RESEARCH PROPOSAL

Incentive Alignment and Investment Distance[1]

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Abstract

Can increased financial intermediation create unintended welfare consequences, when investments produce externalities? This paper tests whether **negative** externalities matter less when investments take place faraway and whether **positive** externalities matter more when investments are closer to home. While ESG (environmental, social and governance) factors are being improved upon by corporations and increasingly priced by market participants, little is known about the investors who either bear or do not bear the negative impacts of their investments. As financial intermediation has distanced the investors from the final investment outcome, the resulting increase in financial efficiency might have created unintended consequences. To understand whether those who do not internalize the negative externalities caused by their investments will be a crucial next step for understanding the ethical financial dilemmas that have risen in recent decades.

1. Introduction

Financial markets have recently come under pressure to internalize the negative externalities that their investments impose upon society (e.g. waste and pollution). From the government's side, several initiatives are on the rise to correct market behaviour starting from strict regulation, updated stewardship codes and the revision of fiduciary duty. On the financier's side, socially responsible investments are on the rise as investors are trying to align and engage their portfolios with socially conscious initiatives (Dimson et al., 2015). While there are a variety of reasons why financial markets have difficulties incorporating externalities into their valuations (e.g., due to investment uncertainty), one reason is that the investors rarely suffer the negative externalities themselves. Before the prevalence of financial intermediation, when investments were mostly constrained to local assets, if a local factory was caught polluting, local investors would have been much more likely to divest their shares or even (unsurprisingly), engage the companies directly. Currently, however, investors (both **retail** and **institutional**) have been taken further away from the ultimate investment outcome and hence negative externalities are rarely incurred by those who make it happen. The purpose of this paper is to ask a simple question; are investors more likely to invest in assets that produce negative externalities when they live further away?

There are few institutions today that have inherent interests to address negative externalities, but certain notable cases do exist. A few market participants, such as institutional investors, including insurance companies and pension funds have been at the forefront of socially minded investments (Dyck et al., 2015). One reason for this is that they are one of the few market participants who have by construction, a long-term focused investment horizon (they must guarantee financial payments to future beneficiaries as well evaluate how future changes in climate will affect their investment portfolios and pension policies). Hedge funds on the other hand have had a difficult time evaluating externalities that take place far in the future as their investment turnover is high and rarely exceed a 5-year holding period. While the institutional investment channel is interesting, and other work has concentrated on the role of state ownership (Hsu et al., 2017) very little is known about who could or should care about the negative externalities of their investments. We have mostly anecdotal evidence and limited surveys to guide our knowledge.

Prior approaches for understanding these investment complexities was grounded by the idea that negative externalities and financial markets are separable. While businesses should concentrate on business, governments and charities should exist to correct for any unintended negative externalities. This is unsurprisingly a rather naïve approach and therefore recent studies have started to question the degree to which shareholder value maximization is equivalent to shareholder welfare maximization (Hart & Zingales, 2016). In light of this recent debate, it is important to understand who (if anyone) might care about these externalities. While, individual (non-corporate) motives are easier to comprehend, as they are highly influenced by individual preferences (Homanen, 2018), institutional behaviour can be more difficult understand and identify as they are also influenced by other factors such as mandates and concepts of fiduciary duty. Overall, there remains much to explore and therefore, this proposal will investigate the following;

1. Are investors **more** likely to invest in pollutive projects, when investments are further away from home?

2. Are investors **less** likely to invest in pollutive projects, when investments are closer to home?

3. Are investors **more** likely to invest in clean projects when investments are closer to home?

The initial motivation for this research proposal was to study the investment behaviour of households, since the investment distance phenomenon is more likely to be identified via direct household investment decisions (e.g. stock ownership). In addition, the channels for the phenomenon would be easier to understand and identify. If data for such a test were available, it would greatly assist this research proposal, however, it is important to be reminded that results from such a study would overall yield fewer policy relevant recommendations. The evolution of our financial markets has created new obstacles and challenges and as Hart & Zingales (2016) argue;

"when Friedman wrote his piece, 80% of publicly traded equity was owned by households and only 16% by institutional investors (Zingales (2009)). Now the numbers are reversed: only 27% of public equity is owned by households and 60% by institutional investors. The growing role of institutional investors in corporate governance has raised a new and important question: what should asset managers maximize? This question is particularly important when the funds are part of a retirement system, since they guarantee the support of older people."

Therefore, this paper will concentrate on large established financial institutions. These include institutional investors and large banks. Currently, there is only some evidence on the existence of differential loan pricing conditional on the social awareness of the financiers themselves (Hauptmann, 2017).

Overall, this paper would add to a long line of literature on socially responsible investments and equity allocations. Dimson et al., (2015) have extensively documented the new and rising channel of active ownership and investor ESG activism, while Dyck et al. (2015) further showed that institutional ownership is positively associated with E&S performance with additional tests suggesting that the relationship is causal. On a similar note, Di Giuli and Kostovetsky (2014) found that firms score higher on CSR when they have Democratic rather than Republican founders, CEOs, and directors, while Hsu, et al., (2017) find that state owned enterprises are much better at tackling environmental issues. The contribution of this study stems from creating a better understanding for the real fundamentals of ethical investing. It will go beyond the standard approach for determining ESG valuations (Chava, 2014) or topics surrounding inherent societal norms that dictate corporate ESG performance (Liang & Renneboog, 2017). As we are globally and collectively trying to address negative externalities, e.g. poverty, global warming and pollution, it would be stark revelation if we find out that the drivers of negative ESG factors come from those further away from the location of the investment.

2. Data

The first set of data for this analysis would come from the IJ Global database. This project specific database covers over 12,000 global transactions and over 10,000 projects. The database has an extensive coverage of coal mines and renewable energy investment projects.[6]

In order to establish the distance to investment relationship, it will be important to merge this data with lender (i.e. financier) level information. This information will come from either *SNL Financial* or *Fitch Connect*.

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[6] As the project develops, it will be important to consider additional asset specific databases in order to establish further external validity. Some of the include Bloomberg (i.e. RAN based fossil fuel investment transactions), EJAtlas, Orbis, CDP and RepRisk.

3. Identification Strategy

a. Summary Statistics and General Trends

The first section of this analysis will document the average percentage of coal mine lenders (compared to other sectors) that come from abroad. In addition, this section will document time specific trends as well. In other words, whether over time coal mines more likely to be financed by foreign financiers.

b. Bank Level Regressions

The next step of the analysis will be to test whether banks are more likely to invest in projects that produce negative externalities when they are further away from home. Therefore, the regressions will concentrate on bank-country level regressions, whereby the dependent variable will measure the exposure of each bank's coal investments for every country as a ratio of the bank's total coal mine investments for that year.

1) $Coal\ Investment_{cbt} / Total\ Coal\ Investment_{bt} = \beta_o + \beta_1 Distance_{cb}$
$$+ \beta_j X_{bt} + \alpha_b + \gamma_c + \delta_t + Bank * Year\ FE + Country * Year\ FE + \varepsilon_{cbt}$$

where c = country, b = bank and t = time

The coefficient β_1 will tell us whether negative externalities play a differential role on the bank's propensity to finance pollutive projects. This will be the most important regression of the paper. The *Bank*Year FE* and *Country*Year FE* will allow us to account for a range of alternative explanations (e.g. unobservable bank specific characteristics) and to allow us to establish the within bank propensity for investing in pollutive projects abroad. The distance measure will incorporate a variety of alternative measures. These include actual distance, cultural distance (e.g., language, norms and historical similarities), Eurobarometer based distance and a measure for total foreign investment (compared to country specific investments).

c. Project Level Regressions

The first step of this analysis would be to check whether pollutive projects are on average financed by banks from countries further away. This analysis would be done at the country-project pair level. In other words, the dependent variable will be the % of the project that is financed by a specific **country**. The expectation would be that pollutive projects are more likely to be financed by banks from countries further away from the investment.

2) $Country\ Financing\ \%_{pct} = \beta_o + \beta_1 Distance_{pc} * Pollutive\ Project_p$
$$+ \beta_2 Distance_{pc} + \beta_3 Pollutive\ Project_p +$$
$$\beta_j X_{ct} + \alpha_c + \delta_t + \varepsilon_{pct}$$

where p = project, c = country and t = time

The next step will be to run a similar analysis, but with a broader set of projects. The analysis would be conducted at the project-bank pair level. In other words, the dependent variable will be the % of the project that is financed by a specific **bank**. This could also be converted to a dummy variable, e.g. the dummy equaling to one if the bank is financing the project.

3) $$Bank\ Financing\ \%_{pbt} = \beta_o + \beta_1 Distance_{pb} * Pollutive\ Project_p$$
$$+ \beta_2 Distance_{pb} + \beta_3 Pollutive\ Project_p +$$
$$\beta_j X_{bt} + \alpha_b + \delta_t + Bank * Year\ FE + \varepsilon_{pbt}$$

where p = project, b = bank and t = time[7]

In the main specification, we will assume that the pollutive asset is a coal mine. Depending on the nature of the data, we might consider broadening our scope to energy intensive power plants (e.g. coal powered power plants and additionally, pipelines, LNG projects and arctic drilling). If we extend the treatment group, we might consider incorporating a continuous variable as well (e.g., total project level CO_2 emissions). Overall, the identification here is not as "clean" as the earlier sections examining within bank investment behaviour. However, the external validity of these tests (e.g. the inclusion of non-pollutive projects) will provide significant and important contributions.

d. Distance to Clean Asset Regressions

To establish a broader story, the next step of the analysis will aim to define and understand the effects of distance when projects create positive (or non-negative) externalities.

4) $$Country\ Financing\ \%_{pct} = \beta_o + \beta_1 Distance_{pc} * Clean\ Project_p$$
$$+ \beta_2 Domestic\ Financier_{pc} + \beta_3 Clean\ Project_p +$$
$$\beta_j X_{ct} + \alpha_c + \delta_t + \varepsilon_{pct}$$

where p = project, c = country and t = time

This analysis serves as a test to establish whether the opposite effect for distance holds with renewable energy investments (i.e. clean projects). The overall analysis will be very similar to earlier regressions, e.g., 2) & 3). We expect projects to be more likely to be financed by local lenders when projects are closer to home.

e. Bank Exits from Coal

When certain banks withdraw from coal markets, are new deals more likely to be financed by foreign lenders? Extended analyses in this section will incorporate bank-exit level data from the IEEFA, specifically from the white paper; "*Over 100 Global Financial Institutions Are Exiting Coal, With More to Come*". The purpose of this test is to incorporate country specific shocks to the amount of global investment financing availability. As countries lose financiers, are future (pollutive) projects less likely to be financed and are they more likely to reach a "no deal"? In order to make this analysis feasible, it will important to pursue an IV-estimation strategy as well, by estimating the likelihood of banks to exit coal markets. Some of the potential instruments include the following: 1) Environmental awareness of the bank's headquarter country 2) Environmental laws of the bank's headquarter country and whether 3) the banks are signatories to the PRI, Equator Principles or the Principles of Responsible Banking.

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[7] Depending on the nature of the ultimate dataset at our disposal, we might consider using Project FE as well. This will only be possible if the dataset has information on project specific second hand market transactions.

4. Additional Tests

Extended analyses will try to further establish the external validity of the distance to investment phenomenon. Some venues for this exercise include the adoption of a MorningStar fund flows based analysis (e.g. whether fund portfolios more likely to include pollutive foreign company stocks when funds are domiciled further away) or FactSet / 13F filings based analyses (e.g. whether institutional investors more likely to hold stocks in pollutive companies when companies are located further away from the institutional investor's headquarters).

As an interesting extension, it would be useful to incorporate shocks to ESG as in Krüger (2015) who uses "*positive and negative events concerned with a firm's corporate social responsibility to show that investors respond strongly negatively to negative events and weakly negatively to positive events*". Incorporating this information will be a necessity for understanding the impact of ESG on corporate ownership. Scandals and shocks to ESG will serve as a crucial identification strategy for addressing endogeneity. While one might argue that local investors are better able to value the true value implications of ESG shocks, with global companies, global shocks and global information (i.e. ESG shocks to multinationals), we can better rationalize and motivate our expected results.

5. References

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