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# The Geography of NGO Activism against Multinational Corporations\*

Sophie Hatte<sup>†</sup>

Pamina Koenig<sup>‡</sup>

May 2, 2017

## Abstract

Non-governmental organizations (NGOs) regularly denounce the behavior of multinational corporations throughout the world, however their motivations for choosing the targets of their campaigns remain largely unknown. Using a new and rich dataset listing activists' campaigns towards multinational firms, we reveal important regularities in the geography and internationalization of advocacy NGOs activity. For example, 49% of US NGOs select a foreign target firm, however, 75% of campaigns targeting foreign firms involve an action taking place in the country of the NGO. We build on these facts to analyze the country-level determinants of NGOs campaigns, and estimate a triadic gravity equation for campaigns, involving the NGO, firm and action countries. Our variables of interest are the bilateral links between the country pairs, measuring how well the audience of the NGO identifies to the target of the campaign. Our results reveal a campaigning bias towards home firms and firms originating from familiar countries.

**JEL Codes:** *F23, F61, L31*

**Keywords:** NGOs campaigns, multinational firms, gravity equation, microeconomy of globalization

## 1 Introduction

Worldwide sales and production of multinational corporations are closely followed by non-governmental organizations (NGOs), which regularly report misconducts and damages to health or the environment that are caused by the firms' behavior. While the role of advocacy NGOs

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is now associated to important policy challenges<sup>1</sup>, there is little academic work analyzing the behavior of these agents whose activity nevertheless evolves in parallel and close connexion to the production and sales decisions of firms.

The main reason behind this contrast lies in the lack of systematic, large-scale data documenting the identity, characteristics and actions of advocacy NGOs. Given the absence of quantitative information on campaigns against corporations, investigations on targets of campaigns or on the impact of activism on firms' sales and activity use either indirect campaigns reporting through newspapers articles (Lenox and Easley (2009)), or rely on small samples as in the case studies by O'Rourke (2005), Spar and La Mure, 2003, and Hendry (2006)<sup>2</sup>. Harrison and Scorse (2010) focus on one sector, the garment and textile industry in Indonesia, and use differences in the evolution of wages compared to other sectors to identify the effect of campaigns targeting subcontractors of Nike, Reebok and Adidas on local wages<sup>3</sup>. Two papers use quantitative information on NGO campaigns: Couttenier and Hatte (2016) and Couttenier et al. (2016) study NGOs' communication strategies on a dataset that records campaigns towards the very large firms only.

In this paper we have for the first time the opportunity to provide orders of magnitude on how advocacy NGOs operate their campaigns directed at international production and trade. We use unique and comprehensive data on NGOs' campaigns towards multinational corporations to study the determinants that drive target choices by activists. Sigwatch<sup>4</sup>, a European consultancy, provides international corporations with daily processed information on how NGOs perceive them, including the names and number of NGOs following their issue. The raw collected data runs from 2010 to 2015, and tracks activist campaigns targeting firms throughout the world. For each of the 3359 NGOs located in 103 different countries mentioned in the database, we know the date of each campaign, the issues at stake, the name and headquarter country of the targeted firm and its parent. 7170 firms headquartered in 139 countries are the object of at least one campaign on the period. No selection is made on the firms that are the object of the campaigns: all firms which have been cited at least once by one or more NGOs are in the data.

Campaigns target firms with reference to their behavior: this is the 'cause of the campaign', either the production process of a good, the sales of a product, or a general critique linked to the firm's labor or environmental policy. Blames towards firms can be identified in the data through keywords linked to the content of the campaigns, and through a variable detailing

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<sup>1</sup>On February 22, 2017, France adopted a law requiring multinational firms subcontracting part of their production to prevent overall risks relative to human rights and the environment.

<sup>2</sup>O'Rourke (2005) focuses on the market campaigns on Staples in 2000, Dell in 2001 and Nike in 1997.

<sup>3</sup>In a related paper focusing on the environment, Binder and Neumayer (2005) investigates the impact of pressure groups on pollution levels in a large number of countries. They measure the pressure of advocacy by the number of environmental NGOs per capita.

<sup>4</sup>Covalence EthicalQuote is the other existing database listing NGOs' campaigns regarding multinational firms, and available to researchers: see for example Couttenier and Hatte (2016). However contrary to the Sigwatch database, it concentrates on the largest firms.

the country in which the harmful action is reported to have taken place. We name this third country the action country. While we do observe the individual choices of NGOs, we however lack information on the individual characteristics of these NGOs and firms. In order to analyze activists' campaigns and their determinants, we thus aggregate the data at the country level. At the country-level, three different locations summarize a given campaign: the respective countries of the NGO and the firm, and the action country<sup>5</sup>. This triadic configuration is at the center of our empirical analysis: we investigate the role of bilateral links between country pairs in shaping the geography of campaigns.

Our contributions in this paper are twofold. We first exploit the campaign data to reveal important regularities in the distribution of NGOs' campaigns inside and across countries, and in the choice of targets for these campaigns. Since advocacy NGOs focus a large part of their activity on the behavior of multinational firms, our empirical analysis of NGOs' motivations naturally tends to compare observed patterns of campaigns with existing work on firms' activity on international markets. These regularities can be summarized around seven main facts:

1. The distribution of NGO campaigns is positively skewed. A small number of NGO publishes a large number of campaigns each year.
2. "Granularity" exists for NGOs as for firms: the largest French NGO represents 25% of French campaigns published in 2010-2015. This number is 6% for the US, 11% for Germany and 21% for Mexico. In comparison, the largest exporter accounts on average for 14% of total exports.
3. Internationalization is more intense for NGOs than for firms. 49% of US NGOs target abroad. In comparison, 18% of US firms export.
4. 75% of campaigns targeting foreign firms involve an action taking place in the country of the NGO.
5. NGOs tend to target large brands whose visibility towards consumers is maximized. 10% of world brands are in the food and beverage sector, which attracts 9% of campaigns. Less than 0.1% of brands relate to recycling activities, which are targeted in 0.24% of the campaigns.
6. The distribution of campaigns across countries is skewed: 4 countries account for 60% of world campaigns.
7. On average, 35% of a country's activists campaigns are directed at domestic firms.

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<sup>5</sup>Campaigns are entered in the database as they appear on NGOs' websites. The number of NGOs and targeted firms per report may vary: some campaigns contain a single NGO denouncing one firm, others involve several NGOs criticizing several firms in a bundle: Henkel (Germany), Neste Oil (Finish producer of biodiesel), Nestle (Switzerland) and Unilever (UK), were for example accused in September 2015 by Rainforest Rescue (a german NGO) to produce unhealthy levels of particules by burning rainforests.

Second, we build on these regularities to investigate the targeting choices of activists. Indeed, in a world in which NGOs' focus is driven by the magnitude of the expected change on their cause, one could expect them to select targets according to the intensity of the damage done by the firms. Facts 3 and 4 however point to a different scenario, in which geography plays a role in the choice of target. Fact 3 highlights that NGOs' internationalization is quite important, with almost half of the targets being foreign. However Fact 4 details that in the case of foreign targets, most of the time the underlying action is domestic. We thus investigate whether NGOs' targeting behavior is biased towards home-related firms. Our assumption is that campaigns may be shaped in order to provide consumers with information they care about or they identify to.

To estimate the home- and proximity-bias of campaigns, we hypothesize that NGOs maximize a utility function associated with each campaign, choosing to go against the firm representing the highest expected utility. This is in line with the Industrial Organization literature modeling the interaction between advocacy activists and firms in the context of a campaign (Baron (2001), Baron and Diermeier (2007)). We argue specifically that the observable part of the success of a campaign depends on how well the local audience of the NGO knows the firm and the action countries. At the country-level, we highlight the similarity of our expression for the number of campaigns with a gravity equation used to investigate the determinants of trade flows. Our principal variables of interest are the bilateral links between the country pairs, measuring the target's capacity to attract the attention of the donors on the disregarding firm or to identify to the damaged country. We estimate the effect of proximity applying the best practices of the literature to our gravity equation of the number of campaigns.

For comparison with usual gravity estimations on trade we first estimate a dyadic gravity equation of campaigns, i.e. we investigate the determinants of the number of campaigns between NGO countries and firm countries. Typical explanatory variables conform to traditional gravity results, and bilateral proximity variables between the two countries shows a positive and significant effect on the number of campaigns. We then estimate a triadic gravity equation, making use of the information regarding the action country: three different locations thus summarize a triadic campaign: the respective countries of the NGO and the firm, and the action country. Triadic data allows to identify independently the importance of bilateral proximity to each of the two elements of the campaign: the location of the firm and the location of the problem. Controlling for characteristics of the action country allows to estimate the independent effect of proximity to the firm country as a determinant of campaign, illustrated for instance by two NGOs from different home countries targeting firms acting unethically in the same action country. Our results confirm the prevalence of an important preference for home firms, and beyond, a preference for firms originating from proximate and familiar countries. The -0.2 distance elasticity of the number of campaigns illustrates that a 10% higher distance to a target country decreases the number of campaigns involving that country's firms by 2%.

Our paper contributes to both the international trade literature and the literature on the

Economics of NGOs. We contribute to the trade literature by showing that flows of campaigns, closely linked to multinational corporation’s activity, can also be explained by gravity determinants (Arkolakis et al. (2013)). We measure proximity with the two pieces of information regarding the object of the campaign: we know in which country the target firm is headquartered and in which country the damage was done. The paper also contributes to the emerging empirical literature on the economics of NGOs. The availability of detailed campaign data opens for a better knowledge of the motivations and effects of NGOs next to multinational firm in international production. Although NGOs are quite active in following and influencing practices linked to international production, the international trade literature only recently modeled their presence next to trading firms (Krautheim and Verdier (2016)).

The paper is structured as follows. In section 2 we document the distribution of NGO campaigns inside countries and across sectors. Section 3 illustrates country-level patterns of campaigning. We develop the theoretical payoff associated to a campaign in section 4, and provide the estimable equation. Section 5 contains our results regarding the bilateral gravity equation, and section 6 comments the results on the triadic regressions.

## 2 Who are the activists ?

Reported campaigns are predominantly negative towards the target firm. Five categories distinguish the tone of the NGOs’ reports, from -2 to +2. 80% of the campaigns are negative (either -1 or -2), around 12% are positive and 7% are neutral. In the following we use only the negative reports, and leave aside the neutral and positive news on firms, as it is highly probable that the determinants of both types of campaigns are quite different. We first introduce the data situation on NGOs, and compare it to the existing datasets on firms. We present the main stylized facts on activists’ output (campaigns), extracted from the new micro-level data. Then we highlight the main sectoral patterns of the data.

### 2.1 NGO campaigns data

Since advocacy NGOs focus a large part of their activity on the behavior of multinational firms, our empirical analysis of NGOs’ motivations naturally tends to compare observed patterns of campaigns with existing work on firms’ activity on international markets. The literature documenting firm behavior is familiar with firm-level export data since the beginning of the years 2000, while micro census data sets on firm attributes were exploited a few decades before. A large literature has emerged documenting the characteristics of exporters (beginning with Bernard et al. (1995), for the US). As these data progressively became available with a similar structure in developed and developing countries, the comparison was made easier: Mayer and Ottaviano (2008) provide a detailed overview of firm-level export patterns in eight European countries. Research questions in international trade have evolved alongside the availability of

more detailed data, and its focus has shifted from industries and countries, to firms and exported products (Bernard et al. (2012)).

Conversely, regarding NGOs, the available data is sparse and empirical research consequently mostly based on case studies. In most countries census data on activists do not exist per se, and when it does, it relates to the wider category of non-profit organizations, which are a heterogeneous group of agents with very differing objective functions<sup>6</sup>. At the international level, an example of initiative to collect exhaustive data comes from the *Union of International Associations*, itself an international non-profit organization based in Brussels, selling access to the Yearbook of International Organizations. In all cases, the inherent difficulty of these datasets lies in the immensely wide set of fields covered and in the need to sort the organizations according to their activity or declared sector.

A first reason why no data records the volume and set of activities of NGOs, is because the range of actions they pursue is very wide: supporting a cause and providing know-how can be achieved through organizing protests, publishing campaigns against firms and governments, delivering goods and services, lobbying for a new regulation... among others. While the production of goods or services provides a unifying criteria to take stock of firms' output, there is no such category for activists. A second reason for not having available data evaluating the production of activists relates to the absence of mandatory reporting of their activity to tax authorities. In the case of firms, the general tax on production and the mandatory export and import Customs declarations in most countries represent an efficient way to collect firm-level data.

In this context, the NGO campaign data offers a unique opportunity to study the activity of these organizations supervising micro-level production and consumptions patterns internationally. Since we lack internationally comparable census data on activists, the number of active NGOs campaigning against multinationals in each country provides a first proxy of the set of agents. Figure 1 lists the number of NGOs in each country which are in the database, i.e. which have published at least one campaign over the period 2010-2015. France for example exhibits 103 international trade activists, which seems tiny compared to the 1.3 million active associations reported in the 2014 Association Enquiry by the National Statistical Institute (Reynaert and d'Isanto (2016)), but which on the other side seems closer to the number of associations declared by French specialized webplatforms: Wikipedia references 83 international solidarity organizations<sup>7</sup> which have a French wikipedia page, and Coordination Sud, a French organism which helps international development NGOs to coordinate their actions, lists 169 members.

A straightforward question in economics, and specifically regarding firms in international

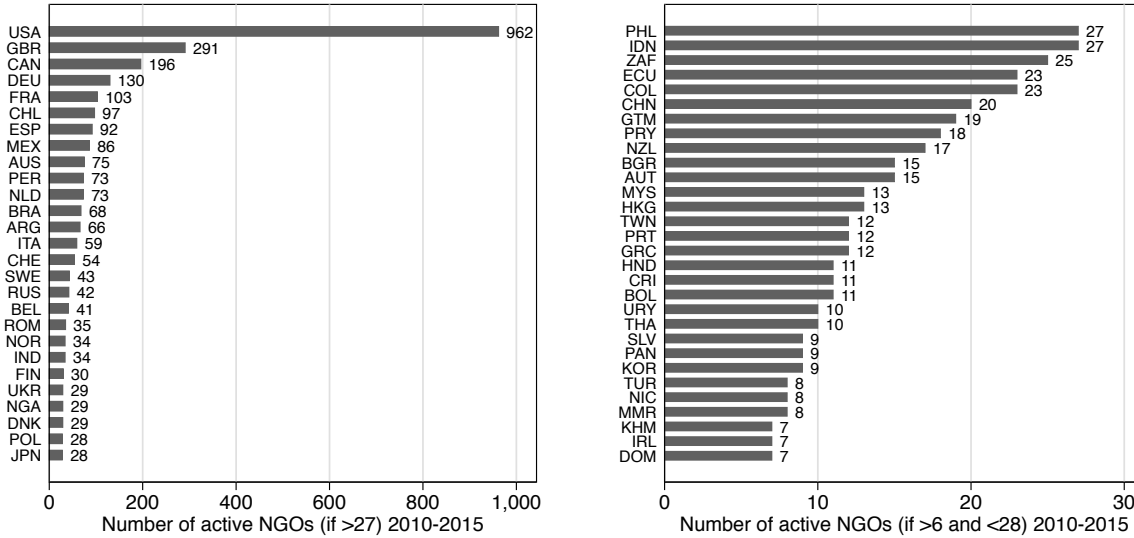
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<sup>6</sup>In France for example, the National Statistical Institute INSEE launched the first enquiry on associations in 2014. Alternatively, NGOs figure in two categories ('Associations' or 'Foundations') of the official directory of companies, however contrary to firms, their registration is not mandatory.

<sup>7</sup>Association de Solidarit internationale is an expression that has been recently used and popularised to refer to the smaller category of NGOs whose activity relates to international solidarity actions.



Figure 1: Number of campaigning NGOs per country



trade, relates to the shape of the distribution of performance variables. In our case, NGOs' campaigning activity represents the main output of interest. Let us introduce a set of stylized facts illustrating key features on the production of campaigns.

- *Fact 1: The distribution of NGO campaigns is positively skewed. A small number of NGOs publishes a large number of campaigns per year.*

We compute the number of campaigns by NGO in a given year, in Figure 2, and show that the production of campaigns is far from being uniform among NGOs for France, the USA, Germany and Mexico (other countries show the same patterns but have lower number of NGOs). The skewness parameter is 8 for the US and 3.6 for Germany, the average number of campaigns being here 2.5 times higher than the median. The majority of activists have published one campaign a year. This phenomenon might be imputable to the high entry and exit rate. We check whether our NGOs campaign in all six years in the data, and illustrate in table 7 that this is the case only for 11% of the activists. On the other extreme, 59% of the campaigners appear only during one sample year. We thus remove the activists that are present only part of the six years and recalculate the average number of campaigns for the 11% of organizations which figure in the data during five or six years. The result is shown in the two lower panels of Figure 2. In panel 5, three countries are pooled together and represent 147 NGOs (107 for USA, 20 for Germany, 13 for France and 7 for Mexico). In box 6 are shown only the North-American activists. A skewness of the distribution equal to 3 still appears when using the sample of

persistent NGOs. A majority of NGOs campaign between 1 and 10 times a year, and a small number publishes above 50 campaigns a year.

What does the skewness of the distribution of NGOs' output teach us? Presumably, the distribution of the number of campaigns reflects the underlying distribution of "how good" the NGOs are. We can draw here on the literature documenting heterogeneous firms' performance in export markets. Several papers have shown that the distribution of productivity can be inferred from the distribution of sales. Helpman et al. (2008) and Chaney (2008) combine CES preferences with Pareto-distributed productivity and show that it yields a distribution of output that is also Pareto-distributed. Head et al. (2014) obtain the same result with a log-normal productivity, and Mrazova et al. (2015) characterize the general conditions such that the distribution of output mirrors the one of the underlying performance variable. For our purposes, we retain from these papers that the skewness of output probably reflects similar skewness of the background NGOs' "productivity", and present in the next stylized fact a different perspective on the non-uniformity of the distribution of campaigns.

- *Fact 2: "Granularity" exists for NGOs as for firms: the largest French NGO represents 25% of French campaigns published in 2010-2015. This number is 6% for the US, 11% for Germany and 21% for Mexico. In comparison, the largest exporter accounts on average for 14% of total exports.*

The bias of activists' output is further investigated in Figure 3 for the same four countries and for the world as a whole (two upper panels). The dotted curves plot the actual distribution of campaigns in each location, starting with the largest producer of campaigns. NGOs are ranked from left to right from the biggest to the smallest in terms of campaigns, on the horizontal axis. The vertical axis measures the cumulative contribution to the total number of campaigns. Among all world activists, we can compare the share of the first reporting NGO (1.9%) to its counterfactual share in the scenario where all the 3359 activists that appear at least once in 2010-2015 would report equally, hence  $1/3359$ . The actual share of the first reporter is 65 times higher than the one of a uniform distribution. In a less extreme comparison, we compute a counterfactual in which the first NGO would publish a share of aggregate campaigns equal to  $1/362$  (the number of NGOs that remain during 5 or 6 years), hence 0.27%, whereas it actually publishes 2.9% of the campaigns, hence 7 times more.

Again at this point, the comparison with firm-level facts is interesting to make. Multiple papers have analyzed the shape of the distribution of firms' output, employment or exports. Part of the literature concludes at a log-normal distribution (Head et al. (2014)), others emphasize the Pareto characteristics of output distribution (Di Giovanni et al. (2011)). All agree on the existence of a skewed shape of the main performance variables. Mayer and Ottaviano (2008) show that the cumulative distribution of exports exhibits higher concentration than the one for

employment. Freund and Pierola (2015) find for example that the average percentage of exports attributed to the first exporter across 32 countries accounts on average, across all countries, for 14% of aggregate international sales. Last, another strand of the literature investigates the granular characteristic of aggregate production, i.e. how large firms contribute to an important share of total output, and of its fluctuations (Gabaix (2011), di Giovanni et al. (2017)). The cumulative shares of total campaigns on the pooled data for 2010-2015 show that granularity is a plausible assumption regarding NGOs too.

The graphical representation of distributions that has been often used to discriminate among the distributions is the log-rank-size scatter plot. Measuring firm size in the US, Axtell (2001) for example reports a linear relationship between the two variables and coefficients precisely estimated and close to 1, the former highlighting a power law distribution and the latter the specific Zipf law. We graph this relation for US NGOs' campaigns and show the result in Figure 4. We keep one observation per activist, which is its total of reports published throughout the sample period. Producers of campaigns are ranked according to their number of publications, and we plot the log of their rank on the log of their output. Two regression lines are shown, one for the whole sample of US activists and one for the observations below rank 50 (on the right of the box). The steeper one corresponds to an estimated coefficient of -1.1 (0.039) and the one for the whole sample yields a coefficient equal to -0.63 (0.004) with respective R2 of 0.96 and 0.94. While characterizing the exact distribution of activists' output would require further investigations, still the figure does not eliminate a power law as a potential distribution of campaigns.

- *Fact 3: Internationalization is more intense for NGOs than for firms. 49% of US NGOs target abroad. In comparison, 18% of US firms export.*

A last and central stylized fact introduces our main question regarding the motivations of NGOs' behavior: what drives the choice of target for the campaigns? Why do some campaigns target a domestic firm, and others involve firms headquartered abroad? In section 4 of the paper we propose an activist's objective function in which campaigns are designed to be successful for the audience of the NGO, which is local: a campaign is expected to generate donations from domestic supporters of the cause. We model a successful campaign as one that addresses issues that are familiar to the audience, and thus relates to firm operations that share elements of proximity with the audience's concerns. How to identify proximity with the audience? Our campaign data is triadic and provides information about the NGO, firm, and action countries. We measure links between the NGO and respectively the firm, or the action country, and expect to find that campaigns chooses the NGO home country, or a closeby neighbor, for either the firm or the action. Examples in the data illustrate activists which chase cases in which either the firm or the action is domestic. For a given action country, it is common to have NGOs from different

Figure 2: Distribution of campaigns, NGO-level

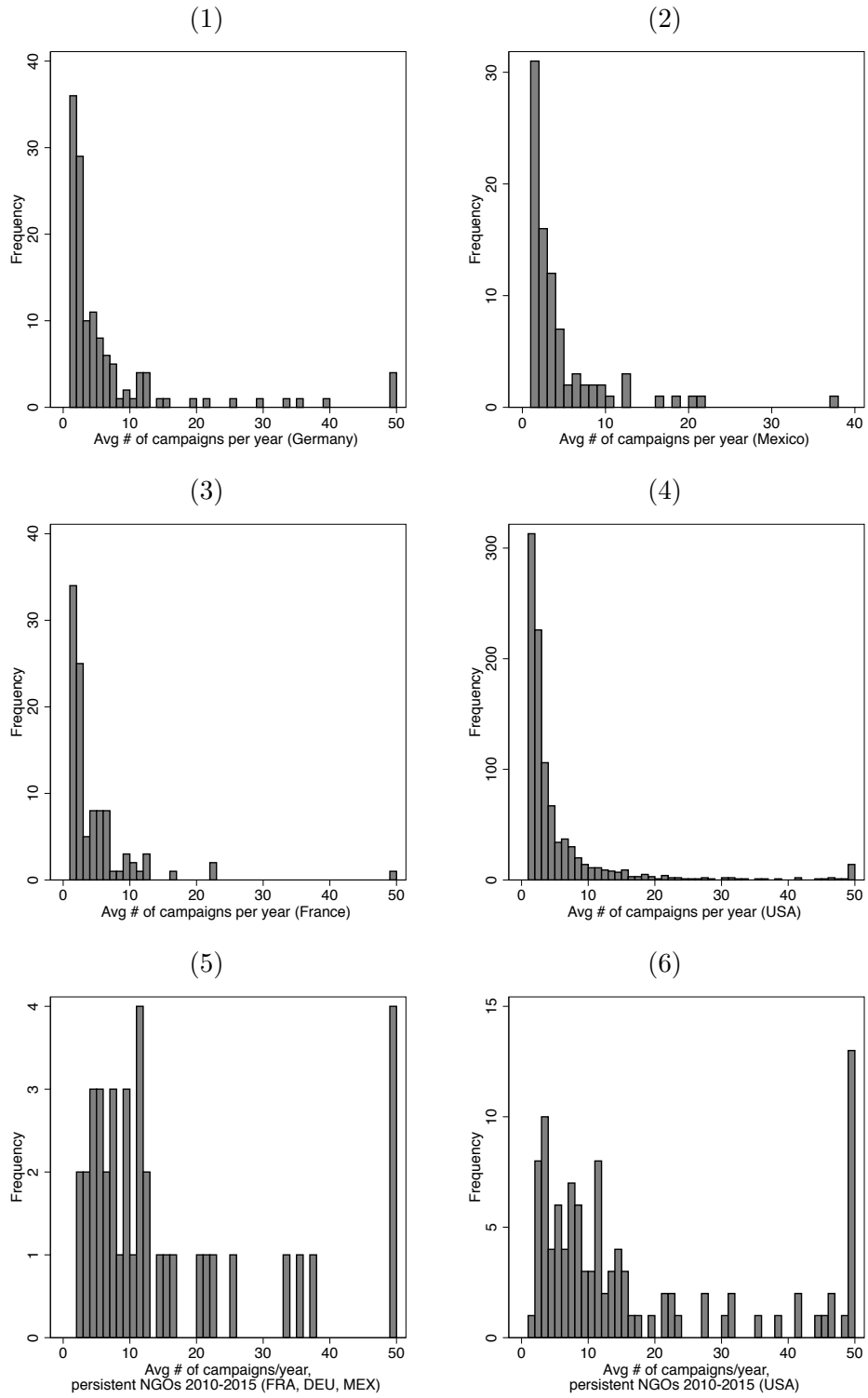


Figure 3: Cumulative share of campaigns by NGO, 2010-2015

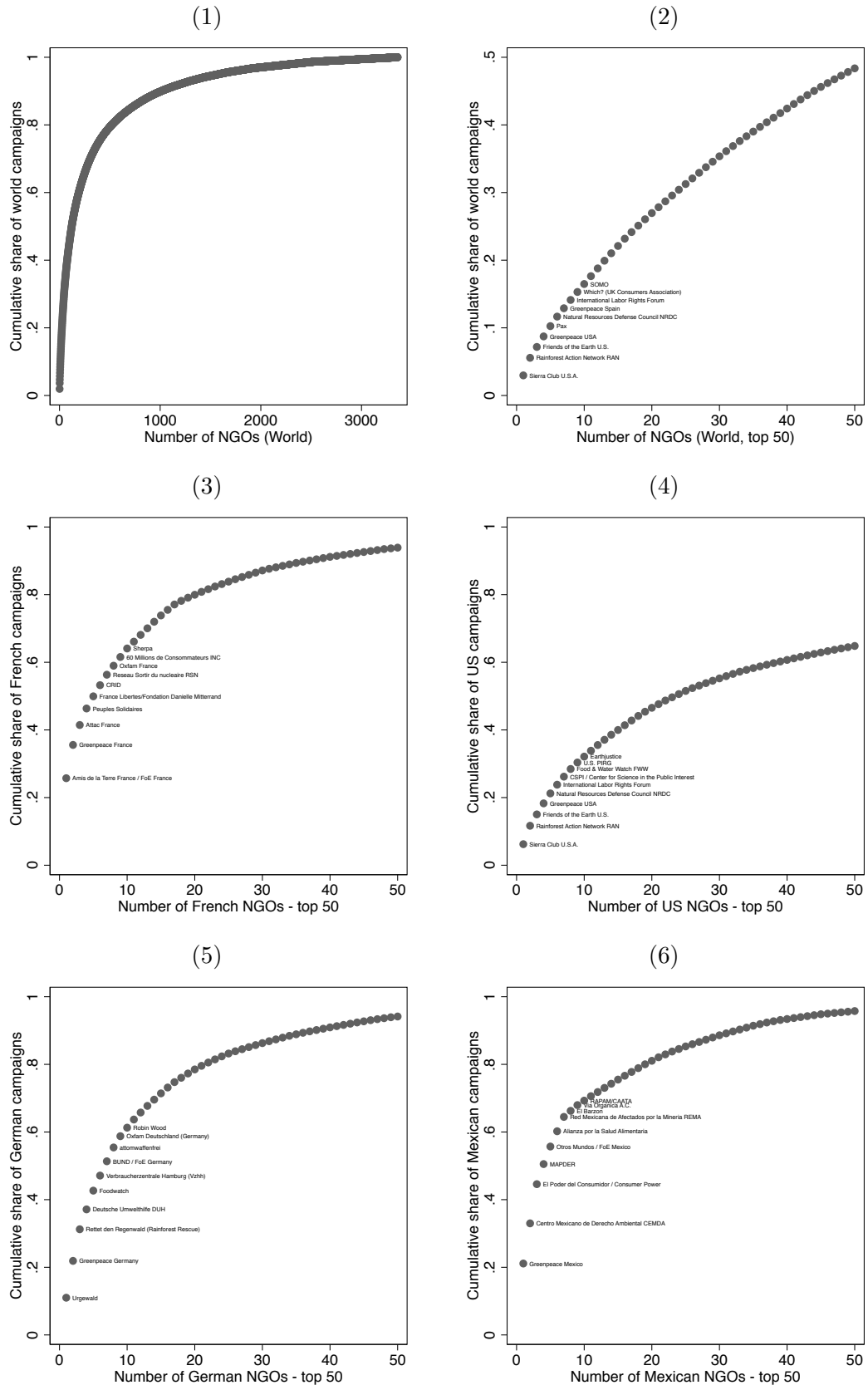
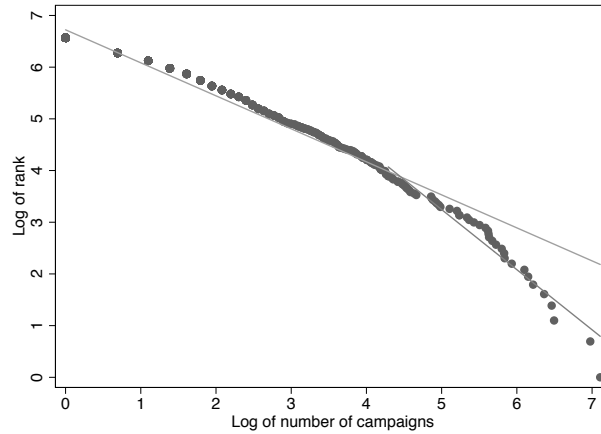


Figure 4: Log rank and log size of US NGOs' campaigns



origins each reporting on a home firm acting abroad: Greenpeace India for instance, reports in 2012 that GVK, a large Indian conglomerate, is pursuing its Alpha Coal investment project in Australia without having clearly stated the risks for the environment. Still in Australia, a German activist, Campact, writes to ask Deutsch Bank not to invest in the “Mega Coal Mining Project” that is threatening the Great Barrier Reef in 2014.

The recent increase in the internationalization of production, documented in a large literature (Grossman et al. (2006), Johnson (2014)), has resulted in the production process of goods often being split in different stages and countries. These globalized value chains have certainly increased the average distance between the location of consumption and the one of production: however activists, while supervising globalized production processes and consumption patterns, may still choose objects for their campaigns that share elements of proximity with their audience. Firms headquartered in foreign countries for example, may be widely known in the NGO’s home country because they employ domestic workers or because they have a large local market share. This mechanism is for instance modeled in Krautheim and Verdier (2016), for whom NGOs select ‘actions related to well-known brands with large market-size’, and ‘consumers can be more easily convinced to donate if the campaign goes against a firm they know well’.

Do stylized facts support the proximity argument ? Column 2 in table 1 shows the percentage of activists in each country, which target foreign firms (in at least one of their campaigns during the sample period 2010-2015). For all countries but the USA and Russia, more than half of NGOs have chosen a foreign target for one of their campaigns. This number is very different from the facts reported on the internationalization of firms: Bernard et al. (2012) present evidence showing that 18 % of US manufacturing firms export. Table 1 shows in comparison that 49% of US NGOs select a foreign target for their campaign. Column 4 zooms into the NGOs which target abroad: these publish 62% of their campaigns on foreign firms, in the case of Germany, France and the United-Kingdom. The highest percentage of campaigns involving

foreign firms can be found for Austria, Bulgaria, India and China (83%), and the lowest for Russia (43) and Finland (44), and 50% for the USA. These numbers depict a relatively intense internationalization of NGOs' campaigns: targeting abroad does not seem rare.

- *Fact 4: 75% of campaigns targeting foreign firms involve a domestic action.*

The last column in table 1 suggests that choosing foreign targets does not mean that NGOs choose objects of campaigns that are unknown to their audience. For each campaign focusing on a foreign firm, we use a dummy variable to identify the cases where the country in which the action has taken place is the activist's (and hence the audience's) home country. We then compute, for each country, the percentage of denunciations involving foreign firms, which relate to damage done at home. The outcome is strikingly high: in three-quarters of the cases as a minimum, the home country of the audience is the same as the action country, whenever a foreign firm is the object of the campaign. These stylized facts imply that assuming proximity to the audience as the main element of the activist's objective function may be relevant: it appears as if campaigns needed at least one element of proximity to be successful to the audience. We will estimate the importance of bilateral and multilateral accessibility determinants in the choice of targets in section 5. Before, we turn to different stylized facts, highlighting sectoral patterns of campaigning.

## 2.2 Sectoral patterns

NGOs gather agents that share intrinsic common values and pursue social objectives: Besley and Ghatak (2005) define non-profits as organizations with a *mission*, whose success is valued over and above any monetary income. Can we expect a specific pattern across sectors? Since no systematic data is available on the specialization of NGOs, the literature contains very few descriptions of the object of these missions: O'Rourke (2003) suggests that the absence or lack of enforcement of regulations on labor and environmental resources explains the emergence of activists. On the theoretical side, Baron (2003), Daubanes and Rochet (2016) and Baron and Diermeier (2007) model NGOs' interactions with firms and depict activists as motivated by social or ethical concerns.

If advocacy NGOs care in particular about preserving labor and natural resources, the typology of campaigns that we observe in the data should logically display high movement in sectors harming those resources: activities exploiting natural resources (extraction of raw materials...), labor-intensive sectors (electronics, clothing, yarn...) and sectors whose final good might hurt consumers' health or the environment (food, chemical products...). Table 8 in the Appendix illustrates the number of campaigns per sector in our data, together with the number of firms and NGOs<sup>8</sup>. Information on sectors is provided in the raw data by a variable

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<sup>8</sup>Table 9 contains the same information as Table 8, however ordered according to the sectoral classification.

Table 1: Targeting abroad by NGOs

<i>Country</i>	<i>Percent of NGOs</i>	<i>Percent of activists targeting abroad</i>	<i>Percent of foreign campaigns</i>	<i>Percent of foreign campaigns with home action country</i>
ARG	2	79	66.9	83.2
AUS	2.2	61	61.3	81.2
AUT	.4	60	83.6	68.6
BEL	1.2	95	76.8	82.8
BGR	.4	87	83.3	87.2
BRA	2	60	54.2	84
CAN	5.8	55	56.2	87
CHE	1.6	59	69.9	73.5
CHL	2.9	61	45.6	88.4
CHN	.6	70	82.2	75
COL	.7	78	65	87.5
DEU	3.9	76	62.1	76.7
DNK	.9	83	79	75.4
ECU	.7	87	77	75
ESP	2.7	62	58.5	76.4
FIN	.9	53	44.8	69.7
FRA	3.1	56	62.2	84.3
GBR	8.7	78	62.6	71.4
GTM	.6	74	60	63.7
IDN	.8	85	78.1	75
IND	1	85	83.6	76.9
ITA	1.8	63	61.5	83.2
JPN	.8	82	60	85.9
MEX	2.6	63	62.1	91.8
NGA	.9	69	77.6	73
NLD	2.2	86	68.3	74.5
NOR	1	71	74.8	74.1
NZL	.5	71	63.4	91.9
PER	2.2	62	53.4	93.8
PHL	.8	85	74.5	82.2
POL	.8	75	70.8	70.4
PRY	.5	89	81.7	96.9
ROM	1	71	81.1	84.7
RUS	1.3	40	43.4	82.5
SWE	1.3	84	63.5	73.5
UKR	.9	79	75.2	89.1
USA	28.6	49	50	81.7
ZAF	.7	76	75.7	69.3

Only countries with more than 15 NGOs appear in the table. ‘Percent of NGOs’ corresponds to the share of each country in the world total number of active NGOs. ‘Percent of activists targeting abroad’ refers to the share of NGOs which target at least once a foreign firm. ‘Percent of foreign campaigns computes the share of each NGO’s campaigns that targets foreign firms’.



summarizing the main activity of the target firm. We recode these sectors into the 2-digits ISIC rev 3.1 classification. Some operations are necessarily grouped into one category because of the difficulty to allocate multitasking firms in different activities: the energy sector contains the extraction, the processing and the distribution of all energies. As shown in Table 8, a given number of sectors follow the intuition described above: sectors whose production process is intensive in resource utilization are highly targeted: examples include oil, gas, and nuclear energy, whose extraction is accused of harming the environment (“Extraction, manufacturing and distribution of energy”), or “Mining of metal ores”, in which targeted firms are gold mining companies, and metal mining corporations. The same insight seems to be driving sectors whose final good violates health standards, which are also at the center of NGOs’ attention: campaigns in “Manufacturing of food products and beverages” denounce firms whose product is considered harmful for consumers’ health (Coca-Cola, accused of selling sugar-intensive beverages, Nestle blamed for introducing instant formulas to families).

- *Fact 5: NGOs tend to target large brands whose visibility towards consumers is maximized. 10% of world brands are in the food and beverage sector, which attracts 9% of campaigns. Less than 0.1% of campaigns relate to recycling activities, which are targeted in 0.24% of the campaigns.*

One noticeable feature disrupts the typology of targeted sectors according to their intensity of damage to natural and human resources. Indeed the numbers shown in table 8 do not automatically reflect environmental and social harm by sector, because part of the campaigns are not directed towards firms whose practices activists want changed. Baron and Diermeier (2007) document this characteristic of activists’ behavior, and disentangle direct campaigns, denouncing firms which have done the damage, and indirect campaigns, which target an element of the value-chain of the harmful firm, be it upstream or downstream from the ultimate target. When the unethical behavior originates from a subcontractor of a large multinational, activists tend to target the former: as an example, when in 2013, Rainforest Action Network pressures Heinz (H.J. Heinz Company) to stop sourcing palm oil from its suppliers in Indonesia, the growing of palm oil is the real object of the campaign, however the pressure is set on the multinational outsourcing inputs abroad. In the same line, supermarkets (featured in “Non-specialized retail in stores”) may be the target of activists because of the products they sell (fashion, food, furniture...). These are the real targets from whom NGOs want a change in behavior, which would lower the burden on natural or human resources.

These examples of downstream choice of targets reveal an important pattern regarding the behavior of activists: they suggest that the proximity argument plays a large role in defining the campaign, and that consumers are more receptive to news that relate to something they know. To change the behavior of palm oil growers in Indonesia, NGOs whose audience is in developed

countries pressure their home firms, which subcontract with Indonesian farmers. The home firm has more chances to be known by a vast audience and by the media, mainly because its home sales are higher. A former CEO of Greenpeace Belgium corroborates this feature and indeed acknowledges during an invited academic seminar<sup>9</sup> that “[the NGO] is always trying to find companies whose brands resonate to people’s ears and even “hearts”. [The NGO] goes after the well-known customer of a unknown provider to change the latter’s behavior, the subsidiary of a financial corporation or a specific but well known product of a large corporation”.

Besides the identification of the audience with firms they know, selecting notorious firms may also reflect the willingness of activists to choose firms of important size. First, the NGO wishes to select the firms whose change in behavior will have the widest impact. Large firms in absolute use a more important share of local resources, and produce and sell more than small and medium size firms. The harm done by their production process or by their product is thus likely to be more important. Second, in a dynamic setting we could assume that selecting a large firm is optimal as she will implicitly represent a model for the rest of the industry, if it complies with the activist’s request.

The theoretical literature on NGO-firm interaction is relatively scarce, however the existing models all include these mechanisms in modeling optimal campaigns by activists. The utility of a campaign is usually described as containing gains and costs. Both may be modeled as a function of the bilateral proximity between the audience (the donors) and the selected target firm. In Eesley and Lenox (2011), large and more visible firms are more likely to be targeted by activists, because the utility of the activist increases “not only from direct changes in firm behavior, but also from the ability to attract attention to causes of concern and to raise funds”. Krautheim and Verdier (2016) model the emergence of NGOs in parallel to the offshoring decision of firms in an international setting: the optimal target fits the description of the “well-known brand with large market-size”, as it implies a lower marginal fundraising cost for the NGO. Consumers can be more easily convinced to donate when the campaign goes against a firm they know well.

### 3 Country-level patterns of campaigning

With the gravity estimation in mind, we now aggregate the data at the triadic country level and highlight the main patterns characterizing each node of triadic  $ijk$  campaigns: NGOs in source country  $i$ , multinationals headquartered in target country  $j$ , and damage done in action country  $k$ . The resulting non-balanced database contains 6502 observations corresponding to triads of countries (source  $i$ , firm  $j$ , action  $k$ ) with positive number of campaigns pooled on 2010-2015.

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<sup>9</sup>Paris School of Economics holds tri-annual seminars on the Economics of NGOs, gathering academics and NGOs’ professionals. Michel Genet participated in the January 2015 edition.

### 3.1 Origin countries of campaigns

- *Fact 6: The distribution of campaigns across countries is skewed: 4 countries account for 60% of world campaigns.*

Activist campaigns originate from 103 different countries, whose share in world campaigns is displayed in Figure 5. A glance at the shape of both curves suggests a skewed distribution of campaigns, even more than the distribution of NGOs. In panel (a), 4 countries account for 60% of observations. The USA and the United-Kingdom represent respectively 30.6% and 14% of the total number of communications. The Netherlands follows with 6%, and Germany with 5%, and the cumulative share of world campaigns is not affected by dropping the six international NGOs<sup>10</sup>.

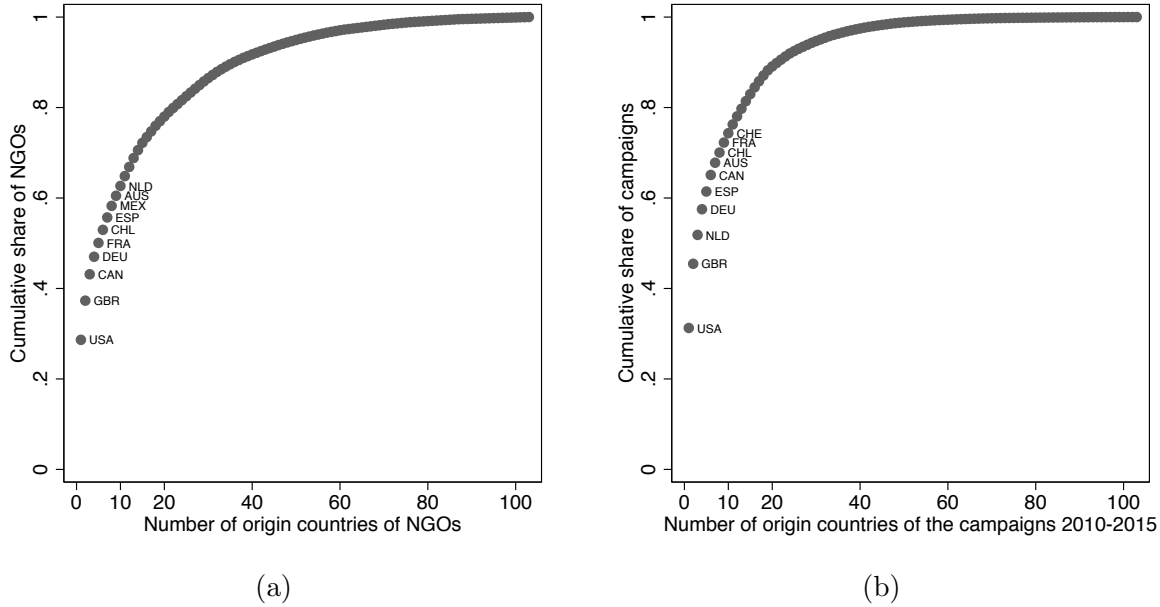
While the literature widely analyses the interaction of NGOs with firms taking as given the number of activists per country (Aldashev et al. (2015), Baron (2001), Baron and Diermeier (2007)), the stylized facts on the number of NGOs per country in the campaign data (Figure 1) evidently question the determinants of NGO emergence. Demand for campaigns certainly originates from preferences for ethical consumption. The relation between such preferences and income has been suggested in the NGO literature: Loureiro and Lotade (2005) emphasize that concerns for more information on goods' production process and on their overall impact on the environment, are found in developing countries and are associated with a higher willingness to pay for such products. Krautheim and Verdier (2016) explicitly use ethic and environment-caring consumers in their model, where NGOs emerge in a Home country whose regulations are applicable and enforced, contrary to the Foreign country. These elements suggest that support for advocacy campaigns might be a luxury good, whose consumption increases more than proportionately with individuals' income: Basu and Van (1998) model such a mechanism in the case of child labor and show that non-work is a luxury good in the household's consumption.

A simple and naive illustration of cross-country variation in demand for activism is given in Figure 6, which plots countries' income per capita together with the intensity of advocacy campaigning in each country. The demand for activism is proxied respectively by each of the two elements brought forth in the above paragraph: income per capita (column a) and population

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<sup>10</sup>Note that some NGOs have an international architecture with branches in different countries. Although the campaign data differentiates reports according to the country of the NGO even for international NGOs (i.e. reports by Greenpeace originate from 46 different countries), the headquarter of the group may issue a large number of reports and thus attribute proportionately more campaigns to home countries of international NGOs. Countries whose count might be affected are Netherlands (Greenpeace International and Friends of the Earth International), Great-Britain (Amnesty International and Oxfam International), Germany (Transparency International) and Switzerland (WWF International). The NGOs that represent the largest share of their 'home' country's reports are Greenpeace International, which accounts for 10.5% of Netherlands campaigns for 2010-2015, and WWF International, which represents 14.1% of Switzerland's reports. The other ones account for a smaller share of their home country's number of campaigns (Amnesty International 2% o UK's reports, Oxfam International 1.9%, Transparency International 1.2% and Friends of the Earth International 6%). Together they account for 1.56% of all campaigns in the database.

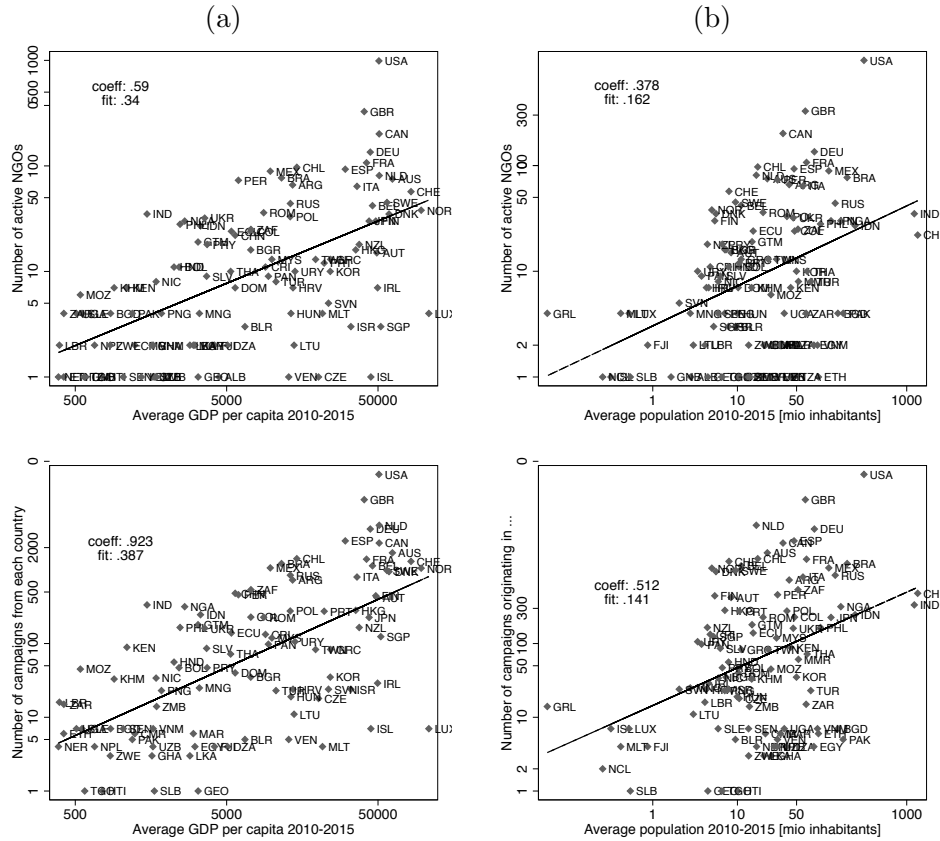
Figure 5: Cumulative share of world campaigns and world NGOs



(column b). The supply of activism is measured either by the number of non-profits campaigning between 2010 and 2015 (upper line), or by the number of campaigns from each source country (bottom line). The figure shows that the emergence of NGOs and their production of campaigns seem to be correlated to individual income more than to the number of individuals in a country. It appears that origin countries of campaigns are mainly rich countries, but not necessarily populated countries. These facts could corroborate a scenario in which NGOs need a certain level of income in order to matter in the “consumption basket” of individuals. Below a given threshold, a larger population does not represent a large market for advocacy campaigns.

A traditional way to tackle the relation between supply and local demand in the trade literature, is to estimate the so-called home-market effect. An interesting parallel can be developed regarding the supply of activism. Whether the supply of a good reacts at all to the size of demand is a central and old question in the trade literature. Krugman (1980) has shown that a large domestic market for a good generates a more than proportional reaction of supply, leading the country to become an exporter of the good. The explanation rests on increasing-returns-to-scale in the industry of the good, which require producers to concentrate production in one location. Given the presence of trade frictions between countries, agglomeration occurs near the largest local demand, giving rise to the home-market effect. Head and Mayer (2004) review the empirical literature, and Costinot et al. (2016) provide recent evidence of a home-market effect in the pharmaceutical industry. An important challenge of estimating home-market effects relates to the measure of demand. In the case of activism, our previous discussion has shown that demand probably contains two separate elements: the income level of the audience, and

Figure 6: Is demand for campaigns increasing with income ?



the number of potential donors. The fact that both have a different impact on the supply of activism certainly suggests that this is a case of a non-homothetic demand<sup>11</sup>.

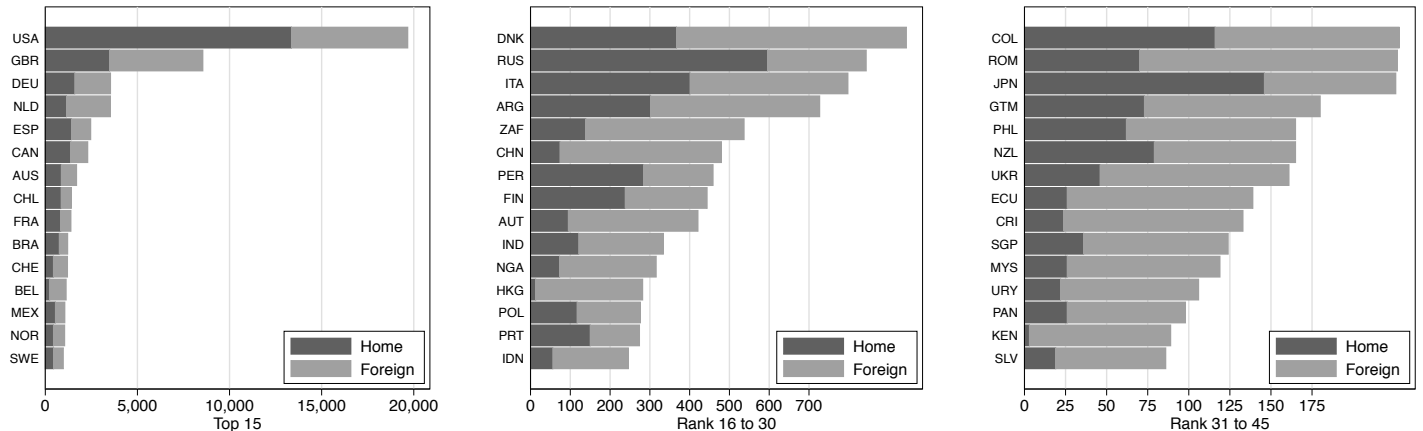
### 3.2 Where are the targets ?

In section 2, table 1, we introduced descriptive statistics regarding the motivations of NGOs confronted to target firms originating from different countries. We provide an additional stylized fact on the nationality of the target firm in Figure 7, which separates the total number of campaigns published in each country in two groups, showing the share of home campaigns for each source country. The numbers are slightly lower than in table 1, in which we computed the share of *each NGO's* campaigns directed abroad: NGOs targeting only abroad, even appearing a small number of times, contributed to increase the share of foreign campaigns.

- *Fact 7: On average, 35% of a country's activists campaigns are directed at domestic firms.*

<sup>11</sup>Matsuyama (2015) provides predictions regarding home-market effects with non-homothetic demand.

Figure 7: Number of outward campaigns, with home or foreign target



Numbers do not comprise campaigns by international NGOs

In Figure 7, on average, 35 % of a country’s campaigns are self-directed. Belgium reports 23% of its campaigns on domestic firms, Luxembourg 25, Netherlands and South-Africa respectively 27 and 29, whereas the US targets home firms in 67% of the cases, Japan 65 %, Brazil 62% and France 53%. The number of bilateral campaigns, home or foreign-directed, will be our explained variable in the gravity estimations. We now present the empirical model.

## 4 Empirical model

This section outlines the main ingredients of the interaction between an NGO and the set of target corporations. We assume that each NGO has a utility function associated with a campaign against a given firm. The NGO chooses the firm which maximizes its expected payoff. We assume that the elements of this payoff relate to how well the audience of the NGO knows the firm and the action country illustrating the campaign. We show that the country-level model of campaigns contains the essential elements of a gravity equation. This allows to estimate the effects of proximity between countries on the number of campaigns using the best practices developed in the gravity literature.

### 4.1 NGO payoff

While we do observe the individual choices of the NGOs, we lack information on the individual characteristics of these NGOs and firms. We thus aggregate the data at the triadic NGO-firm-action country level, where our explanatory variables are observed. Before, let us briefly imagine the microfoundations in terms of NGO behavior that could have led to the aggregated estimable

equation.

In line with the World Bank’s definition of advocacy NGOs<sup>12</sup>, the purpose of activists is to ‘defend or promote a specific cause’. In academic terms, the NGO is an entity that is mission-oriented, following Besley and Ghatak (2005). This means that there is an objective beyond monetary income, whose success is valued in the first place: the mission of NGOs is focused on preserving a human or natural resource (human rights, gender equality, the environment, etc...). To defend its cause, the activist denounces firms which have acted unethically, and formulates a campaign in which pressure is put on the firm with the objective of having her change her behavior. Assume an NGO which faces a set of firms in a given industry, and selects one of them at which it will direct its campaign.

Which are the determinants of the choice of target? We focus on the reasons explaining the higher vulnerability of the firm for the NGO, and the reasons explaining that the NGO hears about the firm acting unethically. We set aside the reasons explaining the behavior of the firm and assume that firms in the choice set have all acted unethically. This is in line with the construction of our database, which contains exclusively firms that have been the object of at least one campaign and thus all have been denounced for a damageable behavior. Determinants for both hearing about the event and choosing one of the firms are described by the utility of the NGO associated with each potential target. In order to detail the utility function of the NGO, let us introduce subscripts. A firm  $f$  is characterized by two countries: the country  $j$  of its headquarter, and the country  $k$  in which the reported damage has taken place, i.e. the action country. Campaigning on target  $f(jk)$  provides total utility  $y_{n(i)f(jk)}$  to an NGO  $n$  located in country  $i$ . To the eyes of the researcher, the utility that the NGO retains from the campaign contains a common and an individual-specific part. Total utility writes as follows:

$$y_{n(i)f(jk)} = V_{ijk} + e_{n(i)f(jk)} \quad (1)$$

The individual, non-observable component of utility are the bilateral idiosyncrasies of the NGO-target pair. Let  $V_{ijk}$  be the common payoff of the NGO from revealing the behavior of firm in  $jk$  to the audience in  $i$ .  $V_{ijk}$  represents the net success of the campaign towards a firm in  $jk$ .

To obtain a functional form for estimation, we assume that the random component of the NGO’s payoff follows a type-I-extreme-Value distribution. The probability that an NGO chooses firm  $jk$ , headquartered in country  $j$ , with unethical activities in country  $k$ , can be written as follows:

$$\mathbb{P}_{ijk} = \frac{\exp(V_{ijk})}{\sum_j \sum_k \exp(V_{ijk})} \quad (2)$$

With a large enough number of symmetric NGOs, the observed share of any firm  $jk$  in the

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<sup>12</sup><http://documents.worldbank.org/curated/en/814581468739240860/pdf/multi-page.pdf>

total number of campaigns published by country  $i$  is equal to  $\mathbb{P}_{ijk}$ :

$$\frac{nc_{ijk}}{NC_i} = \frac{\exp(V_{ijk})}{\sum_j \sum_k \exp(V_{ijk})} = \mathbb{P}_{ijk}, \quad (3)$$

where  $nc_{ijk}$  is the number of campaigns from  $i$  towards a firm in  $jk$ . Assuming that all firms in  $jk$  depend on the same observable attributes, the sum of individual shares over all available firms in  $jk$  equals the share of campaigns from  $i$  that target  $jk$ :

$$\text{share}_{ijk} = \frac{NC_{ijk}}{NC_i} = N_{jk} \times \mathbb{P}_{ijk}, \quad (4)$$

where  $NC_{ijk} = N_{jk} \times nc_{ijk}$  and  $N_{jk}$  is the total number of firms with common attributes  $jk$ .

## 4.2 Gravity equation for campaigns

Using equations (2) and (4), it is straightforward to obtain the number of campaigns from country  $i$  directed at pair  $jk$ , which represents the demand for facts and information emanating from activists in country  $i$ , regarding  $j$  firms' behavior in country  $k$ :

$$NC_{ijk} = N_{jk} \frac{\exp(V_{ijk})}{\sum_j \sum_k \exp(V_{ijk})} \times NC_i. \quad (5)$$

Equation (5) bears all the characteristics of a *gravity equation*, traditionally used to explain the flow of goods: in the case of campaigns, origin ( $\frac{NC_i}{\sum_j \sum_k \exp(V_{ijk})}$ ) and destination-specific variables ( $N_{jk}$ ) multiply with bilateral determinants contained in  $V_{ijk}$  to explain the total number of campaigns between  $i$  and  $jk$ . Indeed following the Handbook chapter on gravity equations for trade in goods by Head and Mayer (2014), unilateral (monadic) and bilateral (dyadic) determinants enter multiplicatively the structural definition of gravity as follows:  $X_{ni} = S_i M_n \phi_{ni}$ , in which  $X_{ni}$  represents trade flows from exporting country  $i$  to importing country  $n$ . Imports of goods are a function of the supply capacity of the origin country  $S_i$ , the attributes of demand in the destination country  $M_n$ , and the trade-facilitating, or trade-hindering elements that are specific to the country pair,  $\phi_{ni}$ . In equation (5), the capacity to 'produce' facts and damages is given by  $N_{jk}$ , the characteristics of the firm and action countries. The demand term contains in the numerator the total number of campaigns written in  $i$  ( $NC_i$ ), weighted by the set of available inputs for campaigns in all  $jk$  country pairs. The bilateral determinants contained in  $V_{ijk}$  are the effects of proximity variables on the number of campaigns between countries, and are our main variables of interest.

Originally gravity equations started as an empirical tool to estimate the determinants of trade flows, introduced in economics by Tinbergen (1962) to investigate the effects of Commonwealth preferences on trade. Since then it has become the main empirical tool to estimate the



efficacy of various trade policies in promoting trade<sup>13</sup>. Theoretical micro-foundations for the gravity equation evolved in parallel to these empirical developments, leading trade theorists to establish the generality of gravity predictions. Mostly interesting for our case, other types of bilateral flows and interactions have been analyzed with gravity modeling tools: Head et al. (2009) for example model gravity on service offshoring, Anderson (2011) develops a gravity model for migrations; and Head and Ries (2008) and De Sousa and Lochard (2011) estimate bilateral FDI flows with a gravity equation.

The parallel between the number of bilateral campaigns and the now mature gravity literature in trade is of particular importance since it provides us with the best practices to estimate the effect of bilateral frictions on the number of campaigns. The presence of multiple countries in the decision to select a target for each campaign suggests that our triadic gravity equation features both pairs of bilateral links in the role of frictions to the flow of campaigns. Modeling triadic gravity is relatively new, currently two papers in the literature estimate gravity equations involving three countries: Arkolakis et al. (2013) develop a trade model with multinational production. Their calibrated gravity equation explains the sales of firms which may outsource production and sell in a third country. Head and Mayer (2015) analyze the impact of bilateral frictions affecting firms' choices on detailed data from the car manufacturing industry disentangling the headquarter, production, and sales locations of firms.

### 4.3 Determinants of campaigns

The next step is to specify the determinants of  $V_{ijk}$ , the component of an NGO's utility that derives from common attributes perceived by audience in  $i$  about target firms in  $jk$ . The literature on NGO-firm interactions traditionally models the net utility of a campaign as an increasing function of its donations-generating ability (see for example Lenox and Eesley (2009)). In line with the literature we assume that  $V_{ijk}$  contains the factors that attract private donations from individuals, which eventually increase respectability and further contributions from the government. Specifically, we assume that the factors raising consumers' willingness to give in the country of origin of the NGO are related to the proximity between the two pairs of countries involved in the campaign: NGO-firm countries and NGO-action countries. The following details the context in which donations to activists arise.

The NGO is pictured as supplying donors with additional information on firms' products. Donors learn about the production process of the good or about the impact of the product on the environment and health, which they could not do without the NGO's intervention<sup>14</sup>.

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<sup>13</sup>Examples include policy decisions such as regional agreements (Baier and Bergstrand (2007), Limão (2016)), or currency unions (Rose (2000)). With the same method, the literature also analyzed the effect of long-run determinants of trade flows: geographical proximity (Disdier and Head (2008)), cultural proximity (Felbermayr and Toubal (2010)), common language (Melitz and Toubal (2014))

<sup>14</sup>Note that credence goods need the intervention of institutions or other agents to solve the asymmetry of information, while for experience goods, the quality is known after consumption: see Bagwell and Staiger (1989),

Further, they associate their donations with helping reduce the damage brought to light by the campaign, and hence solutionate the problem.

The literature on charitable giving highlights two main motivations for private giving (surveyed in Andreoni (2006)), which are known as the “warm-glow” (utility to one-self) and the “public good” (utility to the helped). Applied to the international context of giving overseas for development, Atkinson (2009) combines the two and models an ‘identification’ reason, stating that donors are encouraged by development charities to identify on a one-to-one basis with the situation of recipients. We adapt this definition to the case of advocacy, and assume that NGOs must capture the attention of the audience in order to receive funding. We assume that the attention of the audience is maximized when they are familiar with the target, or when they identify with the cause that is being hurt. To represent this proximity we use bilateral variables measuring the links between the NGO and the firm country, and between the NGO and the action country <sup>15</sup>, as follows:

$$V_{ijk} = \beta_2 \ln X_{ij} + \beta_3 \ln X_{ik} + u_{ijk} \quad (6)$$

$X_{ij}$  and  $X_{ik}$  are variables capturing how well the audience knows the target and the action countries. They include geographical, cultural and historical proximity variables, with the underlying assumption that the stronger the links between a pair of countries, the higher the propensity of the audience to donate.  $u_{ijk}$  is an unobservable component of the common attributes of a campaign which varies with the triad.

#### 4.4 Specification

Taking logs and incorporating equation(6), equation (5) writes:

$$\ln (NC_{ijk}) = \beta_1 \ln N_{jk} + \beta_2 \ln X_{ij} + \beta_4 \ln X_{ik} + \beta_3 \ln \frac{NC_i}{\sum_{jk}(X_{ij} \cdot X_{ik})} + u_{ijk} \quad (7)$$

Our principal variables of interest are the bilateral links between the NGO country  $i$  and respectively the country  $j$  of the firm ( $X_{ij}$ ) and the country  $k$  of the action ( $X_{ik}$ ). It should be clear at this point that if individual-level data were available we would measure the attention-capturing capacity of the target firm by a variable of firm visibility. Firm size is the most straightforward candidate to capture the propensity to donate for a campaign that goes after her: consumers donate to generate changes in the firm’s behavior on the product they know. The measure of

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Cagé and Rouzet (2015)

<sup>15</sup>While the fundraising potential of a campaign is usually modeled in the literature, not all papers detail the mechanism by which individuals increase their donations. Krautheim and Verdier (2016) indicate that ‘consumers can be more easily convinced to donate if the campaigns goes against a firm they know well’ (p.33). Lenox and Easley (2009) explain that large and visible firms are more likely to gather attention from the media and the general public, however they don’t detail the mechanism leading to increased donations.

absolute firm size however raises some issues in the case of firms that are large, but unknown from the audience (the largest private car-maker in China is named Geely ... and remains anonymous to western consumers<sup>16</sup>). The ideal variable, which is currently not available for all firms, would be the firm’s market or investment share in the NGO’s country. Consumers donate when they know the brand, which happens when local sales (alternatively local employment) are high. Note that identifying target firms by their local market share echoes the theoretical literature which models the fact that donors are more receptive to campaigns about targets that sell or invest locally: Baron (2016) introduces the concept of firm “vulnerability”, which represents how susceptible the firm is to social pressure or to a campaign. Firm vulnerability corresponds to “the ease of damaging a firm’s reputation, brand equity, or employee morale”<sup>17</sup>.

Let us come back to equation (7), which we estimate using country-level variables (see Appendix for the variable description). Bilateral observables between the NGO and the firm country include geographical distance  $Dist_{ij}$ : shorter routes are expected to increase the number of campaigns between  $i$  and  $j$ , reflecting the higher probability that the audience is familiar with the firms’ products. A similar role is attributed to historical and cultural proximity  $Colony_{ij}$  and  $Lang_{ij}$ : Sharing a colonial past increases the awareness and knowledge of citizens about the foreign country. So acts the number of migrants, measuring proximity by the interconnectedness of the people. The migration variable is computed as the number of people born in  $j$  that reside in  $i$ .

One of our visibility variables could not be obtained as a bilateral observable, hence we use the unilateral counterpart: the unilateral variable  $Brands_j$  captures firm visibility, it contains the number of brands per target country in the world top500. It is the country-specific measure of “how well” the domestic audience of the NGO is familiar to the target and reacts to the news. We expect the number of campaigns to be higher, the more important is the brand reputation of a country’s firms. Note that choosing a large firm may be an equilibrium solution for the NGO for two other but minor reasons. First, the NGO’s objective function surely contains a part of intrinsic satisfaction related to its watchdog activity: the NGO prefers to face an important target firm, hence to be confronted with a multinational. Examples include Baby Milk Action, which proudly states on its website ‘We are holding some of the world’s most powerful corporations to account’<sup>18</sup>, and Food and Water Watch, which argue “We are taking on some of the biggest corporations in the world like Exxon-Mobil and Monsanto”<sup>19</sup>. Second, besides the “David and Goliath” effect, reasons for favoring large companies include the magnitude of expected change on the cause: a change in behavior by a firm selling or producing a large number of items tends to correct the problem on a broader scale. The leading company

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<sup>16</sup>[http://www.lemonde.fr/idees/article/2010/02/01/le-chinois-geely-rachete-volvo-un-cas-d-ecole-par-joel-ruet\\_1299441\\_3232.html](http://www.lemonde.fr/idees/article/2010/02/01/le-chinois-geely-rachete-volvo-un-cas-d-ecole-par-joel-ruet_1299441_3232.html)

<sup>17</sup>Baron(2016), page 6

<sup>18</sup><http://www.babymilkaction.org/donate>

<sup>19</sup><http://www.foodandwaterwatch.org/about/monthly-giving>

is also expected to be an example for the rest of the industry.

Bilateral  $X_{ik}$  variables measure the intensity of bilateral links between the audience country and the action country, and thus the identification of donors to the cause that is denounced in the campaign. At the country-level, everything equals, we expect the number of campaigns to be higher, the shorter is  $Dist_{ik}$ . Similarly, we expect that action countries that share(d) a colonial link with the home country ( $Colony_{ik}$ ), that host a number of foreign-borns from  $k$  ( $Migration_{ik}$ ), or that share the same language ( $Lang_{ik}$ ), to be more likely chosen as targets. Finally, note that we cannot eliminate the possibility that bilateral variables capture both the reasons explaining that the NGO chooses a specific firm to report on (the gain) and the reasons explaining that the NGO investigates a given firm (hence the cost of the campaign). Indeed the cost related to send professionals abroad to investigate about the way firms organize outsourcing, or about the consequences of trade for given products, could be proportional to geographical distance for example. We deal with this possibility in section 6.3.

Unilateral country-level variables capture the general level of campaigning activity that is expected from and towards each country. Our preferred estimations are run with fixed-effects for respectively country  $i$  and the pairs  $jk$ , which take into account all potential determinants of the level of outward and inward campaigning. The unilateral variables are thus captured by these fixed-effects. We explain more about the use of the fixed-effects and the link with theory in section 4.5. Nevertheless, as usual in gravity estimations, we provide basic estimates based on unilateral country-level variables before using the fixed-effects. These estimations use the following separate country variables for  $i$ ,  $j$ , and  $k$ : we expect the number of outward campaigns to be influenced by the size and the income of countries: the more the source country is populated, the more there will be NGOs standing up for a cause. Rich countries with more regulated markets are likely to host more NGOs than developing countries. We include the size of the source country ( $pop_i$ ) and its revenue ( $GDPcap_i$ ). Variables relative to the target country capture the number of target firms located in country  $j$ . We include the country size ( $pop_j$ ) and revenue ( $GDPcap_j$ ). A larger country will host more producers and hence more possibilities to be a target. Income is expected to affect positively the number of campaigns, as richer countries tend to host a larger number of firms having international production and selling activities.

Variables  $X_k$  relative to the action country represent the characteristics of countries hosting the actions giving rise to reports from activists. We include ( $pop_k$ ) and ( $GDPcap_k$ ), the size of the action country and thus a measure of the overall activity. Countries hosting resources used in production and preserved by activists (workforce, natural resources) are more likely to receive a large number of campaigns. We include the share of the country's revenue coming from natural resources (oil, natural gas, coal, minerals, forests). Finally, the two home dummies separate the campaigns targetting domestic firms from the ones involving a foreign country.  $Home_{ij}$  is set to 1 whenever the target firm is headquartered in the same country as the NGO, and  $Home_{ik}$  turns on for damages reported in the NGO country.

## 4.5 Estimation issues

In the last two decades, the use of gravity equations underwent two important steps, which have generated best-practice recommendations regarding its estimation.

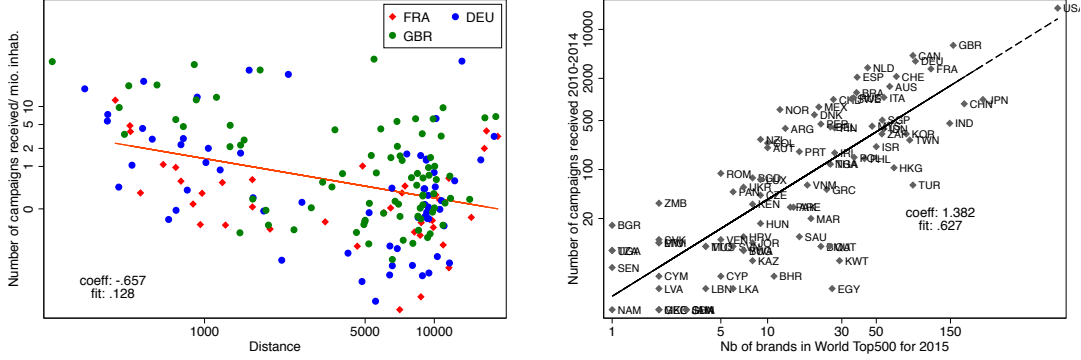
The first one relates to the theory-consistent estimation of the gravity equation. The widely used estimation tool in international economics acquired recognized micro-foundations with Eaton and Kortum (2002) and Anderson and Van Wincoop (2003), which argued that estimation methods should necessarily take into account the structure of the model. In particular, the presence of respectively  $i$  and  $j$ -specific multilateral resistance terms affecting trade flows and reflecting the position of the country in terms of frictions with respect to all its partners. The issue is of central importance in estimations of trade in goods: theory-consistent estimations of gravity equations are now expected to either control for these terms or provide adequate measures of them. In our regressions, we use fixed effects for country  $i$  and for country pairs  $jk$ , to control for all the characteristics of countries that impact the number of outward and inward campaigns.

The second estimation issue relates to the number of zero flows in the data. It has become standard practice in the trade literature to keep the zeroes in bilateral regressions through the use of PPML. This econometric estimator was promoted by Silva and Tenreyro (2006) to account for heteroskedasticity. Its use of the level of trade flow (rather than the log) as a left-hand side variable also permits to keep the zeroes in regressions. In the case of campaigns, the raw data reports the positive numbers. We aggregate the individual data at the country level for dyadic and triadic estimation, and then generate the zeroes by sector, according to the following rule: If a country  $j$  is the object of a campaign by at least one country  $i$ , it should (in a frictionless world) also have been targeted by all the other countries  $i$ . For two countries, zeroes thus correspond to the target countries which have been the object of a campaign in a given sector, however not by all the NGO source countries. In the triadic sample, we define a potential target as a pair ‘target country - action country’ (hence  $jk$ ) which has been targeted at least once in this industry. The intuition being that, if the pair has been targeted by an NGO, in a frictionless world in which NGOs report on important and severe damage, all other NGOs in the same sector should have also reported on that pair. Within each sector, the set of available alternatives for all NGO countries becomes the set of  $jk$  pairs. We estimate our gravity equations on bilateral (section 5) and trilateral (section 6) campaigns using the Poisson fixed effects model on the samples including the zeroes.

## 5 Do activists favor proximity ?

The following displays, to our knowledge, the first gravity estimation on NGO campaigns. In order to highlight the similarities with traditional gravity, we investigate the local bias of advocacy campaigns by first estimating a dyadic gravity equation on campaigns from  $i$  to  $j$ .

Figure 8: Number of campaigns, distance and number of brands



We discuss the determinants of campaigns, questioning whether proximity to the target country allows the NGO to capture the donors’ attention and thus to maximize the expected returns of campaigns.

Before presenting the results, we illustrate how two measures of proximity affect the number of bilateral campaigns: Figure 8 reports the number of campaigns received by each country  $j$ , graphed in the left panel (weighted by population size) on distance to the NGO country, and in the right panel on the number of brands hosted in the country. Both variables represent the dimensions of our proximity variables. Distance measures the bilateral links between pairs of countries. The brands variable counts the number of brands that are headquartered in each country  $j$ , thus measuring unilateral vulnerability of targets. Both panels in Figure 8 are illustrative of the suggested influence of visibility on the direction of campaigns: the number of inward reports per inhabitants in a country increases with shorter distances to the country of the NGO. Similarly, the number of reports also increases when the target country hosts a large number of well-known brands. Estimations in the next two sections are designed to analyze whether these facts are confirmed when taking other controls into account.

### 5.1 The determinants of bilateral campaigns

In a dyadic setting,  $NC_{ij}$  is the total number of campaigns from  $i$  to  $j$ , for all action countries  $k$ . The gravity equation for campaigns writes:

$$\ln(NC_{ij}) = \beta_0 \ln N_j + \beta_1 \ln X_{ij} + \beta_2 \ln \frac{N_i}{\sum_j X_{ij}} + u_{ij} \quad (8)$$

$i$  being the NGO country and  $j$  the country where the targeted firm has its headquarter. Table 2 reports the  $i$ ,  $j$ , and  $ij$  determinants of bilateral campaigns. Poisson is used in all specifications to take account of the zero campaign flows. The first column contains the basic gravity specification without country fixed-effects, restricted to the traditional variables originally used in the

trade literature: distance, colonies, common language. Additional country-level determinants are added in column 2 (migrations) and 3 (common spoken language). Estimations with fixed effects for countries  $i$  and  $j$  are shown in column 4 to 6, which explains the absence of unilateral variables.

Results in table 2 present clear evidence that gravity-type patterns can be found in international campaigns of activism against multinational firms. First, because unilateral variables for size exhibit positive and significant effects on the number of bilateral campaigns. Head and Mayer (2014) highlight that the typical GDP coefficient on trade flows is close to unity, which is conform to the theoretical prediction of a trade model. In the case of gravity for campaigns, country variables  $i$  and  $j$  respectively refer to the demand and supply of information regarding the ethical behavior of producers. We discussed the relation between demand for campaigns and income in section 3.1: results in table 2 confirm that GDP per capita has a positive impact on the provision of campaigns, everything equals. Individual income is also positively related to the number of campaigns received by country  $j$ .

Gravity patterns are in particular evidenced by the role of frictional variables on the bilateral number of campaigns. The elasticity of the number of campaigns to distance is negative, and significant in a majority of the specifications. Column 5 for example, indicates that a shift of 10% in distance to the partner country decreases the number of bilateral campaigns by 3.3%, for given supply and demand capacities of countries. This is in line (however higher in absolute value) with results from gravity equations for trade flows, which traditionally point to the negative impact of geographical proximity and report an average value of -0.9 for distance, as highlighted by Disdier and Head (2008) in their meta-analysis. Examples of gravity equations applied beyond trade in goods also provide evidence of negative effects of distance on bilateral interactions. Among others, Head et al. (2009) report negative distance effects for trade in services; Head and Ries (2008), followed by De Sousa and Lochard (2011), apply a gravity equation to foreign direct investment flows and obtain negative distance elasticities. We further investigate the effect of other proximity variables traditionally included in gravity equations for trade flows. Columns 5 and 6 show that colonial history and language, when shared, both increase activists' reports on the partner country. Note that in the preferred fixed-effects specifications of columns 5 and 6, the decreasing effects of distance and other frictional variables are still present, and are measured while taking into account unobserved unilateral country characteristics that could increase the number of campaigns sent or received (such as geopolitical and historical links, unmeasured by the population or income).

Our results reveal important elements about what NGOs are after. The significance of bilateral determinants of campaigns in table 2 indicates that proximity between the audience and the object of the campaign is an essential ingredient of the expected success of the communication. NGOs target in closeby countries: for given sizes and income, distance decreases the amount of negative reports on firms from the partner country. In the same line, for a given distance and

monadic characteristics of countries, an activist denounces in priority a firm originating from a former colonial partner (controlling for language). Sharing the same language multiplies the number of campaigns by 3 ( $\exp(1.099)$ ), everything equals.

Importantly, results also highlight that NGOs target very locally, since the home dummy appears as the principal determinant of the target choice. Unconditional of any other determinants, there are in average 130 times more domestic than foreign campaigns in the estimation sample. The dummy variable for home-directed campaigns measures the same multiplying factor, however conditional to other factors between countries being equal. For each country we follow standard practice and compute an internal distance. From column 1, it indicates that for a given distance, the own country of the NGO receives 16 times more campaigns ( $\exp(2.8)$ ) than a foreign partner of the same size and income. Controlling for unobserved unilateral determinants of activism decreases the multiplicative factor of home to foreign campaigns to 4.9 ( $=\exp(1.538)$ ), everything equals, in column 6. Note that the inclusion of bilateral connexion variables between countries, measuring the nature of their proximity (geographical, human, historical ...) decreases, but only to some extent, the magnitude of the home dummy. The migration variable measures the number of people born in  $j$  that reside in  $i$ : it thus provides a measure of how good individuals from country  $i$  know their counterparts from  $j$ . The decrease of the home dummy between column 2 and 3, and between columns 5 and 6, shows that part of the home targeting comes from the importance of human density and exchanges. The inclusion of the migration variable also tends to decrease the other bilateral variables. With migrants in the specification, the coefficient on distance decreases, suggesting that part of the distance effect might be due to the proximity that people have through living and working with their foreign counterparts.

The results for the gravity estimation on campaigns show that bilateral determinants shape NGOs' target choices: first, for a given distance, size, and income of the target country, NGOs select in priority home firms: there are five times more campaigns towards home firms, everything equals. Second, beyond domestic firms, the importance of choosing a firm from a neighboring country persists: foreign-targeting occurs in priority at shorter distances, in countries that share the same language, whose population interacts with home through high migration rates. The data thus suggests that target firms that maximize the expected outcome of campaigns originate from countries that are familiar to the audience. In the following, we provide additional regressions to investigate alternative variables measuring the visibility of the target for the public in  $i$ .

## 5.2 Visibility of targets

Selecting firms that are familiar to the audience may also be achieved by picking companies whose sales are important in a very large number of countries. Our unilateral variable of firm visibility at the country-level is the number of brands among the top500 most valued brands



in the world, computed by Brandfinance. In the next two tables, we zoom in on the monadic determinants of campaigns, investigating in particular the role of  $Brands_j$  from the unilateral and sectoral point of view.

Since the gravity regression requires to use source and target country fixed effects, to do so, in table 3 we use the two step approach following Eaton and Kortum (2002). We first estimate the fixed-effects poisson specification in column 1, pooling the data on the five years. Monadic and dyadic variables vary in cross-section. The second step involves using the unilateral fixed-effects as independent variables in columns 2 to 5, and our unilateral variables of interest as dependent variables. The variable measuring the number of brands captures the visibility of targets beyond the fact that large firms are located in populated and rich countries. In table 3 it is pooled on all industries and thus counts the overall number of brands in a country, for all sectors. The positive and significant coefficient suggests that among countries of same size and same revenue, NGOs tend to target more companies that are visible to the public, or companies of very large size.

The remaining variables in table 3 give additional information on the characteristics of countries that publish a high number of campaigns. Column 2 adds the freedom of expression index provided by the Quality of Government dataset. A higher value of this index for the source country of campaigns proxies the possibility to create non-profits organizations without being constrained by political and administrative pressures. This variable shows a positive effect on the number of bilateral campaigns, in parallel to the size and revenue of the country: for given size and wealth, a country reports more campaigns when the conditions for a large supply of NGOs are favorable. Last, columns 3 to 5 investigate country characteristics that explain large numbers of incoming campaigns. The freedom of expression of the target country complements both size variables (population and gdp per capita) in explaining that target firms are often headquartered in developed and high income nations, in which there is no limitation in expressing opinions.

In table 4, the data is disaggregated at the sectoral and bilateral country level. Sectoral zeroes are computed applying to the industry -level data the same methodology used elsewhere in the paper: in each of the 27 ISIC rev3.1 industries, each targeting country faces the existing targeted countries for this industry. We hence assume that if a sector-country pair has been targeted by NGOs from  $i$ , it is part of the set of potential targets for all other  $i$  countries. The sectoral brands variable is obtained by creating a correspondance between the industries of the brands in Brandfinance, and the ISIC rev3.1 classification. We thus measure how many top valued brands correspond to each sector. Country fixed-effects capture the size and income of NGO and target countries. In column 1, we investigate whether a higher number of brands in a given industry increases the number of campaigns. The effect is identified on the inter-sectoral variability for a given country-pair and for all  $j$  partners of a given  $i$  country. The positive and significant coefficient on the sectoral brand variable widens the result found on the country-level

brand variable in table 3: for given capacities of countries, and for given bilateral links among them, more visibility through a larger number of world valued brands increases the number of campaigns.

Columns 2 to 4 display an alternative measure of target visibility: we add sectoral variables that measure the size of sectors in each target country in terms of employment and revenues: the number of employees and the operating revenue by country and sector are computed from the ORBIS database. Country fixed-effects control for the size and income of each partner. Industry dummies capture the overall size of each industry. The positive and significant coefficients on the sector-country variables thus indicate the effect of relative changes in the size of each industry across countries: a larger number of employees by sector, in the target country, increases the number of incoming campaigns in that sector because it points to the industries that potentially hold a large number of facts to be reported and that are dedicated to preserving the rights and health of citizens and workers.

The results on the aggregate and industry-specific bilateral numbers of campaigns sheds light on the geography of campaigns, and also highlight the presence of gravity-patterns in campaigning. We now proceed to estimate the determinants of campaigns on the full triadic sample.

## 6 Triadic gravity for campaigns

We now disentangle the bilateral  $ij$  campaigns into  $ijk$  triadic campaigns and estimate the determinants of campaigns following equation (7). Controlling for the characteristics of action countries crucially contributes to the unbiased estimation of frictional effects on campaigning, hence to check the robustness of the results on bilateral determinants of campaigns. Using the triadic data further allows to investigate the substitutability of proximity effects to the firm and action countries.

### 6.1 Specification

Every  $ij$  observation corresponds to a specific action country  $k$  in which the firm is criticized for misbehaving. By not linking the origin country of the NGO to the characteristics of the country in which the action takes place, we might face biased coefficients on the  $ij$  bilateral variables previously estimated in a dyadic setting.

Assume an NGO in country  $i$ , targetting intensively firms from country  $j$ . Could that be a problem for the estimation of  $ij$  variables? Yes, in the case the choices of firm and action country of the target are correlated. It is likely that  $ij$  and  $ik$  proximity variables are correlated positively: gravity effects drive activists to denounce firms originating from closeby countries, and gravity also leads activists to be interested in actions taking place in the immediate surroundings of its audience. In order to understand whether proximity to the target firm is a

Table 2: Dyadic regressions: campaigns from  $i$  directed at firms in  $j$

Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)
	$NC_{ij}$					
ln Pop $_i$	0.604 <sup>a</sup> (0.066)	0.416 <sup>a</sup> (0.067)	0.466 <sup>a</sup> (0.065)			
ln GDPcap $_i$	1.020 <sup>a</sup> (0.074)	0.737 <sup>a</sup> (0.088)	0.724 <sup>a</sup> (0.093)			
ln Pop $_j$	0.698 <sup>a</sup> (0.046)	0.537 <sup>a</sup> (0.062)	0.571 <sup>a</sup> (0.059)			
ln GDPcap $_j$	1.071 <sup>a</sup> (0.072)	1.120 <sup>a</sup> (0.073)	1.007 <sup>a</sup> (0.082)			
ln Distance $_{ij}$	-0.268 <sup>a</sup> (0.087)	-0.122 (0.092)	-0.097 (0.090)	-0.553 <sup>a</sup> (0.057)	-0.335 <sup>a</sup> (0.059)	-0.324 <sup>a</sup> (0.057)
Colonial history $_{ij}$	0.611 <sup>b</sup> (0.263)	0.354 (0.294)	0.294 (0.286)	0.500 <sup>a</sup> (0.164)	0.196 (0.168)	0.170 (0.160)
Language $_{ij}$	1.044 <sup>a</sup> (0.227)	0.686 <sup>a</sup> (0.218)	0.050 (0.269)	0.585 <sup>a</sup> (0.116)	0.416 <sup>a</sup> (0.112)	0.143 (0.137)
Home Campaign $_{ij}$	2.896 <sup>a</sup> (0.270)	1.363 <sup>a</sup> (0.318)	2.501 <sup>a</sup> (0.358)	2.112 <sup>a</sup> (0.145)	1.017 <sup>a</sup> (0.179)	1.615 <sup>a</sup> (0.199)
ln Migration $_{ij}$		0.225 <sup>a</sup> (0.037)	0.157 <sup>a</sup> (0.037)		0.193 <sup>a</sup> (0.021)	0.159 <sup>a</sup> (0.019)
Common Spo. Lang $_{ij}$			1.674 <sup>a</sup> (0.294)			0.790 <sup>a</sup> (0.192)
Observations	10123	9943	9943	10576	10392	10392
Country $i$ FE, country $j$ FE	no	no	no	yes	yes	yes

Note: Dependent variable is the number of campaigns from NGOs in  $i$  targeting firms in  $j$ . Data is pooled over 2010-2015. Poisson estimator used in all specifications. Standard errors in parentheses. Language is the common official language, Migrations refer to the stock of individuals born in  $j$  that reside in  $i$  in 2000. <sup>c</sup> p<0.1, <sup>b</sup> p<0.05, <sup>a</sup> p<0.01

Table 3: Dyadic regressions: campaigns from  $i$  directed at firms in  $j$ , unilateral variables

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. var.	$NC_{ij}$	$FE_i$	$FE_j$	$FE_j$	$FE_j$	$NC_{ij}$
Method	poisson	OLS	OLS	OLS	OLS	poisson
$\ln \text{ distance}_{ij}$	-0.324 <sup>a</sup> (0.057)					-0.352 <sup>a</sup> (0.078)
Colonial history <sub>ij</sub>	0.170 (0.160)					0.358 (0.250)
Language <sub>ij</sub>	0.143 (0.137)					0.042 (0.230)
Home Campaign <sub>ij</sub>	1.615 <sup>a</sup> (0.199)					2.016 <sup>a</sup> (0.359)
$\ln \text{ Migration}_{ij}$	0.159 <sup>a</sup> (0.019)					0.135 <sup>a</sup> (0.034)
Common Spo. Lang <sub>ij</sub>	0.790 <sup>a</sup> (0.192)					1.319 <sup>a</sup> (0.280)
$\ln \text{ Pop}_i$		0.661 <sup>a</sup> (0.082)				0.539 <sup>a</sup> (0.052)
$\ln \text{ GDPcap}_i$		0.370 <sup>a</sup> (0.104)				0.444 <sup>a</sup> (0.083)
Freedom of Expression <sub>i</sub>		0.232 <sup>a</sup> (0.044)				0.188 <sup>a</sup> (0.053)
$\ln \text{ Pop}_j$			0.614 <sup>a</sup> (0.106)	0.394 <sup>b</sup> (0.159)	0.550 <sup>a</sup> (0.100)	0.385 <sup>a</sup> (0.097)
$\ln \text{ GDPcap}_j$			0.481 <sup>a</sup> (0.086)	0.233 <sup>c</sup> (0.139)	0.349 <sup>a</sup> (0.117)	0.714 <sup>a</sup> (0.105)
Freedom of Expression <sub>j</sub>			0.128 <sup>a</sup> (0.034)	0.111 <sup>a</sup> (0.033)	0.109 <sup>a</sup> (0.037)	0.056 <sup>b</sup> (0.026)
$\ln (1 + \text{ Brands}_j)$				0.346 <sup>b</sup> (0.136)	0.236 <sup>b</sup> (0.116)	0.297 <sup>a</sup> (0.102)
$\ln (\text{ share Nat. Res. } / \text{ GDP}_j)$					0.007 (0.075)	0.168 <sup>a</sup> (0.055)
Observations	10389	89	119	119	117	9336
Country $i$ FE + country $j$ FE	yes	n/a	n/a	n/a	n/a	-

Note: Data is pooled over 2010-2015. Standard errors in parentheses. Language is the common official language, Migrations refer to the stock of individuals born in  $j$  that reside in  $i$  in 2000. <sup>c</sup>  $p < 0.1$ , <sup>b</sup>  $p < 0.05$ , <sup>a</sup>  $p < 0.01$

Table 4: Dyadic regressions: campaigns from  $i$  directed at firms in  $j$ , pooled over ISIC

Dep. var.	(1)	(2)	(3)	(4)
			$NC_{ijs}$	
ln distance $_{ij}$	-0.303 <sup>a</sup> (0.092)	-0.320 <sup>a</sup> (0.076)	-0.323 <sup>a</sup> (0.077)	-0.322 <sup>a</sup> (0.076)
Colonial history $_{ij}$	0.165 (0.196)	0.181 (0.155)	0.181 (0.157)	0.180 (0.157)
Common Off. Lang $_{ij}$	0.423 <sup>b</sup> (0.192)	0.421 <sup>a</sup> (0.153)	0.421 <sup>a</sup> (0.155)	0.421 <sup>a</sup> (0.155)
Home Campaign $_{ij}$	1.031 <sup>a</sup> (0.290)	1.033 <sup>a</sup> (0.226)	1.042 <sup>a</sup> (0.229)	1.036 <sup>a</sup> (0.231)
Migration $_{ij}$	0.191 <sup>a</sup> (0.024)	0.190 <sup>a</sup> (0.020)	0.188 <sup>a</sup> (0.020)	0.188 <sup>a</sup> (0.020)
ln (1 + Brands) $_s$	0.460 <sup>a</sup> (0.033)			
ln (1 + Operating Revenue) $_{is}$		0.054 (0.046)		0.007 (0.042)
ln (1 + Employees) $_{is}$		0.081 <sup>b</sup> (0.041)		0.026 (0.040)
ln (1 + Operating Revenue) $_{js}$			0.112 <sup>b</sup> (0.054)	0.108 <sup>b</sup> (0.048)
ln (1 + Employees) $_{js}$			0.126 <sup>a</sup> (0.042)	0.116 <sup>a</sup> (0.038)
Observations	40253	41047	40914	40788
Country $i$ FE + country $j$ FE	yes	yes	yes	yes
ISIC sector $s$ FE	-	yes	yes	yes

Note: Dependent variable is the number of campaigns from NGOs in  $i$  targeting firms in  $j$  for sector  $s$ . Data is pooled over 2010-2015. Standard errors in parentheses. Language is the common official language, Migrations refer to the stock of individuals born in  $j$  that reside in  $i$  in 2000. <sup>c</sup> p<0.1, <sup>b</sup> p<0.05, <sup>a</sup> p<0.01

determinant of the NGO’s ideal campaign, we want to control for the location of the action. Alternatively, it is not excluded that both countries’ proximity be correlated negatively. In this case, being familiar with the firm’s country is a substitute to the action of the firm taking place locally. This is an additional reason to control for the characteristics of the third country.

We proceed to the triadic estimations. In the preferred specification, characteristics of countries are controlled for using fixed-effects for  $i$  and  $jk$ , respectively. Results are similar when replacing these by three individual  $i$ ,  $j$ , and  $k$  fixed-effects.

## 6.2 Results

Table 5 displays the estimation results. Unilateral country characteristics are first displayed in the regressions (columns 1 to 3), and then controlled for by countries fixed-effects (columns 4 to 7). Columns further differ by the inclusion of zero campaign flows (columns 3, 6 and 7) and by the use of an OLS or Poisson estimator. The main findings from the triadic estimations relate to the following items: (i) unilateral variables, (ii) proximity variables to the firm country, (iii) proximity variables to the action country, and (iv) substitution among the firm and the action country variables.

First, the role of unilateral variables, shown in columns 1 to 3. The monadic characteristics of countries involved in the campaigns all exhibit positive and significant coefficients. Campaigns originate in populated, but mainly rich countries. Campaigns target firms headquartered in large and rich countries, and even more so, the more the country is the home of popular brands. Note that the ‘Brands <sub>$j$</sub> ’ variable captures the worldwide visibility of firms, and thus represents a unilateral measure of whether the audience is familiar with the target firm. In contrast, the bilateral measures of proximity measure whether the firm country is known in this particular home country. Elasticities with respect to the country size variables are positive, however less significant, and of lower magnitude than the one concerning the NGO and firm countries. An interesting pattern emerges relative to the choice of the action country. Section 2.2 highlighted that, in general, campaigns are proportionnaly more numerous in sectors whose production process or whose main final goods’ characteristics are known for harming resources. Countries featuring resource-intensive industries (hence industries using natural resources and/or an important workforce) should therefore draw an important share of activists’ reports. The natural resources variable available in the World Development Indicators (WDI) allows to investigate the effect of the presence of natural resources on the attraction of campaigns. We compute the natural resources variable for action country  $k$ , and include it in the triadic estimations as a variable for country  $k$ . It captures the presence of oil, natural gas, coal, minerals, and forests. Its effect is positive and significant, hence for a given action country’s size and income level, a larger rent sourced from producing (from) natural resources attracts more campaigns from activists.

Our second focus is on the  $ij$  bilateral coefficients. In table 5, the  $ij$  proximity variables

( $\text{distance}_{ij}$ ,  $\text{colonies}_{ij}$ ,  $\text{language}_{ij}$ , and  $\text{migrations}_{ij}$ ) now represent the effect of each of these links between the NGO and the firm countries, controlling for the  $ik$  connexions between the NGO and the action countries. Controlling for third country characteristics allows to separate the determinants of the choice of the firm and action countries. Columns 4 to 7 in table 5 use fixed-effects which control for the source country's characteristics ( $i$ ), and for the characteristics of the "firm-action" country pair ( $jk$ ). The estimation of distance effects in columns 4 to 7 thus arises from the variability of both distances  $ij$  and  $ik$  for each target 'bundle'  $jk$ . An activist focused on natural resources is for instance pictured as choosing between denouncing a harmful behavior of 'Total S.A. in Angola' versus 'Total S.A. in Nigeria', versus 'Lukoil in Azerbaidjan', or 'Lukoil in Russia'. Results show a significant and negative  $ij$  distance coefficient, in the columns using countries fixed-effects. This indicates that for a given action country, two NGOs from different nationality will each prefer attacking a firm headquartered in a country close to home, everything equal: the further away potential target countries are, the less firms in these countries will be chosen to illustrate a campaign on a given unethical act. Said differently, a 10 % difference in distance between the audience and the firm country increases the number of campaigns by 2%. As an example, let's imagine NGOs respectively from Germany and from France, both focusing on unethical corporate behavior in the same country. Our distance elasticity of -.2 on target firms tells us that the number of campaigns against Spanish firms by French NGOs will be 12% higher than the one of German NGOs against Spanish firms<sup>20</sup>.

Note that all proximity variables do not have a significant effect on the choice of target. A shared colonial past does not add any impact once language and distance are taken into account. Language, by itself, does play a significant role in the number of bilateral campaigns: columns 4 to 7 show a coefficient close to .3, meaning that for a given distance to the action, and a given distance to the firm country, an NGO will report ( $\exp(.3)=1.34$ ) 30% more on firms in countries sharing its home language. France is approximately at 1700 kilometers from Morocco and from Lithuania. Controlling for the common colonial history and for the different migrations flows between pairs of countries, this difference in official language will be illustrated by a 30% higher number of campaigns from French NGOs directed at Moroccan firms compared to the number of French campaigns targeting Lithuanian companies.

These numbers explain the campaigning patterns when target firms are headquartered in a foreign country. What about home campaigns ? The intensity of Home campaigning is described by the coefficient on the  $\text{Home}_{ij}$  dummy, which is estimated taking into account the internal distance measure. For the same distance, activists target  $\exp(1.076) = 2.93$  times more their domestic firms. Anecdotal evidence of self-targetting in the data include for example, attacks by Greenpeace Canada and Greenpeace Belgium for rainforest destruction in Indonesia. While the former targets White Paper Co., one of Asia Pulp and Paper's major Canadian customer,

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<sup>20</sup>The distances of France and Germany to Spain are respectively 950 and 1600 kms.

the latter points to the Delhaize Group, a Belgian supermarket operator, for problematic palm oil suppliers.

One of table 5's objectives is to obtain unbiased coefficients on the  $ij$  distance variable, by controlling for the distance to the action. The positive correlation of  $ij$  and  $ik$  distance variables could most likely have biased upward the distance coefficient in the dyadic gravity tables. We thus compare coefficients from dyadic and triadic estimations, and show the ratios in table 6, which confirm the intuition. The distance elasticity is approximately divided by 2, decreasing in absolute value from .55 to .232. The colonial history becomes non significant in the triadic case, and sees its value divided by 6. The language dummy remains significant and is divided by 1.57.

The third interesting result from table 5 relates to the  $ik$  bilateral coefficients. The triadic gravity allows to quantify the effect of distance to the action country, when controlling for the target country's characteristics. This is presented by the coefficients on the  $ik$  proximity variables shown in table 5. The elasticity to distance  $ik$  appears significant throughout the estimations, and larger in absolute value compared to distance to the firm country. Hence for given attributes of the firm, NGOs' choice of action to be denounced is strongly influenced by proximity: the number of campaigns is almost 5% lower (coefficient taken from column 6) when distance to the action country increases by 10%. This implies that NGOs based in France for example release around 10% less campaigns on damages made in China than in India, since China is 23% more distant from France than India.

Fourth and last, the fact that the two distance coefficients are negative indicates that both determinants are substitute in the NGO's choice of target bundle. To increase the number of bilateral campaigns by 5%, one must either choose a 10% closer action country everything equals, or target a firm in a country whose distance is 25% shorter. At the sample mean, bilateral campaigns increase by 5% when the action country is 800 km closer to NGOs country (than the average action country) or the target country is 2000 km closer to NGOs country (than the average target country).

### 6.3 Higher audience or lower cost ?

The net payoff of a campaign, for the NGO, increases with the gross gain perceived from targeting a firm, and increases with the reduced cost to obtain the information about firms' reprehensible behaviors. In estimating the motivations of the NGO for choosing the optimal target, so far we highlighted the role that proximity variables play in increasing the audience's attention. How could we disentangle both effects of proximity on the payoff ?

One way to proceed is to make an assumption on where the cost-related reasons play a larger role. Let us assume that the choice of the action country is more influenced by cost minimizing variables: the NGO must communicate with a local agent in country  $k$  or send an agent to gather information about the activity of firms in countries  $k$ . Hence the distance



Table 5: Triadic regressions: campaigns from  $i$  directed at firms in  $j$  with action in  $k$ 

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Method	OLS	poisson	poisson	OLS	poisson	poisson	poisson
Zeroes	-	-	yes	-	-	yes	yes
Dep. var.	$\ln NC_{ijk}$	$NC_{ijk}$		$\ln NC_{ijk}$	$NC_{ijk}$		
$\ln \text{pop}_i$	0.104 <sup>a</sup> (0.012)	0.320 <sup>a</sup> (0.063)	0.372 <sup>a</sup> (0.066)				
$\ln \text{GDPcap}_i$	0.240 <sup>a</sup> (0.012)	0.623 <sup>a</sup> (0.052)	1.007 <sup>a</sup> (0.052)				
$\ln \text{pop}_j$	0.063 <sup>a</sup> (0.019)	0.138 (0.096)	0.178 <sup>c</sup> (0.098)				
$\ln \text{GDPcap}_j$	0.162 <sup>a</sup> (0.024)	0.651 <sup>a</sup> (0.111)	0.666 <sup>a</sup> (0.118)				
$\ln (1 + \text{Brands}_j)$	0.110 <sup>a</sup> (0.023)	0.316 <sup>a</sup> (0.116)	0.295 <sup>a</sup> (0.107)				
$\ln \text{pop}_k$	0.094 <sup>a</sup> (0.009)	0.262 <sup>a</sup> (0.035)	0.263 <sup>a</sup> (0.039)				
$\ln \text{GDPcap}_k$	0.022 <sup>c</sup> (0.012)	0.201 <sup>a</sup> (0.042)	0.094 <sup>b</sup> (0.041)				
$\ln (\text{share Nat. Res.} / \text{GDP}_k)$	0.052 <sup>a</sup> (0.008)	0.248 <sup>a</sup> (0.051)	0.314 <sup>a</sup> (0.055)				
$\ln \text{distance}_{ij}$	-0.003 (0.014)	-0.021 (0.056)	-0.065 (0.051)	-0.058 <sup>a</sup> (0.021)	-0.088 <sup>c</sup> (0.048)	-0.205 <sup>a</sup> (0.039)	-0.232 <sup>a</sup> (0.033)
Colonial history <sub>ij</sub>	0.042 (0.047)	0.027 (0.150)	0.273 <sup>c</sup> (0.152)	0.069 (0.053)	-0.135 <sup>c</sup> (0.078)	0.030 (0.080)	0.079 (0.080)
Language <sub>ij</sub>	0.075 <sup>c</sup> (0.039)	0.496 <sup>a</sup> (0.154)	0.531 <sup>a</sup> (0.158)	0.030 (0.046)	0.319 <sup>a</sup> (0.089)	0.337 <sup>a</sup> (0.082)	0.372 <sup>a</sup> (0.077)
$\ln \text{Migration}_{ij}$	0.019 <sup>a</sup> (0.006)	0.031 (0.019)	0.055 <sup>a</sup> (0.020)	0.007 (0.009)	0.017 (0.013)	0.024 <sup>b</sup> (0.012)	
Home campaign <sub>ij</sub>	0.626 <sup>a</sup> (0.062)	1.390 <sup>a</sup> (0.210)	1.420 <sup>a</sup> (0.201)	0.824 <sup>a</sup> (0.079)	1.151 <sup>a</sup> (0.133)	1.076 <sup>a</sup> (0.114)	1.253 <sup>a</sup> (0.102)
$\ln \text{distance}_{ik}$	-0.055 <sup>a</sup> (0.016)	-0.146 <sup>c</sup> (0.084)	-0.350 <sup>a</sup> (0.078)	-0.101 <sup>a</sup> (0.021)	-0.310 <sup>a</sup> (0.060)	-0.495 <sup>a</sup> (0.043)	-0.588 <sup>a</sup> (0.036)
Colonial history <sub>ik</sub>	0.060 (0.047)	0.233 <sup>c</sup> (0.136)	0.633 <sup>a</sup> (0.146)	0.084 (0.054)	0.065 (0.076)	0.326 <sup>a</sup> (0.076)	0.429 <sup>a</sup> (0.076)
Language <sub>ik</sub>	0.259 <sup>a</sup> (0.037)	0.514 <sup>a</sup> (0.159)	0.628 <sup>a</sup> (0.164)	0.289 <sup>a</sup> (0.043)	0.611 <sup>a</sup> (0.080)	0.588 <sup>a</sup> (0.070)	0.665 <sup>a</sup> (0.065)
$\ln \text{Migration}_{ik}$	-0.023 <sup>a</sup> (0.006)	-0.091 <sup>a</sup> (0.016)	0.043 <sup>a</sup> (0.015)	-0.039 <sup>a</sup> (0.009)	-0.096 <sup>a</sup> (0.014)	0.078 <sup>a</sup> (0.011)	
Home campaign <sub>ik</sub>	1.422 <sup>a</sup> (0.068)	3.400 <sup>a</sup> (0.208)	3.119 <sup>a</sup> (0.183)	2.031 <sup>a</sup> (0.080)	3.380 <sup>a</sup> (0.125)	2.549 <sup>a</sup> (0.094)	3.024 <sup>a</sup> (0.086)
$\ln \text{distance}_{jk}$	-0.062 <sup>a</sup> (0.015)	-0.131 <sup>b</sup> (0.060)	-0.106 <sup>c</sup> (0.055)				
Colonial history <sub>jk</sub>	-0.010 (0.051)	0.046 (0.152)	-0.133 (0.141)				
Language <sub>jk</sub>	-0.109 <sup>a</sup> (0.037)	-0.218 (0.186)	-0.157 (0.183)				
$\ln \text{Migration}_{jk}$	0.061 <sup>a</sup> (0.005)	0.178 <sup>a</sup> (0.020)	0.180 <sup>a</sup> (0.022)				
Observations	5765	5765	131508	5185	6302	154433	163240
Country $i$ FE + countries $jk$ FE	-	-	-	yes	yes	yes	yes
Zeroes	no	no	yes	no	no	yes	yes

Note: Dependent variable is the number of campaigns from NGOs in  $i$  targeting firms in  $j$  for action in  $k$ . Data is pooled over 2010-2015. Standard errors in parentheses. Language is the common official language, Migrations<sub>ij</sub> are from  $j$  to  $i$ .  
<sup>c</sup> p<0.1, <sup>b</sup> p<0.05, <sup>a</sup> p<0.01

Table 6: Dyadic and triadic coefficients comparison

Variables	Dyadic	Triadic	Dyadic/Triadic
$\ln \text{ distance}_{ij}$	-.553 (.057)	-.232 (.033)	2.38
Colonial history $_{ij}$	.500 (.164)	.079 (.080)	6.32
Language $_{ij}$	.585 (.116)	.372 (.077)	1.57

Notes: The dyadic estimation is identical to column 4 in Table 2. The triadic estimation is identical to column 7 in Table 5.

between the NGO country  $i$  and the action country  $k$  contains more cost-related elements than the distance between  $i$  and  $j$ . The proportion is reversed for the target country: let us assume that audience-related reasons drive in majority the decision to select a given firm.

With these assumptions in hand, results in table 5 indicate two important elements. First, the fact that both distance coefficients are negative and significant suggests that both audience and cost determinants of the targets' choice are active. An NGO seeks the optimal set of countries which will both maximize the attention of the audience and minimize the cost to obtain the information. Second, the main cost-minimizing variables come out to be physical distance and language: everything equals, hence for a given distance to the firm and to the action, an action country sharing the NGO's home language will receive in average 82 % more campaigns ( $\exp(.6)$ ). Third, the comparison of estimated coefficients on distance and language for the firm and action countries reveals that the campaigns are more sensitive to proximity when deciding on the action country than when selecting the firm to attack: both variables are also significant in selecting the firm, however their effect is slightly lower.

## 7 Conclusion

This paper uses rich data on NGO campaigning against multinational corporations, for a large number of sectors and firms, to quantify the variables that affect activists' choice of a target country. The gravity model, inspired by the trade literature, proves very adapted to evaluate the determinants of campaigns. We model NGO campaigns as a discrete choice of target bundle by activists, assuming the audience's donations are driven by a home-related firms or by an action country to which consumers identify. Aggregating those individual choices naturally yield a gravity framework at the country level.

We first estimate a dyadic gravity equation for comparison with usual gravity regressions. Unilateral country-level variables capture the determinants that shape the number of incoming and outward campaigns. Bilateral variables measuring historical, cultural, geographical links

between countries are shown to be important determinants of the distribution of campaigns across country pairs: everything equal, closer ties between the NGO and the targetted firm country increase activists' campaigns.

Our data is triadic, which means that for each bilateral campaign, there is an action country that is also part of the choice of item to report. Triadic gravity on campaigns confirms the role of proximity variables to the NGO's country. Triadic regressions show that both proximity dimensions (NGO-firm and NGO-action) matter. Furthermore our results show that they substitute in the targetting decisions.

By making some assumptions associating the choice of firm to the maximization of the attention of the audience, and the choice of action country to the cost minimization concerns, we find that both enter the optimal campaign selection, confirming the importance of audience-related determinants. Overall, our results stand for the primary importance of audience considerations in NGO activity. This questions the view that NGOs denounce the most damageable actions, whatever their location, and points to new research questions investigating the behavior of these agents. In particular, a central element of future research is to investigate NGOs' objective function, which will certainly require to combine NGOs campaign data with individual NGO and firm data.

Table 7: Churning

Years in data	Nb of NGOs	Share	Cum. share
1	2013	.6	.6
2	530	.16	.76
3	286	.09	.84
4	168	.05	.89
5	145	.04	.94
6	217	.06	1

## A Appendix

Table 8: Descriptive Statistics - Industries

Industry (ISIC Rev. 3.1)	# of Firms	# of NGOs	% of Campaigns	Avg NC/firm	Nb brands	Share of world brands
4000 Extraction, manuf and distrib of all energies	1228	1735	31.14	8.1	476	.0541
6500 Finance and insurance	655	621	10.35	5.1	1745	.1982
1500 Mf of food products and beverages	958	631	9.66	3.9	844	.0958
1300 Mining of metal ores	509	722	7.43	5.4	177	.0201
5210 Non-specialized retail trade in stores	410	469	5.19	4.2	614	.0697
5232 Retail of textiles, clothing, footwear goods	430	259	4.41	4	302	.0343
3000 Mf of computer and related activities	356	366	4.15	3.8	1964	.223
2400 Mf of chemicals and chemical products	155	546	3.77	9.2	234	.0266
4500 Construction	378	583	3.27	3.7	292	.0332
0100 Agriculture, hunting and related	377	461	3.21	3.7	95	.0108
2423 Mf of pharma., medicinal and botanical products	163	359	2.54	5.1	505	.0573
2100 Mf of paper and paper products	223	227	2.22	4.1	15	.0017
2424 Mf of soap, detergents, perfumes	205	212	1.87	3.5	106	.012
9200 Recreation, Media, cultural, sporting activities	261	261	1.52	2.6	371	.0421
3400 Mf of motor vehicles	101	201	1.34	4.2	302	.0343
5500 Hotels and restaurants	22	180	1.26	11	122	.0139
2900 Mf of machinery and equipment	94	168	1.23	4.9	222	.0252
6200 Air transport	105	138	.87	2.6	102	.0116
0500 Fishing, aquaculture	91	107	.84	4		
6000 Land transport	105	206	.84	2.9	90	.0102
3694 Mf of games and toys	73	87	.77	4.2	21	.0024
2500 Mf of plastic products	14	115	.57	18.7	149	.0169
7400 Other business activities	82	138	.44	2.4	2	.0002
1600 Mf of tobacco products	19	55	.39	4.5	54	.0061
4100 Water collection, purification and distribution	47	67	.25	2.2	1	.0001
6300 Auxiliary transport activities	50	44	.24	2.7	1	.0001
3700 Recycling	60	79	.24	2	1	.0001

Table 9: Descriptive Statistics - ISIC rev 3.1 Industries

Industry (ISIC Rev. 3.1)	# of Firms	# of NGOs	% of Campaigns	Avg NC/firm/year	Nb brands
0100 Agriculture, hunting and related	377	461	3.21	3.7	95
0500 Fishing, aquaculture	91	107	.84	4	
1300 Mining of metal ores	509	722	7.43	5.4	177
1500 Mf of food products and beverages	958	631	9.66	3.9	844
1600 Mf of tobacco products	19	55	.39	4.5	2
2100 Mf of paper and paper products	223	227	2.22	4.1	15
2400 Mf of chemicals and chemical products	155	546	3.77	9.2	234
2423 Mf of pharma., medicinal and botanical products	163	359	2.54	5.1	505
2424 Mf of soap, detergents, perfumes	205	212	1.87	3.5	106
2500 Mf of plastic products	14	115	.57	18.7	
2900 Mf of machinery and equipment	94	168	1.23	4.9	222
3000 Mf of computer and related activities	356	366	4.15	3.8	1964
3400 Mf of motor vehicles	101	201	1.34	4.2	302
3694 Mf of games and toys	73	87	.77	4.2	21
3700 Recycling	60	79	.24	2	1
4000 Extraction, manuf and distrib of all energies	1228	1735	31.14	8.1	476
4100 Water collection, purification and distribution	47	67	.25	2.2	54
4500 Construction	378	583	3.27	3.7	292
5210 Non-specialized retail trade in stores	410	469	5.19	4.2	614
5232 Retail of textiles, clothing, footwear goods	430	259	4.41	4	302
5500 Hotels and restaurants	22	180	1.26	11	122
6000 Land transport	105	206	.84	2.9	90
6200 Air transport	105	138	.87	2.6	102
6300 Auxiliary transport activities	50	44	.24	2.7	1
6500 Finance and insurance	655	621	10.35	5.1	1745
7400 Other business activities	82	138	.44	2.4	149
9200 Recreation, Media, cultural, sporting activities	261	261	1.52	2.6	371

## A.1 Country-level data

We complement the campaign data with the gravity database containing country-level unilateral and bilateral variables, available from the CEPII. Unilateral variables include the countries' gdp, gdp per capita, and population. Bilateral variables comprise traditional gravity variables (distance, language, contiguity), as well as colonial links between all pairs of countries. As campaigns often target domestic firms, we carefully define the bilateral variables when they refer to Home campaigns: countries' internal distances are computed by Mayer and Zignago (2011) in the same way as international distances, weighted by city-populations. Information on colonial history is included in the CEPII gravity database and originally comes from the CIA World Factbook. The dummy variable for bilateral colonial history is set to 0 for all Home observations, and so is the common official language dummy.

Migration data are computed by Özden et al. (2011) for the World Bank: they provide bilateral migrants stocks based on the foreign-born definition, for decades between 1960 and 2000. We use the data for the year 2000 and focus on the incoming number of foreign-borns in each country (from the target firm country to the source NGO country). The raw data attributes a zero to internal migration flows and this is likely to bias the dummy on Home campaigns. We thus compute a measure of the number of people born locally by subtracting the total number of foreign-born people to the country's population for the year 2000.

Melitz and Toubal (2014) show that the common language dummy (COL) widely-used in gravity equations underestimates the total impact of language. We include their variable for common spoken language (CSL) which they originally built from the EU survey Eurobarometer 2005. The CSL variable is an index comprised between 0 and 1, obtained from the population shares that speak identical languages by country pair. A language is included only when spoken by at least 4% of a country's population. The CSL variable is set to zero in the case of internal campaigns.

The Quality of Government dataset built by the University of Gotenburg provides different measures of freedoms (Press, associations, civil liberties, expression). We use the index for Freedom of Expression, which varies between 1 and 10, representing the extent to which citizens, organizations and the media can express opinions freely.

BrandFinance provides a brand valuation ranking, calculating for each firm, the 'value of the brand' based on the likely future sales. The ranking allocates the 500 largest brands to the respective home country of their headquarters. Our country-level variable  $Brand_j$  is the average number of these brands per country over the entire period. We average the early variable for each country in the data and transform the result as  $\log(1 + Brands_j)$ . Finally, the World Bank publishes World Development Indicators (WDI) on a large number of areas, from which we use the variable "Total natural resources rents as percent of GDP". This variable evaluates a country's rents issued from the oil industry, from the extraction of natural gas, coal, minerals, and from the exploitation of forests. The total is expressed as a percentage of each country's

GDP and allows us to proxy the determinants of targeting a country for actions that are related to damages done to natural resources.

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