables included in the Management Score (See Table IA1) have a clear correspondence with expectations detailed in the Note. Yet, in other cases, certain indicators included in the Score are not that clearly reflected in the Note. Thus, the authors independently analyzed the correspondence of the Score indicators with the text and the spirit of the Note and classified the indicators into three groups. We classified the 34 indicators in Table IA1 into 3 groups according to whether the indicator is mentioned in the Note or not: "Yes", "Partial" and "No".

"Yes" for variables that are clearly reflected in the Note. This include Board Attendance; Board Background and Skills; Board Cultural Diversity; Board Functions Policy; Board Individual Reelection; Board Member Affiliations; Board Specific Skills; CEO Compensation Link to TSR; CEO-Chairman Separation; Executive Compensation LT objectives; Experienced Board; Independent Board Members and Succession Plan.

"Partial" for indicators that were only partially mentioned or related to the Note. This include Audit Committee Independence; Audit Committee Mgt Independence; Board Meeting Attendance Average; Board Structure Policy; Compensation Improvement Tools; Executive Compensation Policy; Female on Board; Nomination Committee Involvement; Sustainability Compensation Incentives.

"No" for indicators in the Score that are not even mentioned in the NBIM Note. This include Compensation Committee Independence; Compensation Committee Mgt Independence; Nomination Committee Independence; Board Size More Ten Less Eight; Executive Individual Compensation; External Consultants; Highest Remuneration Package; Internal Audit Department Reporting; Non-Executive Board Members; Shareholders Approval Stock Compensation Plan; Total Senior Executives Compensation; Executive Members Gender Diversity. See Table IA1 for definitions.

Table IA14. The effect of NBIM on firm governance: instrumental variables (2006–2015)

	Reduced form		2SLS		
	(1)	(2)	(3)	(4)	(5)
$NBIM_{11}$*Post	4.915***	4.941***	7.710***	7.643***	
	(1.321)	(1.196)	(1.782)	(1.855)	
$NBIM_{11}$*year2007					0.110
					(2.051)
$NBIM_{11}$*year2008					1.746
					(1.846)
$NBIM_{11}$*year2009					1.213
					(1.731)
$NBIM_{11}$*year2010					2.098
					(1.864)
$NBIM_{11}$*year2011					2.862
					(1.760)
$NBIM_{11}$*year2012					7.045***
					(2.368)
$NBIM_{11}$*year2013					8.261***
					(2.977)
$NBIM_{11}$*year2014					11.015***
					(3.673)
$NBIM_{11}$*year2015					15.540***
					(4.155)
Year dummies	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes	Yes
Observations	21,034	21,034	21,034	21,034	21,034
R-squared	0.019	0.671			

Notes. This table reports instrumental variables estimates of the effect of the announcement on the governance of NBIM portfolio firms. The dependent variable is the Governance Index measured at the firm level. Column 1 reports estimates of a pooled OLS regression. Columns 2 and 3 include firm fixed effects. NBIM ($NBIM_{11}$) is a dummy variable equal to one for firms in the portfolio of NBIM (in 2011) and zero otherwise. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2006-2011. In columns 3 and 4, Post*NBIM is instrumented with Post*$NBIM_{11}$. In column 5, year* is a dummy variable for the years 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015, the reference year is 2006. NBIM*year2012, NBIM*year2013, NBIM*year2014 and NBIM*year2015 are instrumented with $NBIM_{11}$*year2012, $NBIM_{11}$*year2013, $NBIM_{11}$*year2014 and $NBIM_{11}$*year2015. Year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA15. The effect of NBIM on firm governance: placebo tests

	Reduced form		2SLS	
	(1)	(2)	(3)	(4)
$Post_{09\text{-}11}$*$NBIM_{08}$	-1.063		-1.449	
	(1.527)		(2.083)	
$Post_{10\text{-}11}$*$NBIM_{09}$		0.707		0.905
		(1.407)		(1.803)
Firm & Year fixed effects	Yes	Yes	Yes	Yes
Post*Country dummies	Yes	Yes	Yes	Yes
Observations	11,098	11,098	11,098	11,098
R-squared	0.724	0.723	0.031	0.030

Notes. This table reports placebo tests for the pre-shock period 2006-2011.The dependent variable is the Governance Index measured at the firm level. Columns 1 and 2 report estimates of a pooled OLS regressions with firm and year fixed effects. $NBIM_{08}$ ($NBIM_{09}$) is a dummy variable equal to one for firms in the portfolio of NBIM in 2008 (in 2009) and zero otherwise. $Post_{09\text{-}11}$ ($Post_{10\text{-}11}$) is a dummy variable equal to one for the period 2009–2011 (2010–2011) and equal to zero for the period 2006–2008 (2006–2009). In column 3 $Post_{09\text{-}11}$*NBIM is instrumented with $Post_{09\text{-}11}$*$NBIM_{08}$ and in column 4 $Post_{10\text{-}11}$*NBIM is instrumented with $Post_{10\text{-}11}$*$NBIM_{09}$. Dummies on the interaction of the dummy Post and country dummies are included. Robust standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA16. Governance differences for firms that enter the portfolio of NBIM

Panel A: Estimates from logistic regressions

	FULL SAMPLE		Non-FTSE		FTSE	
ENTRY	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * Governance_{2011}	0.0074**	0.0058**	0.0096**	0.0084**	0.0034	0.0011
	(0.0035)	(0.0029)	(0.0045)	(0.0043)	(0.0052)	(0.0046)
Governance_{2011}	-0.0050**	-0.0122***	-0.0060*	-0.0134***	-0.0043	-0.0113***
	(0.0024)	(0.0020)	(0.0033)	(0.0032)	(0.0027)	(0.0024)
Time & Post*Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,687	14,307	2,366	13,471	2,110	13,185
Pseudo R-squared	0.0734	0.108	0.154	0.182	0.0309	0.0479
Baseline Predicted Probability	0.234	0.056	0.132	0.032	0.136	0.027

Panel B: Average marginal effects (Mfx)

	FULL SAMPLE		Non-FTSE		FTSE	
ENTRY	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * Governance_{2011}	0.00140**	0.00019**	0.00116**	0.00013**	0.00040	0.00002
	(0.00065)	(0.00010)	(0.00055)	(0.00007)	(0.00061)	(0.00008)
Governance_{2011}	-0.00094**	-0.00040***	-0.00073*	-0.00021***	-0.00051	-0.00020***
	(0.00045)	(0.00007)	(0.00040)	(0.00005)	(0.00032)	(0.00004)

Notes. This table reports estimates and average marginal effects (Mfx) from logistic regressions. The dependent variable is NBIM_entry, a dummy equal to one for firms that enter the NBIM portfolio in year *t* and do not belong to the NBIM portfolio in year *t-1*. This dummy is equal to zero according to the control group selected. In columns 1, 3 and 5, NBIM_entry is equal to zero for firms that do not belong to the NBIM portfolio the previous and subsequent 2 years. In columns 2, 4 and 6, NBIM_entry is equal to zero for firms that belong to the NBIM portfolio the previous and subsequent 2 years. The variable Governance_{2011} is the Governance Index fixed in the year 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Year dummies, and interactions of the dummy Post and country dummies are included but not reported. In columns 1 and 2 we use the full sample of firms. In columns 3 and 4 we exclude the entries that are driven by entries in the FTSE Global Cap. In columns 5 and 6 we only include the entries that are driven by entries in the FTSE Global Cap. The unconditional probability is described as the baseline predicted probability. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA17. Average governance for firms that enter and exit the NBIM portfolio

Panel A: Governance Index not fixed in 2011

	Non-NBIM	NBIM	Entries	Exits
Period 2009–2011	47.79	50.69	42.72	48.63
Period 2012–2014	44.61	51.71	46.52	43.61

Panel B: Governance Index fixed in 2011

	Non-NBIM	NBIM	Entries	Exits
Period 2009–2011	46.23	51.26	42.34	48.73
Period 2012–2014	46.55	50.95	47.51	43.01

Notes. These tables report means of the Governance Index for different sample groups and periods. The Governance Index is an index ranked from 0 to 100 that measures a company's commitment and effectiveness toward following best practice corporate governance principles. Non-NBIM are firms that do not belong to the NBIM portfolio. NBIM are firms that belong to NBIM. Entry are firms that enter the NBIM portfolio in year *t* and do not belong to the NBIM portfolio in year *t-1*. Exit are firms that belong to the NBIM portfolio in year t-1 and exit the NBIM portfolio in year t.

Table IA18. Number of firms that enter and exit the NBIM portfolio every year

	Exits	Entries	Exits (non FTSE)	Entries (non FTSE)
2009	70	150	50	77
2010	31	169	25	73
2011	228	157	219	52
2012	70	205	64	149
2013	60	279	50	177
2014	81	235	76	105

Notes. This table reports the number of firms that NBIM yearly exits and entries. Columns 3 and 4 report NBIM exits and entries that are not driven by FTSE exits and entries.

Table IA19. Governance differences for firms that exit the portfolio of NBIM

Panel A: Estimates from logistic regressions

	FULL SAMPLE		Non-FTSE		FTSE	
EXIT	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	-0.0069	-0.0067*	-0.0093**	-0.0091**	0.0137	0.0119
	(0.0044)	(0.0038)	(0.0046)	(0.0040)	(0.0114)	(0.0099)
$Governance_{2011}$	0.0024	-0.0041*	0.0028	-0.0037	-0.0003	-0.0077
	(0.0027)	(0.0023)	(0.0029)	(0.0025)	(0.0063)	(0.0061)
Time & Post*Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,347	13,491	2,308	13,449	1,697	10,793
Pseudo R-squared	0.149	0.131	0.164	0.142	0.0941	0.0799
Baseline Predicted Probability	0.129	0.027	0.115	0.024	0.023	0.004

Panel B: Average marginal effects (Mfx)

	FULL SAMPLE		Non-FTSE		FTSE	
EXIT	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	-0.00081	-0.00011*	-0.00095**	-0.00012**	0.00024	0.00003
	(0.00051)	(0.00006)	(0.00048)	(0.00006)	(0.00020)	(0.00003)
$Governance_{2011}$	0.00029	-0.00007*	0.00028	-0.00005	-0.00001	-0.00002
	(0.00032)	(0.00004)	(0.00029)	(0.00003)	(0.00011)	(0.00002)

Notes. This table reports estimates and average marginal effects (Mfx) from logistic regressions. The dependent variable is NBIM_exit, a dummy equal to one for firms that exit the NBIM portfolio in year *t* and belong to the NBIM portfolio in year *t-1*. This dummy is equal to zero according to the control group selected. In columns 1, 3 and 5, NBIM_exit is equal to zero for firms that do not belong to the NBIM portfolio the previous and subsequent 2 years. In columns 2, 4 and 6, NBIM_exit is equal to zero for firms that belong to the NBIM portfolio the previous and subsequent 2 years. The variable $Governance_{2011}$ is the Governance Index fixed in the year 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Year dummies, and interactions of the dummy Post and country dummies are included but not reported. In columns 1 and 2 we use the full sample of firms. In columns 3 and 4 we exclude the exits that are driven by exits in the FTSE Global Cap. In columns 5 and 6 we only include the exits that are driven by exits in the FTSE Global Cap. The unconditional probability is described as the baseline predicted probability. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA20. Governance differences for firms that exit the portfolio of NBIM (exclude 2011)

Panel A: Odds ratios from logistic regressions

	FULL SAMPLE		Non-FTSE		FTSE	
EXIT	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	0.991	0.993	0.987**	0.989*	1.015	1.014
	(0.006)	(0.005)	(0.006)	(0.006)	(0.013)	(0.011)
$Governance_{2011}$	1.005	0.997	1.007	0.999	0.998	0.990
	(0.005)	(0.004)	(0.005)	(0.005)	(0.008)	(0.008)
Time & Post*Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,804	10,981	1,773	10,947	1,331	8,460
Pseudo R-squared	0.147	0.146	0.163	0.158	0.119	0.100

Panel B: Average marginal effects (Mfx)

	FULL SAMPLE		Non-FTSE		FTSE	
EXIT	(1)	(2)	(3)	(4)	(5)	(6)
	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM	Vs-NonNBIM	Vs-NBIM
Post * $Governance_{2011}$	-0.00083	-0.00009	-0.00098**	-0.00011*	0.00026	0.00003
	(0.00052)	(0.00006)	(0.00048)	(0.00006)	(0.00021)	(0.00003)
$Governance_{2011}$	0.00043	-0.00004	0.00049	-0.00001	-0.00003	-0.00002
	(0.00040)	(0.00005)	(0.00038)	(0.00005)	(0.00014)	(0.00002)

Notes. This table reports odds ratios and average marginal effects (Mfx) from logistic regressions. The dependent variable is NBIM_exit, a dummy equal to one for firms that exit the NBIM portfolio in year *t* and belong to the NBIM portfolio in year *t-1*. This dummy is equal to zero according to the control group selected. In columns 1, 3 and 5, NBIM_exit is equal to zero for firms that do not belong to the NBIM portfolio the previous and subsequent 2 years. In columns 2, 4 and 6, NBIM_exit is equal to zero for firms that belong to the NBIM portfolio the previous and subsequent 2 years. The variable $Governance_{2011}$ is the Governance Index fixed in the year 2011. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2010. Year 2011 is excluded from the sample. Year dummies, and interactions of the dummy Post and country dummies are included but not reported. In columns 1 and 2 we use the full sample of firms. In columns 3 and 4 we exclude the exits that are driven by exits in the FTSE Global Cap. In columns 5 and 6 we only include the exits that are driven by exits in the FTSE Global Cap. Standard errors clustered at the firm level are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA21. Changes on investment and changes on governance

	Fund (1)	Firm (2)
Post*ΔNBIM_Weight$_{(t+2,t)}$	23.320**	0.380
	(10.379)	(0.548)
ΔNBIM_Weight$_{(t+2,t)}$	1.795	-0.017
	(6.270)	(0.345)
Year dummies	Yes	Yes
Post*Country dummies	Yes	Yes
Observations	12,420	12,366
R-squared	0.010	0.010

Notes. This table reports the results from OLS regressions. The dependent variable is the difference between the Governance Index in t+2 and the Governance Index in t. In column 1, ΔNBIM_Weight $_{(t+2,t)}$ measures the difference between the fraction of the NBIM's portfolio represented by the firm in t+2 and in t. In column 2, ΔNBIM_Weight $_{(t+2,t)}$ measures the difference between the percentage market value that NBIM holds of the firm in t+2 and in t. Post is a dummy variable equal to one for the period 2012–2015 and equal to zero for the period 2009–2011. Year dummies and dummies on the interaction of the dummy Post and country dummies are included. Standard errors are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Table IA22. Granger causality

Panel A: GMM estimation

	$\Delta Gov_{(t+1,t)}$ 2012–15 (1)	$\Delta NBIM_W_{(t+1,t)}$ 2012–15 (2)	$\Delta Gov_{(t+1,t)}$ 2009–11 (3)	$\Delta NBIM_W_{(t+1,t)}$ 2009–11 (4)
Lagged $\Delta Governance_{(t+1,t)}$	-.197***	0.004**	-0.203***	0.002
	(0.019)	(0.002)	(0.013)	(0.002)
Lagged $\Delta NBIM_Weight_{(t+1,t)}$	0.123	0.063	-0.008	-0.085**
	(0.139)	(0.075)	(0.060)	(0.035)
Observations	4,968	4,968	7,091	7,091

Panel B: Changes in governance

$\Delta Governance_{(t+1,t)}$	P- value
- Predicted by lagged $\Delta NBIM_Weight_{(t+1,t)}$	0.375
- Controls for lagged $\Delta Governance_{(t+1,t)}$	

Panel C: Changes in fund weights

$\Delta NBIM_Weight_{(t+1,t)}$	P- value
- Predicted by lagged $\Delta Governance_{(t+1,t)}$	0.044
- Controls for lagged $\Delta NBIM_Weight_{(t+1,t)}$	

Notes. These tables report results from Granger causality Wald tests by implementing a GMM panel vector autoregression model. In column 1 and 3, the dependent variable is $\Delta Governance_{(t+1,t)}$, a variable equal to the difference of the governance index between year t+1 and year t. In columns 2 and 4, the dependent variable is $\Delta NBIM_Weight_{(t+1,t)}$ which measures the difference between the fraction of the NBIM's portfolio represented by the firm in year t+1 and year t. The regressors are one period lagged measures of $\Delta Governance_{(t+1,t)}$, and $\Delta NBIM_Weight_{(t+1,t)}$. Columns 1 and 2 report results for the period 2012–2015, and columns 3 and 4 report results for the period 2009–2011. Panel B and Panel C report P-values for the estimates of the regressions in column 1 and column 2. Standard errors are shown in parentheses.

***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Analytical decomposition of the overall governance effect

Using the measures of the fund weights (percentage that the firm represents in the NBIM fund per year) and the firm-level governance index, we can explicitly calculate the scores for each of the terms of the analytical decomposition in equation (2). We analyze the change in governance between the years 2010–2015. We choose 2010 and 2015 to have a long period before and after the release of the Note, but the results are consistent across different period choices. We show the results in the next table.[38]

Overall, we find a positive increase of the governance score of the whole NBIM portfolio in the first two specifications. Analyzing the individual terms, the first term is constant and positive across the three specifications. This means that the firms owned by NBIM are, in fact, changing their governance significantly and clearly contributing to the increase in the aggregate governance score of the fund. The third term (the cross-product) is also always positive, which means that, on average, NBIM increases (decreases) its weights on firms that increase (decrease) their governance scores.

The second term focuses on the changes of the NBIM weights and it depends heavily on how we define the weights. Therefore, these results must be taken carefully. If we keep the weights and firms constant (specification 1), this term is strongly positive. However, if the market value of the 2010 weights is not kept constant (specification 2) or if we change the composition of firms (specification 3), the term is negative. The reason for this discrepancy is linked to the significant growth of the fund during this period (see Table IA2), almost doubling its size. From Table 7 and Table IA16 we know that the firms that join NBIM have, on average, a lower governance score than those that were already inside NBIM and that this effect is only partially offset by the change in the preferences of the fund. Thus, this reversal in the terms is intuitive. We have seen that the effect of the announcement is an increase in the governance score of the firms that enter the portfolio of NBIM, however, the firms that enter have, in general, a lower baseline governance score. That is, marginal new firms have a lower governance score than pre-existing ones. We can conclude that the change in the governance preferences of the fund partially offsets the mechanical decrease in the governance levels induced by the fund's expansion. From an analytical perspective, the last row of Table IA23 is the least informative, as it includes important composition effects that are not related to the effects that we are measuring. However, it is still important to report it, as these are the actual numbers that a stakeholder in the fund should focus on.

[38] We use three different specifications to define the denominator of the investment weights of NBIM in 2010 and in 2015. In the first specification (row 1), the denominator of the weights is fixed for 2010 and 2015 to the total value of the portfolio of NBIM in 2010. In the second specification (row 2), the set of firms is fixed for 2010 and 2015 to the set of firms that were already present in the portfolio of NBIM in 2010, but the value of the whole portfolio changes according to the market value of the 2010 firms in 2010 and in 2015. In the third specification (row 3), the denominator is the value of the total holdings of the NBIM portfolio in 2010, and the total holdings of the NBIM portfolio in 2015.

Overall, regardless of the approach chosen, it is clear from this section that the main effect on the governance index comes from the improved governance of existing firms, the first term in equation (2).

Table IA23 Analytical decomposition of the overall governance effect

Period: 2010-15	**Total**	**Term 1**	**Term 2**	**Term 3**
	ΔG	**$w_{2010} * \Delta g$**	**$\Delta w * g_{2010}$**	**$\Delta w * \Delta g$**
w_{it} = $holding_{it}$ / total $holding_{i2010}$	39.31	2.95	31.35	5.04
w_{it} = $holding_{it}$/ total $holding_{it}$ (2010 firms)	2.33	2.95	-2.51	1.87
w_{it} = $holding_{it}$ / total $holding_{it}$	-0.73	2.95	-5.55	1.86

Notes. This table presents the results from the analytical decomposition of the overall governance effect for the period 2010–2015. ΔG is the overall change in the governance level of the NBIM portfolio from 2010 to 2015, g is the governance index of firm *i*, w is the value of the holding that firm *i* represents in the total value of the portfolio of NBIM, Δg are changes in the governance index from 2010 to 2015 and Δw are changes in the value of the holdings from 2010 to 2015. The value of the holdings w_{it} is measured using 3 different denominators. In row 1 the denominator is constant, it is the total value of the portfolio of NBIM in 2010. In row 2, the set of firms is constant, it is the firms in the portfolio of NBIM in 2010. In row 3, the denominator is the total holdings of the NBIM portfolio. Subindex *i* is for each firm in the portfolio of NBIM, subindex *t* is for year 2010 and for year 2015.

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