# What Drives Location Preference for Corporate Social Responsibility (CSR) Investments in India?

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#### **ABSTRACT**

Corporate Social Responsibility (CSR) is seen as a means for companies to contribute towards broader societal goals beyond their immediate industrial focus, and companies are known to donate a part of their profits to social development for education, health, and other sectors. In 2014, the Government of India made CSR mandatory for companies beyond a certain level of profitability. It was observed however that many geographies in need of financial assistance for social development actually did not receive much CSR funds. In this paper, we investigate what might be the reasons behind how companies choose the locations for their CSR investments. In particular, we examine political reasons where companies may use CSR to seek favours from politicians. We find several interesting patterns and show that there might be grounds for the government to regulate CSR to some extent.

# **Author Keywords**

Corporate Social Responsibility; Social development; Corporate-political interlocks; Politically connected companies

### **CCS Concepts**

•Social and professional topics  $\rightarrow$  Governmental regulations; Industry statistics;

# INTRODUCTION

According to the 2014 CSR Act in India, companies having a net worth of more than INR 500 crores<sup>1</sup>, with a turnover of INR 1000 crores or more, or with a net profit of INR 5 crores during any financial year, are required to spend at least two percent of their average profit earned during the last three years towards CSR activities. CSR investments in India are largely meant for social development activities, and it is the company's prerogative to choose where in the country it wants to spend the amount and towards which social development goals. Companies could be inclined to make CSR investments in geographical areas that are severely under-developed and in need for welfare funds, or they could invest in community

<sup>1</sup>INR 10 crore = INR 100 million = approximately USD 1.4 million

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development near the locations of their factories or plants, or to create a socially credible image in potentially new markets, or even invest in constituencies of politicians to which the company may have certain links. In this paper, we try to investigate such reasons to understand what drives a company's decisions on where to make CSR investments.

Public sector companies are known to be especially vulnerable to political influence in making their CSR investments. There is evidence from Bangladesh that public sector banks invested in development sectors that were aligned with the election manifesto of the ruling political party [15]. In India, the Comptroller and Auditor General (CAG) [3] noted that several Central Public Sector Enterprises contributed large amounts to the *Statue of Unity* under their CSR mandate, which was an image building project strongly supported by the rural political party in India [10].

Considering these examples that CSR investments may not always be made with incorruptible intentions, we examine CSR investment data in India and answer the following research questions:

- Do the least developed districts that are in need for development assistance, get more CSR funds?
- To what extent is a company's decision of where to invest governed by its political links to the areas, or geographical presence in the areas?

To answer the first question, we examine the geographical distribution of CSR investments in India, at the state and the district level. To answer the second question, we use a rich dataset of political links and geographical presence of companies, and build regression models to test the impact of these variables.

We find from our analysis that the least developed districts in India do not receive much CSR funds, rather well developed areas attract most of the CSR investment. Companies also prefer to invest in areas close to their places of operation. We further find evidence that political links of companies, factors like whether or not the elected representative from a location belongs to the ruling political political party, or is associated with a ministry that is related to the industry sector of the company, also influence decisions about where companies make their CSR investment. We next describe related work, this is followed by a description of our dataset, and followed by our analysis.

Year	Amount in INR crores
2014-15	10066
2015-16	14517
2016-17	14330
2017-18	13624

Table 1, CSR investment amounts

#### **RELATED WORK**

Studies indicate the impact of CSR on social development, such as improvements in education, health, and sanitation through CSR in the state of Kerala in India [12]. Studies also indicate the positive branding that CSR can create for the company [5]. Along with these studies that demonstrate the textbook pathways of CSR impact, there is also evidence that political control over public sector enterprises affects CSR investments [6, 15]. Misuse has also been documented, like CSR was used in Tanzania as a means to build political careers for business-persons [8]. In Portugal, politically connected firms used CSR funds to improve the image of their connected politicians [2]. Our work comes closest to these papers about potential misuse of CSR funds. We however take a quantitative approach through our rich dataset at the company level, unlike the qualitative approach taken in other studies.

The fact that CSR is used as a mechanism for favours between companies and politicians is not altogether surprising. Mian et al. [7], for example, found that in Pakistan the bigger, politically connected firms have access to loans of much higher amounts from government banks as compared to unconnected firms. Another study by Mara Facio [4] showed that across countries, sharp increases in stock prices of companies occur when they form new political connections. In the Indian context, Sandip Sukhtankar [14] has shown how during election years, politically connected sugar mills paid lower prices of sugarcane to farmers, and the savings from this were used to fund election campaigns for local politicians. This loss caused to the farmers was later compensated through waivers and other public policies when the politician won. In this paper, we do not study corporate-government interlocks specifically, but we observe the effect of these interlocks on CSR decisions of companies.

Our observations are timely. The Government of India set up a high level committee in 2018 to review CSR operations, and noted that districts actually in need of development assistance were not getting much funds [11]. Our findings support this observation, and we go beyond to identify potentially corrupting factors that drive CSR investments. These insights can help the government improve the CSR policy.

### **DATASETS**

Our analysis makes use of the following sources of data:

- Company specific CSR data, containing the CSR expenditure made by each company disaggregated into the sector and the district where the investments were made, separately for each year. This data was obtained from the government website <a href="http://www.csr.gov.in">http://www.csr.gov.in</a> for the years 2014 to 2017.
- Political data with information about the Member of Parliament (MP)'s name, political party, and constituency for

both the Lok Sabha (lower house of the Indian Parliament) and the Rajya Sabha (upper house of the Indian Parliament). This data was obtained from a popular website that has tracked all national elections since 1952 and state elections since 1977: http://www.indiavotes.com

- Corporate data comprising the company's name, its industry sector, and details of its directors, for approximately 90,000 large companies. These companies were sampled through a snowball strategy starting with 5,000 publicly listed companies in India, and adding more companies that shared directors with those in the seed set of companies. The snowball sampling was done to a depth of 2. This data was collected from the Ministry of Corporate Affairs website: www.mca.gov.in.
- Corporate-government interlocks between these companies and their directors, with national level politicians (Lok Sabha and Rajya Sabha members of parliament between the years 2004 and 2018) and bureaucrats (current and retired officers of the Indian Administrative Services, between the years 1961 and 2018). We reported in detail the construction of this dataset in another study [13], including our use of extensive entity resolution methods to match people and organizations from multiple datasets, and the use of this dataset to eventually develop an indicator of corporategovernment interlocks. Lately we have also added information to this dataset about soft interlocks between companies and political parties, if a company makes a donation to a political party. We obtained this information from the website of the Association of Democratic Reforms, a well-known non-profit organization that has worked since many years to bring transparency to the democratic process in India: http://myneta.info/party/.
- Addresses of factories or plants owned by large companies, collected from the website <a href="https://www.dynamiclevels.com/">https://www.dynamiclevels.com/</a>. This gave us data of 17,330 factories belonging to 2,419 companies. We do not have evidence of the completeness and accuracy of this data, but we assume that since the website is owned by a company which is a registered stock broker that has been providing equity based research and advice since many years, so it is likely to be a reliable source of data.

We undertook careful resolution steps to combine these different datasets together. In most cases, the unique Company Identification Number (CIN) available in the datasets helped us match companies together. To match locations, we used string matching to first resolve the locations with Indian census codes, and then used it as a common field to link the datasets together. Any locations that could not matched because the district names had changed, or larger districts had split into smaller districts, were resolved manually.

# AGGREGATE ANALYSIS OF CSR INVESTMENTS

We first start with a broad characterization study of the CSR data. Table 1 shows the total amount of CSR investment in the four financial years, and Figure 1 shows how it was allocated across different development sectors such as agriculture, environment, health, education, rural development, etc.

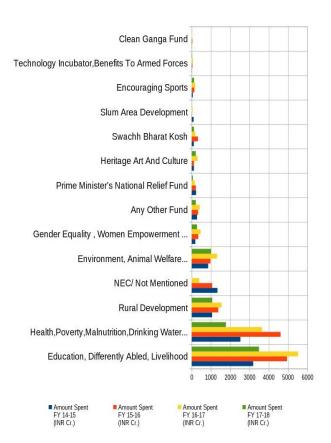


Figure 1. Sector wise CSR investments

There is clearly a skew towards the categories of education and livelihood, and of health and nutrition. We then look at the allocation across different states, and again find a significant skew - Maharashtra corners almost 16% of the total CSR investment in India, followed by Karnataka (5.75%), Andhra Pradesh (5.19%), and Gujarat (4.76%). Figure 2 shows the per-capita CSR investment for different states, and again states like Goa, Maharashtra and Andhra Pradesh see much larger CSR investments than other states. In fact, some of the poorest states of India like Bihar, Jharkhand, and Madhya Pradesh, and several North Eastern states, get a per-capita CSR investment below INR 25. This encourages us to investigate possible reasons behind such a skewed distribution to understand why some of the most deserving geographies for CSR funds do not get adequate attention.

### **RESEARCH QUESTIONS**

We answer the research questions by constructing OLS (Ordinary Least Squares) and logistic regression models. We first describe the different variables we constructed and then present the analysis results.

## **Variables**

## Development related variables

Some parliamentary constituencies in India are reserved for marginalized groups, categorized as Scheduled Castes (SC) and Scheduled Tribes (ST) [16]. We develop binary variables for the *type of constituency*, of whether it is general (GEN),

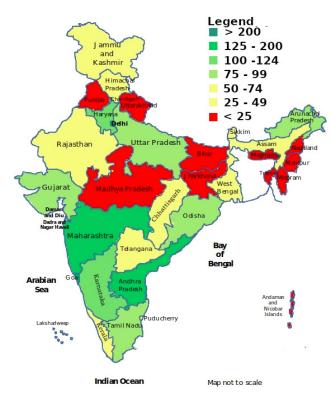


Figure 2. State wise per-capital CSR investments

SC or ST. Further, the government has built a list of 117 most under-developed districts, called aspirational districts, and we use a binary variable for whether a district is *aspirational* or not. To link parliamentary constituencies and districts, we manually map constituencies to districts since some districts can be a part of more than one constituency. We then use the following variables in our analysis.

- (*Type of constituency GEN*) x (*Not aspirational*)
- (Type of constituency SC) x (Not aspirational)
- (Type of constituency ST) x (Not aspirational)
- (Type of constituency GEN) x (Aspirational)
- (Type of constituency SC) x (Aspirational)
- (Type of constituency ST) x (Aspirational)

To assess the socio-economic development of a district, since we do not have reliable and recent district-level GDP data for all districts, we use a proxy measure based on satellite data that we developed in a different study [1]. In that work, we built a method using daytime satellite imagery to assess the socio-economic development of a district on six factors: condition of households, asset ownership, main source of water, main source of lighting, fuel used for cooking, and bathroom facilities. Following the HDI (Human Development Index) methodology to combine health, education, and economic indicators in an equally weighted manner, we similarly combined these factors into a common index that we called the ADI (Aggregate Development Index). We further observed that

classifiers based on satellite data could not be transferred in a straightforward manner over time, ie. models trained on data from one year did not necessarily work well on test data from another year. We therefore developed and validated methods to make temporally transferrable models that were trained using ground-truth from the 2011 Indian census and could be applied on satellite data from other years. We use this method to obtain ADI values for all the districts, to build a variable for the socio-economic development of districts:

• Aggregate Development Index (ADI): This gives a value between 6-18 for each district. We approximate the ADI of a constituency as the mean value of the ADI of the districts that it spans.

## Industry Related Variables

We use the following variables to capture the interest that companies may have in different locations:

- Number of factories in a constituency: This tells us the number of factories located in a constituency, serving as an indicator of the degree of industrialization of the location.
- Total CSR amount invested by companies in the constituency: This is the sum of all CSR investments made in the districts of a constituency.

To capture the interests of a specific company in a specific location, we also build a binary variable:

- Company has a factory located in the constituency: This
  variable denotes whether the company under consideration
  has a factory located in the district under consideration.
- CSR invested by companies of same sector: This variable denotes number of companies from the sector of the company under consideration have also invested CSR in district under consideration.

## Political Variables

The following variables carry political information about different locations:

- *Vote margin*: This gives the vote margin (%) between the elected MP of a constituency and the runner-up, based on the 2014 national election in India.
- State alignment: This is a binary variable that denotes whether the MP of a constituency also belongs to the same political party or alliance that is in power in the state. In case multiple parties were in power in the state during the years for which we study CSR investments, for the purpose of alignment we consider the party in power for the longest duration during this time.
- *Centre alignment*: This again is a binary variable that denotes whether the MP of a constituency also belongs to the same political party or alliance in power at the center.
- *MP* is a minister: This is a binary variable that denotes whether the elected MP from a constituency is also a cabinet or union minister in the center.
- Rajya Sabha MP is a minister and uses MPLAD funds for the constituency: Several cabinet and union ministry posts

are also held by Rajya Sabha MPs who were not elected via national elections. We consider that such ministers may also have an affiliation with specific constituencies, which can be inferred from their selection of the constituency as a recipient of MPLAD (Member of Parliament Local Area Development) funds. The MPLAD scheme allocates a certain amount of budget to each MP, which they can utilize for the development of their constituency, or in the case of Rajya Sabha MPs they can choose any constituency for this scheme [9].

We additionally build the following variables to capture the political interest that companies may have in specific locations.

- Ministry-Company interaction: This is a binary variable that denotes whether the ministry in which the elected MP (or the affiliated Rajha Sabha MP) from the constituency is a minister, also operates in an industry sector that is of interest to the company. Recall that the MCA dataset gives us information about the industry sector of each company, based on its NIC (National Industry Classification) code. The NIC system has changed several times over the last few decades but mapping tables are available which we used to map companies to a common industry coding schema. We then aggregated these industry sectors into 19 high-level sectors such as manufacturing, mining, IT services, telecom, etc. Finally, we manually built a mapping between each of these industry sectors and the set of ministries in India. This is a many-to-many mapping since multiple ministries could be relevant to an industry sector.
- Political party-Company interlock: Using our dataset of corporate-government interlocks, this is a binary variable that captures whether the political party of the elected MP from the constituency, has any member who is a director in the company. This therefore helps us relate politically connected companies with the parties to which they may have an affiliation.
- Political party-Company donations: This is a binary variable that captures whether the company donated funds to the political party of the elected MP from the constituency.

Using the developmental, industry related and political variables, we now answer the research questions in the following sections.

## Research Question #1

Do less developed constituencies and districts get more CSR funds?

Ideally districts with lower ADI values should receive more CSR funds. We begin with plotting CDFs of the amount of CSR funds received by districts, separately for different ADI values. We consider three ranges for ADI: between 6-10 as low ADI districts, 11-14 as medium ADI districts, and 15-18 as high ADI districts. We study this both for ADI as of 2011 when the Indian census was last done, and 2019 for which ADI values are estimated using the satellite-data based classification models. This is shown in Figures 3 and 4.

We can see that although each range of ADI values has several districts that received no CSR funding, the amounts funded

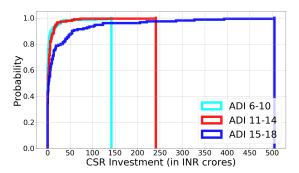


Figure 3. ADI 2011 vs CSR

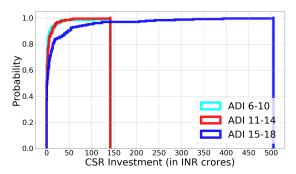


Figure 4. ADI 2019 vs CSR

in high-ADI districts is much more than that received by low-ADI districts. While 10% (24) of the high-ADI districts received more than INR 50 crores, hardly 1% of the low-ADI and medium-ADI districts received similar amounts (only three low-ADI and three medium-ADI districts received similar amounts). 27% (196) of the districts did not receive any CSR funds, including 32 aspirational districts that saw no CSR funds. On the other hand, cities like Mumbai and Pune received more than 500 crores of CSR funds each. These findings clearly show that CSR investments in districts is not proportional to the developmental needs of the districts.

We next run OLS regressions for three models to understand better why some constituencies get more CSR funds than others. The output variable in each model is the total CSR amount funded in a constituency.

# Model 1

Here, only development related variables are retained as independent variables. Table 2 shows the coefficients and p-values of the variables. ADI is the only variable that has a statistically signification relationship with the total CSR amount funded in a district, and it has a positive coefficient, indicating that well developed districts tend to get more CSR funding. The reservation status of a constituency or whether it contains aspirational districts or not, does not have a relationship with the CSR funding that it receives.

## Model 2

Here, we also add an industry related variables for the *number of factories in the constituency*. The new variable has a

Independent Variables	Model 1	Model 2	Model 3
ADI	0.0899	0.059	0.055
ADI	$(0.000)^{***}$	$(0.000)^{***}$	(0.000)***
(CEN) ( ( and a minution of )	0.007	0.008	0.006
(GEN)×(not aspirational)	(0.283)	(0.192)	(0.268)
(SC)×(not aspirational)	-0.018	-0.021	-0.02
	(0.056)	(0.017)*	(0.019)*
(ST) × (not aspirational)	0.001	-0.005	-0.007
(ST)×(not aspirational)	(0.906)	(0.665)	(0.580)
(CEN) × (aspirational)	0.006	0.004	0.005
(GEN)×(aspirational)	(0.430)	(0.572)	(0.493)
(SC) v (agricutional)	-0.011	-0.005	-0.006
(SC)×(aspirational)	(0.509)	(0.731)	(0.667)
(ST)×(aspirational)	-0.002	0.003	0.001
(S1)×(aspirational)	(0.878)	(0.768)	(0.915)
Number of factories	-	0.359	0.356
in the Constituency		(0.000)***	(0.000)***
Vote Margin	-	-	0.006
vote Margin			(0.723)
State Alignment	-	-	0.010
State Alignment			(0.112)
Centre Alignment	-	-	0.005
Centre Anginnent			(0.947)
MP is Minister	-	-	-0.005
IVIF IS IVIIIISTEI			(0.637)
Rajya Sabha MP	-	-	0.04
-Minister-MPLAD			(0.01)*
Total Constituencies	543	543	543
Intercept	-0.02	-0.016	-0.021
R Square	0.121	0.283	0.296

Table 2. Results for research question #1: Do less developed constituencies and districts get more CSR funds?

highly significant positive relationship, and the significance of the ADI is also retained, showing that more industrialized constituencies tend to get more CSR funds.

## Model 3

We next add several political variables as well. We find that while ADI and the industrialization of the constituency continue to remain significant and positively related, a weak relationship also exists with whether or not a Rajha Sabha MP affiliated with the constituency is a minister or not. Ministers are in a powerful position to influence policies and government contracts, and this positive relationship indicates that having powerful Rajya Sabha MPs can improve the chances of a constituency to get CSR funds. Lok Sabha MPs who might also hold a ministerial post do not have such a relationship though. Other variables of vote margin and state/center alignment also do not have a significant relationship.

## **Research Question #2**

How does a company decide where to invest its CSR funds? We next analyze from the company's point of view to determine where it invests its CSR funds. The dependent variable is a binary variable of whether a company invests in a constituency or not. We carry out a logistic regression against independent variables on the following three models. The data set contained 25,85,296 data points out of which only 8165 belonged to the positive class, so the majority class data was randomly under sampled to create a balanced data set. We took 10,000 random data points belonging to negative class. So in total we had 18,165 data points

#### Model 1

As shown in Table 3, the first model only includes the development variables related to the constituency. ADI again emerges as a significant factor with a positive coefficient, showing that companies tend to invest in more developed constituencies. The reservation status of the constituency, and whether it is an aspirational district or not, does not have a relationship with the company's decision of where to invest its CSR funds.

#### Model 2

We next add industry related variables of company having a factory located in the constituency and CSR investment by companies of the same sector in the constituency. We find that strong positive relationship exists for both these variables along-with ADI. This clearly shows that companies tend to invest in locations where they work and there peers are investing, potentially for the community development of the areas.

### Model 3

We next add political variables and find an interesting range of relationships. State and center alignment are significantly and positively related, showing that companies do tend to invest in locations that are ruled by MPs belonging to political parties that are in power at the time. Also strongly significant and positively related is whether a Rajya Sabha MP affiliated with the constituency is a minister or not. Lok Sabha MPs who may also hold a ministerial post do not have such a relationship, possibly indicating that companies are reluctant to be seen as openly associating with politicians who contest elections. A weakly significant negative relationship is seen between whether the elected MP or affiliated Rajya Sabha MP from the location works in a ministry that is directly related to an industry sector of relevance for the company. This again shows that companies seem to be careful to not be seen as associating with locations that may point to them seeking favours from politicians. Contrary examples do exist however, as we show in the next section. Variables related to interlocks between companies and political parties, and prior donation history of companies to political parties, also do not seem to have a statistically significant influence.

Thus, we find that a company's choice of CSR location is influenced by variables like the state alignment of the constituency, centre alignment, and an interest by Rajya Sabha MPs in the constituency.

## **DISCUSSION**

The regression models we tested above, do indicate that political equations may play a role in a company's decision of where to invest its CSR funds. We even discovered a few interesting cases as follows:

- 1. During the tenure of Mr. Ashok Gajapathi Raju Pusapati (Telugu Desam Party) as Minister of Civil Aviation during 2016-17, INR 0.72 crores were spent by Delhi Duty Free Services Pvt. Ltd. (DDFS) in the district of Vizianagaram. DDFS operates duty free store at the Delhi International Airport and Mr. Ashok Gajapathi Raju is the Lok Sabha MP from Vizianagaram constituency.
- 2. INR 0.50 crores were spent by RITES Limited as part of their CSR in Nowgong, the constituency of Mr. Rajen

Independent Variables	Model 1	Model 2	Model 3
	4.249	2.363	2.363
ADI	(0.000)***	(0.000)***	(0.000)***
(CENT)( 1 1 1)	-0.235	-0.288	-0.327
(GEN)×(not aspirational)	(0.732)	(0.864)	(0.729)
(90) ( 1 1 1)	-0.627	-0.355	-0.382
$(SC)\times(not aspirational)$	(0.735)	(0.819)	(0.634)
(CT) (+:+:1)	-0.587	-0.515	-0.619
$(ST)\times (not aspirational)$	(0.865)	(0.975)	(0.774)
(CEN) ((iti1)	-0.644	-0.463	-0.478
(GEN)×(aspirational)	(0.613)	0.921	0.983
(SC)×(aspirational)	-0.739	-0.537	-0.575
(SC)×(aspirational)	(0.904)	(0.058)	$(0.041)^*$
(OT) (	-0.551	-0.33	-0.619
$(ST) \times (aspirational)$	(0.709)	(0.835)	(0.571)
Company has a factory		4.011	3.984
located in constituency	-	(0.000)***	(0.000)***
CSR invested by		20.223	19.884
companies of same sector	-	(0.000)***	(0.000)***
Vota Manain	-	-	0.213
Vote Margin			(0.032)*
Ct-t- A1:	-	-	0.656
State Alignment			(0.000)***
Control Alicenses	-	-	0.315
Centre Alignment			$(0.000)^{***}$
MP is Minister	-	-	-0.066
WII IS WIIIISTEI			(0.367)
Rajya Sabha MP	-	-	0.427
-Minister-MPLAD			$(0.000)^{***}$
Ministry Company	-	-	-0.377
Interaction			(0.003)*
Political Party	-	-	0.301
-Company Interlock			(0.664)
Political Party		_	-0.04
-Company Donations	-	_	(0.784)
Intercept	-3.158	-2.489	-2.74
R Square	0.194	0.351	0.354

Table 3. Results for research question #2: How does a company decide where to invest its CSR funds?

Gohain from the Bhartiya Janata Party, when he was the Minister of State in the Ministry of Railways. RITES is a multi-disciplinary consultancy organization in the fields of transport, infrastructure and related technologies, and the export arm of the Indian Railways for rolling stock of locomotives and other equipment.

- 3. CSR expenditure through companies like Shanthi Gears (involved in gear manufacturing) and Epic Alloy Steel Private Limited (which operates steel mills and blast furnaces) was spent at Raigarh, the constituency of the Minister of State for Steel in the central government, Mr. Vishnu Deo Sai (from the Bhartiya Janata Party).
- 4. Siro Clinpharm Private Limited and Tulip Diagnostics Private Limited, both belonging to the healthcare industry, invested in North Goa, the Lok Sabha constituency of Mr. Shripad Naik from the Bhartiya Janata Party, Union Minister of State (Independent Charge) in the Ministry of AYUSH which looks at alternate medicine systems in India.

In prior work [13], we studied the evolution of corporategovernment interlocks formed through explicit relationships between companies, their directors, and politicians and bureaucrats. We found that interlocks through bureaucrats, especially retired bureaucrats who took up corporate appointments post

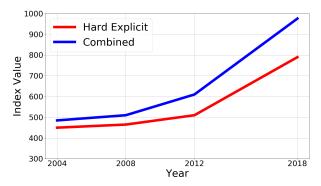


Figure 5. Interlocks over the years

their retirement from administrative services, were much larger in number than interlocks through politicians. We also found that the index of interlock developed by us, had grown rapidly over the years. Our data also revealed specific industry sectors and specific government ministries that had stronger interlocks than others. With new data on political donations made by companies, and also implicit relationships arising from CSR donations made by companies, we develop an additional index that takes such implicit relationships into account as well. Figure 5 shows the two indexes, of explicit interlocks, augmented with implicit interlocks of donations by companies to political parties, and of CSR investments made by companies in constituencies of MPs who are ministers in a ministry that is closely connected with the industry sectors in which the company operates. This new index follows the same trend and is stronger due to the new implicit relationships factored in the calculation.

## CONCLUSION

In this paper, we investigated patterns of how companies decide where to invest their CSR funds. We found that companies prefer to invest in locations where they may have factories, for the development of communities in the nearby areas. We however also found that areas which are already well developed, receive more CSR funds, while some of the most underdeveloped districts in the country do not get any CSR funds. We also found a non-trivial relationship of the company's decisions being influenced by political factors, such as a higher chance of making investments in locations from which the elected MPs belong to the same political party that is in power at the state or center, or whether or not the MPs affiliated with these location hold ministerial posts. We therefore feel that CSR investments should be regulated to some extent, so that areas in more dire need of welfare funds are not left behind, and that CSR does not become a tool of quid-pro-quo between companies and politicians.

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