Activist paper preliminary output

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The purpose of this document

The research question of this paper is to learn whether there are any network effects among the 'active' and 'passive' activist investors over the span of the activists' campaign. This document contains a summary of my progress with this project. Research approach section is basically copied from my original proposal to remind the reader about my research approach.

Table 1: **Summary of events by hedge fund stated goals - the whole 2015.** The sample consists of 467 activist campaigns in 2015, of which 352 contain demands.

Activist' Objective	Num. of events	% of Sample	% of Success
General undervaluation/maximize shareholder value	115	13.1%	NA
Excess cash, under-leverage, dividends/repurchases	94	10.7%	64.9%
Equity issuance, restructure debt, recapitalization	32	3.64%	56.2%
Operational efficiency	61	6.94%	50.8%
Lack of focus, business restructuring and spinning off	84	9.56%	73.8%
M&A: as target (against the deal/for better terms)	64	7.28%	32.8%
M&A: as acquirer (against the deal/for better terms)	17	1.93%	82.4%
Pursue growth strategies	8	0.91%	50%
Sell company or main assets to a third party	135	15.4%	48.1%
Take control/buyout company and/or take it private	46	5.23%	41.3%
Rescind takeover defenses	43	4.89%	46.5%
Oust CEO, chairman	65	7.39%	53.8%
Board independence and fair representation	286	32.5%	69.6%
More information disclosure/potential fraud	56	6.37%	17.9%
Excess executive compensation/pay for performance	57	6.48%	50.9%
Institute enviromental protection policy	21	2.39%	0%
Public Short Position/Bear Raid	2	0.228%	NA
Sum of categories not falling into general undervaluation	764	86.9%	60.9%

Table 2: **Summary of events by hedge fund stated goals - the merged subsample of 2015.** The sample consists of 104 activist campaigns in 2015, of which 104 contain demands. The campaigns that fall into general undervaluation category are not considered here.

Activist' Objective	Num. of events	% of Sample	% of Success
General undervaluation/maximize shareholder value	0	0%	NA
Excess cash, under-leverage, dividends/repurchases	73	15.4%	68.5%
Equity issuance, restructure debt, recapitalization	41	8.67%	82.9%
Operational efficiency	47	9.94%	46.8%
Lack of focus, business restructuring and spinning off	69	14.6%	71%
M&A: as target (against the deal/for better terms)	46	9.73%	32.6%
M&A: as acquirer (against the deal/for better terms)	15	3.17%	80%
Pursue growth strategies	6	1.27%	33.3%
Sell company or main assets to a third party	103	21.8%	52.4%
Take control/buyout company and/or take it private	12	2.54%	33.3%
Rescind takeover defenses	29	6.13%	48.3%
Oust CEO, chairman	50	10.6%	60%
Board independence and fair representation	135	28.5%	71.9%
More information disclosure/potential fraud	36	7.61%	22.2%
Excess executive compensation/pay for performance	44	9.3%	50%
Institute enviromental protection policy	5	1.06%	0%
Public Short Position/Bear Raid	2	0.228%	NA
Sum of categories not falling into general undervaluation	473	100%	66.8%

Table 3: **Sussess rate by stage - the whole 2015.** This table provides the breakdown of stages at which the campaign is terminated. The table is based on the sample of all campaigns that took place in 2015. The data on campaign avalability comes from SharkWatch database. Campaigns were manually classified.

Exit after	Num. of campaigns	% of Sample	Number of Successes	% of Successes
Demand negotiations	336	29.7%	214	63.7%
Board representation	433	38.3%	228	52.7%
Proxy fight	362	32%	247	68.2%

Table 4: **Sussess rate by stage - the merged subsample.** This table provides the breakdown of stages at which the campaign is terminated. The table is based on the observations that are left after the campaigns data is merged with 13F data. The data on campaign avalability comes from SharkWatch database. Campaigns were manually classified.

Exit after	Num. of campaigns	% of Sample	Number of Successes	% of Successes
Demand negotiations	187	39.5%	124	66.3%
Board representation	55	11.6%	23	41.8%
Proxy fight	231	48.8%	169	73.2%

Table 5: **Descriptive statistics.** This table provides summary statistics on the variables used in preliminary analysis. The variables are grouped by type. *won_brep_percent* is the percentage of board seats won out of the number of activists' nominees. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *sales_growth* is the growth of sales over the span of the campaign. *oper_profit_growth* is an operational profitability growth over the span of the campaign. Operational profitability is defined as in Ball et. al (2016). *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. *spring measure* corresponds to the edges of Spring Network, which is described above. *number of connections* corresponds to Number of Connections Network, where the weight of the edge is number of connections between two activists. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. *mtb* is the market-to-book ratio of the company. *oper_profit* is an operating profitability of the company. *roa* is return on company's assets. *tobins_q* is the company's Tobin's Q. *asset_turnover* is the company's asset turnover. *rd_to_assets* is a share of R&D expenditures to the company's assets. *revtq* is the quartely revenue, and *saleq* are the company's sales.

Variable type	Variable	min	p25	mean	median	p75	max	sd
campaign outcome	checked_board_seats_won	0	0	1.51	1	2	7	1.46
campaign outcome	won_board_ind	0	0	0.71	1	1	1	0.46
campaign outcome	success_of_stated_obj	0	0	0.64	1	1	1	0.48
campaign outcome	sales_growth	-0.96	-0.02	0.4	0	0.03	25.38	3
campaign outcome	oper_profit_growth	-10.47	-0.02	0.1	0	0.07	11.09	1.51
activists' persuasiveness	log(active.activist.size)	3.23	7.36	9.64	9.07	11.58	17.54	3.18
network variable	investor.number	2	54	63.75	72	85	123	27.64
network variable	total.activist.number	1	53	62.69	71	83	122	27.62
network variable	log(activist.size.vweighted)	9.79	10.69	12.66	10.98	12.57	23.11	3.1
network variable	log(activist.size.average)	9.38	10.23	12.1	10.37	11.17	19.81	3.18
network variable	log(inv_size_nw_s)	12	15.12	17.94	16.17	20.48	28.35	3.92
network variable	log(inv_size_nw_spr)	3.52	6.99	9.73	8.45	12.18	19.8	3.87
network variable	log(act_size_nw_s)	-Inf	15.11	-Inf	16.16	19.73	28.29	NaN
network variable	log(act_size_nw_spr)	-Inf	6.86	-Inf	8.3	11.74	19.76	NaN
network variable	log(act_s_clos)	-4.46	-1.11	-0.36	0.44	0.78	2.41	1.54
network variable	log(oth_s_clos)	-3.66	-1.36	-0.81	-0.66	-0.01	2.45	1.12
network variable	log(act_s_betw)	-2.46	-0.17	0.52	0.68	0.89	2.45	0.89
network variable	log(oth_s_betw)	-5.84	-1.07	-0.7	-0.45	0.15	2.21	1.45
network variable	spring fund	0	0	0.02	0	0.01	0.97	0.04
network variable	# of connections fund	1	1	30.61	4	15	3369	129.49
network variable	spring top20	0	0	0.02	0	0.01	0.97	0.04
network variable	# of connections top20	1	1	30.61	4	15	3369	129.49
control variable	log(size)	3.03	5.81	7.45	7.24	8.74	13.03	2.09
control variable	age	1	11	23.45	19	32.5	53	15.1
control variable	leverage	-30.1	0.1	1.17	0.43	1.19	112.41	6.16
control variable	mtb	-113.94	1.21	2.98	1.69	2.69	316.84	16.74
control variable	oper_profit	-1061	10.65	720.09	58.57	262.71	21332	2595.16
control variable	roa	-1938.71	-40.96	53.59	41.28	122.54	4325.62	351.92
control variable	tobins_q	0.17	0.86	1.45	1.19	1.59	19.54	1.64
control variable	asset_turnover	-0.06	0.08	0.19	0.16	0.25	1.2	0.16
control variable	rd_to_assets	0	0	36.63	0	4.92	1444	171.03
control variable	revtq	-1569.77	78.19	4160.4	294.94	1247.88	124238	14395.7
control variable	saleq	5.54	66.37	4881.28	242.01	1771	35712	10729.93

Table 6: **Correlation table.** *won_brep_percent* is the percentage of board seats won out of the number of activists' nominees. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board. *success_of_stated_obj* is an indicator of fulfillment of activists' demands. *sales_growth* is the growth of sales over the span of the campaign. *oper_profit_growth* is an operational profitability growth over the span of the campaign. Operational profitability is defined as in Ball et. al (2016). *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. *spring measure* corresponds to the edges of Spring Network, which is described above. *number of connections* corresponds to Number of Connections Network, where the weight of the edge is number of connections between two activists. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. *mtb* is the market-to-book ratio of the company. *oper_profit* is an operating profitability of the company. *roa* is return on company's assets. *tobins_q* is the company's Tobin's Q. *asset_turnover* is the company's asset turnover. *rd_to_assets* is a share of R&D expenditures to the company's assets. *revtq* is the quartely revenue, and *saleq* are the company's sales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 checked_board_seats_won	1																				
2 won_board_ind	0.67	1																			
3 success_of_stated_obj	0.23	0.22	1																		
4 sales_growth	-0.05	-0.18	0.09	1																	
5 oper_profit_growth	0.06	0.06	-0.03	-0.11	1																
6 log(active.activist.size)	-0.16	-0.23	0.06	0.18	0.07	1															
7 investor.number	0.25	0.3	0.01	-0.1	-0.08	-0.64	1														
8 total.activist.number	0.25	0.3	0.01	-0.1	-0.08	-0.64	1	1													
9 log(activist.size.vweighted)	-0.3	-0.32	0.06	0.17	0.02	0.79	-0.73	-0.73	1												
10 log(activist.size.average)	-0.28	-0.31	0.03	0.14	0.03	0.8	-0.83	-0.83	0.97	1											
11 age	-0.21	-0.22	-0.04	0.19	0.01	0.27	0	-0.01	0.19	0.15	1										
12 leverage	-0.03	0.1	-0.03	-0.01	0.01	0.06	-0.02	-0.02	0.01	0	0.03	1									
13 log(size)	-0.01	0.01	-0.03	-0.05	0.03	0.26	0.11	0.11	0.11	0.03	0.53	0.04	1								
14 mtb	0.08	0.14	-0.02	0.02	0	0.06	-0.03	-0.03	0.01	0.01	0.03	0.96	0.04	1							
15 oper_profit	-0.2	-0.3	-0.2	-0.06	-0.01	-0.02	0.04	0.04	0.03	0.01	0.37	0	0.56	0.01	1						
16 roa	-0.09	-0.06	0.04	0.08	0.08	0.06	-0.05	-0.05	0.06	0.05	0.12	0.02	0.04	0	0.01	1					
17 tobins_q	0.38	0.15	0.11	0.25	0.02	0	-0.03	-0.02	0.01	-0.01	-0.08	0.01	-0.05	0.08	0.01	-0.02	1				
18 asset_turnover	0.08	0.08	-0.03	-0.15	-0.02	-0.02	0	0	-0.05	-0.04	0.11	-0.03	-0.03	0.03	0.11	0	-0.06	1			
19 rd_to_assets	0.05	0.08	0	-0.03	-0.01	0.08	0.03	0.03	0.1	0.05	0.11	-0.02	0.26	0	0.1	-0.05	-0.03	-0.03	1		
20 revtq	-0.22	-0.28	-0.14	-0.04	-0.01	0	0.01	0.01	0.03	0.01	0.38	-0.01	0.55	0	0.95	0.02	-0.01	0.18	0.02	1	
21 saleq	-0.26	-0.32	0.16	-0.1	-0.04	0.36	0.38	0.38	0.19	-0.21	0.56	0.15	0.68	-0.02	0.72	0.17	0.05	0.02	0.03	1	1

Preliminary results

This section contains the tables with output of some preliminary OLS regressions.

Table 7: Logit regressions with robust standard errors

	Dependent variable:							
	won_board_ind							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
total.activist.number	0.023^{***}		0.023^{***}		0.022^{***}		0.022^{***}	
	(0.005)		(0.007)		(0.005)		(0.008)	
investor.number		0.023^{***}		0.023^{***}		0.022^{***}		0.022^{***}
		(0.005)		(0.007)		(0.005)		(0.008)
log(active.activist.size)			−0.002	−0.002			0.001	0.002
			(0.067)	(0.067)			(0.068)	(0.068)
exit_s_board					−0.790	−0.789	−0.791	−0.791
					(0.736)	(0.736)	(0.746)	(0.746)
exit_s_proxy					-0.857^{**}	-0.857^{**}	-0.858^{**}	-0.857^{**}
					(0.368)	(0.368)	(0.370)	(0.370)
Constant	−0.385	−0.412	−0.353	−0.389	0.316	0.289	0.298	0.263
	(0.294)	(0.299)	(1.032)	(1.038)	(0.432)	(0.435)	(1.079)	(1.085)
Observations	268	268	268	268	268	268	268	268

Notes: Logistic regression of the equation $Y = a + bx + gN + controls + e$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. Robust standard errors in parenthesis.

Table 8: Logit regressions with robust standard errors

	Dependent variable:							
	success_of_stated_obj							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
total.activist.number	0.001		0.006		0.002		0.011^{**}	
	(0.003)		(0.005)		(0.004)		(0.005)	
investor.number		0.001		0.006		0.002		0.011^{**}
		(0.003)		(0.005)		(0.004)		(0.005)
log(active.activist.size)			0.077^{*}	0.076^{*}			0.124^{***}	0.123^{***}
			(0.042)	(0.042)			(0.043)	(0.043)
exit_s_board					-0.903^{***}	-0.904^{***}	-1.194^{***}	-1.192^{***}
					(0.320)	(0.320)	(0.351)	(0.350)
exit_s_proxy					0.291	0.290	0.247	0.245
					(0.217)	(0.217)	(0.218)	(0.218)
Constant	0.544^{**}	0.549^{**}	-0.545	-0.531	0.455	0.459	-1.242^{*}	-1.229^{*}
	(0.235)	(0.239)	(0.648)	(0.652)	(0.302)	(0.306)	(0.692)	(0.697)
Observations	473	473	473	473	473	473	473	473

Notes: Logistic regression of the equation $Y = a + bx + gN + controls + e$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. Robust standard errors in parenthesis.

Table 9: OLS regressions with robust standard errors.

	Dependent variable:						
	won_board_ind						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
total.activist.number	0.005***		0.004***		0.004***		0.004**
	(0.001)		(0.001)		(0.001)		(0.002)
investor.number		0.005***		0.004***		0.004***	
		(0.001)		(0.001)		(0.001)	
exit_s_board			−0.121	−0.121	−0.120	−0.120	−0.131
			(0.137)	(0.137)	(0.140)	(0.140)	(0.141)
exit_s_proxy			−0.139**	−0.139**	−0.139**	−0.139**	−0.151**
			(0.056)	(0.056)	(0.056)	(0.056)	(0.069)
age							−0.004*
							(0.002)
log(size)							0.019
							(0.018)
leverage							−0.009
							(0.026)
mtb							0.011
							(0.013)
log(active.activist.size)					−0.002	−0.001	0.003
					(0.013)	(0.013)	(0.017)
Constant	0.428***	0.422***	0.544***	0.539***	0.566***	0.559***	0.517**
	(0.068)	(0.069)	(0.084)	(0.085)	(0.200)	(0.201)	(0.227)
Observations	268	268	268	268	268	268	217
R^2	0.092	0.093	0.110	0.110	0.110	0.110	0.124
Adjusted R^2	0.089	0.089	0.100	0.100	0.096	0.097	0.090

Notes: OLS regression of the equation $Y = a + bx + gN + controls + e$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 10: OLS regressions with robust standard errors.

	Dependent variable:						
	success_of_stated_obj						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
total.activist.number	0.0002		0.0004		0.002**		0.003**
	(0.001)		(0.001)		(0.001)		(0.001)
investor.number		0.0002		0.0004		0.002**	
		(0.001)		(0.001)		(0.001)	
exit_s_board			−0.221***	−0.221***	−0.279***	−0.279***	−0.216**
			(0.077)	(0.077)	(0.079)	(0.079)	(0.094)
exit_s_proxy			0.064	0.064	0.053	0.053	0.046
			(0.048)	(0.048)	(0.047)	(0.047)	(0.055)
log(active.activist.size)					0.027***	0.027***	0.030***
					(0.009)	(0.009)	(0.011)
age							−0.003*
							(0.002)
log(size)							−0.001
							(0.015)
leverage							−0.009
							(0.019)
mtb							0.003
							(0.006)
Constant	0.633***	0.634***	0.613***	0.614***	0.246*	0.249*	0.250
	(0.054)	(0.055)	(0.068)	(0.069)	(0.147)	(0.148)	(0.172)
Observations	473	473	473	473	473	473	384
R^2	0.0001	0.0001	0.033	0.033	0.051	0.051	0.045
Adjusted R^2	−0.002	−0.002	0.027	0.027	0.043	0.042	0.024

Notes: OLS regression of the equation $Y = a + bx + gN + controls + e$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 11: OLS regressions with robust se, operational outcome variables

	Dependent variable:			
	sales_growth		oper_profit_growth	
	(1)	(2)	(3)	(4)
log(active.activist.size)	0.209**	0.045*	0.036	0.034
	(0.083)	(0.024)	(0.045)	(0.047)
total.activist.number	0.006*	0.008**	−0.003	−0.004
	(0.003)	(0.004)	(0.003)	(0.003)
exit_s_board	−0.678**	−0.144	−0.360	−0.391
	(0.274)	(0.127)	(0.273)	(0.265)
exit_s_proxy	0.317	−0.078	−0.285	−0.306
	(0.214)	(0.115)	(0.251)	(0.237)
age		−0.004**		0.006
		(0.002)		(0.008)
log(size)		−0.028*		0.029
		(0.015)		(0.045)
leverage		−0.057		0.009
		(0.041)		(0.020)
mtb		0.020		−0.003
		(0.014)		(0.007)
Constant	−2.152***	−0.457*	0.122	−0.216
	(0.824)	(0.277)	(0.499)	(0.504)
Observations	379	338	303	276
R^2	0.043	0.053	0.015	0.030
Adjusted R^2	0.033	0.030	0.002	0.001

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma N + controls + \epsilon$. *sales_growth* is the growth of sales over the span of the campaign. *oper_profit_growth* is an operational profitability growth over the span of the campaign. Operational profitability is defined as in *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 12: Basic spillower OLS regressions with robust standard errors

	Dependent variable:							
	won_board_ind							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(activist.size.average)	−0.041***		−0.039***		−0.054***		−0.043*	
	(0.009)		(0.009)		(0.017)		(0.023)	
log(activist.size.vweighted)		−0.045***		−0.043***		−0.063***		−0.043**
		(0.009)		(0.009)		(0.018)		(0.020)
exit_s_board			−0.138	−0.143			−0.162	−0.168
			(0.138)	(0.138)			(0.145)	(0.147)
exit_s_proxy			−0.144***	−0.144***			−0.161**	−0.169**
			(0.056)	(0.056)			(0.068)	(0.068)
log(active.activist.size)					0.016	0.020	0.015	0.010
					(0.018)	(0.017)	(0.025)	(0.021)
age							−0.004	−0.003
							(0.002)	(0.002)
log(size)							0.015	0.023
							(0.020)	(0.018)
leverage							−0.010	−0.012
							(0.027)	(0.026)
mtb							0.012	0.012
							(0.014)	(0.014)
Constant	1.222***	1.295***	1.302***	1.375***	1.231***	1.325***	1.190***	1.196***
	(0.106)	(0.117)	(0.107)	(0.118)	(0.107)	(0.122)	(0.190)	(0.185)
Observations	268	268	268	268	268	268	217	217
R^2	0.094	0.102	0.113	0.122	0.098	0.109	0.123	0.125
Adjusted R^2	0.090	0.099	0.103	0.112	0.091	0.102	0.090	0.091

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 13: Basic spillower OLS regressions with robust standard errors

	Dependent variable:							
	success_of_stated_obj							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(activist.size.average)	0.004		0.004		−0.008		−0.022	
	(0.007)		(0.007)		(0.013)		(0.015)	
log(activist.size.vweighted)		0.010		0.011		0.006		−0.004
		(0.007)		(0.007)		(0.013)		(0.015)
exit_s_board			−0.229***	−0.238***				
			(0.077)	(0.077)				
exit_s_proxy			0.054	0.048				
			(0.048)	(0.047)				
log(active.activist.size)					0.016	0.005	0.026*	0.011
					(0.013)	(0.012)	(0.016)	(0.015)
age							−0.003	−0.003
							(0.002)	(0.002)
log(size)							−0.004	0.002
							(0.015)	(0.015)
leverage							−0.009	−0.009
							(0.020)	(0.020)
mtb							0.002	0.002
							(0.007)	(0.007)
Constant	0.591***	0.522***	0.591***	0.514***	0.592***	0.525***	0.748***	0.647***
	(0.087)	(0.094)	(0.086)	(0.090)	(0.087)	(0.095)	(0.136)	(0.139)
Observations	473	473	473	473	473	473	384	384
R^2	0.001	0.004	0.034	0.037	0.005	0.004	0.016	0.009
Adjusted R^2	−0.001	0.002	0.028	0.031	0.001	0.0001	0.001	−0.006

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 14: Basic spillower OLS regressions with robust standard errors

	Dependent variable:							
	won_board_ind							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
inv_size_nw_s	0.000		0.000		−0.000		−0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
inv_size_nw_spr		0.000		0.000		−0.000		0.000
		(0.000)		(0.000)		(0.00000)		(0.000)
exit_s_board			−0.159	−0.146			−0.195	−0.172
			(0.146)	(0.131)			(0.153)	(0.151)
exit_s_proxy			−0.178***	−0.178***			−0.191***	−0.187***
			(0.057)	(0.057)			(0.070)	(0.070)
act_size_nw_s					0.000		0.000	0.000
					(0.000)		(0.000)	(0.000)
act_size_nw_spr						0.000		
						(0.00000)		
age							−0.004*	−0.004*
							(0.002)	(0.002)
log(size)							0.023	0.022
							(0.016)	(0.017)
leverage							−0.024	−0.028
							(0.024)	(0.026)
mtb							0.013	0.014
							(0.010)	(0.010)
Constant	0.703***	0.704***	0.832***	0.832***	0.707***	0.705***	0.782***	0.783***
	(0.029)	(0.029)	(0.045)	(0.045)	(0.029)	(0.029)	(0.128)	(0.131)
Observations	268	268	268	268	268	268	217	217
R^2	0.0003	0.00003	0.030	0.029	0.005	0.0001	0.074	0.069
Adjusted R^2	−0.003	−0.004	0.019	0.018	−0.002	−0.007	0.038	0.033

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 15: Basic spillower OLS regressions with robust standard errors

	Dependent variable:							
	success_of_stated_obj							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
inv_size_nw_s	0.000***		0.000***		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
inv_size_nw_spr		0.000***		0.000***		0.00000*		0.000
		(0.000)		(0.000)		(0.00000)		(0.000)
exit_s_board			−0.271***	−0.277***			−0.232**	−0.248**
			(0.078)	(0.079)			(0.105)	(0.100)
exit_s_proxy			0.055	0.053			0.037	0.037
			(0.046)	(0.046)			(0.054)	(0.054)
act_size_nw_s					−0.000		−0.000	−0.000
					(0.000)		(0.000)	(0.000)
act_size_nw_spr						−0.00000*		
						(0.00000)		
age							−0.003	−0.003
							(0.002)	(0.002)
log(size)							0.011	0.007
							(0.014)	(0.014)
leverage							−0.011	−0.010
							(0.019)	(0.019)
mtb							0.004	0.003
							(0.006)	(0.006)
Constant	0.640***	0.637***	0.640***	0.639***	0.647***	0.635***	0.626***	0.649***
	(0.022)	(0.023)	(0.035)	(0.035)	(0.023)	(0.023)	(0.096)	(0.097)
Observations	473	473	473	473	473	473	384	384
R^2	0.003	0.006	0.044	0.048	0.009	0.013	0.038	0.040
Adjusted R^2	0.001	0.004	0.038	0.042	0.005	0.009	0.017	0.020

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$. *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 16: Basic spillower OLS regressions with robust se, operational outcome variables

	Dependent variable:			
	sales_growth		oper_profit_growth	
	(1)	(2)	(3)	(4)
log(active.activist.size)	0.112**	0.026	0.067*	0.057
	(0.049)	(0.020)	(0.039)	(0.045)
log(activist.size.vweighted)	0.064	−0.041**	−0.038*	−0.017
	(0.048)	(0.020)	(0.020)	(0.018)
age		−0.003**		0.005
		(0.001)		(0.009)
log(size)		−0.011		0.004
		(0.009)		(0.045)
leverage		−0.059		0.010
		(0.044)		(0.024)
mtb		0.021		−0.004
		(0.015)		(0.008)
Constant	−1.549*	0.497***	−0.088	−0.465
	(0.836)	(0.191)	(0.349)	(0.453)
Observations	379	338	303	276
R^2	0.033	0.027	0.008	0.016
Adjusted R^2	0.028	0.009	0.001	−0.006

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$. *sales_growth* is the growth of sales over the span of the campaign. *oper_profit_growth* is an operational profitability growth over the span of the campaign. Operational profitability is defined as in Ball et. al (2016). *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. extitactive.activist.size correponds to the total assets of an activist group, computed from 13F filings. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. Robust standard errors in parenthesis.

Table 17: **Correlation table.** *won_brep_dummy* is an indicator variable equal to 1 when at least 1 activist nominee was elected to the board.*success_of_stated_obj* is an indicator of fulfillment of activists' demands. *active.activist.size* correponds to the total assets of an activist group, computed from 13F filings. *investor.number* is a total number of institutional investors that hold shares of a company. *total.activist.number* is the number of passive activist investors that hold shares of the company. Activist investor is defined as any investor that appeared in SharkWatch database at least once. *activist.size.vweghted* is the sum of all the company's activists' assets weighted by the share of investments in the company. *activist.size.average* is an average of total assets of company's activists. *size* is the market value of the company. *age* is the age of the company. *leverage* is the leverage of the company. *mtb* is the market-to-book ratio of the company. *oper_profit* is an operating profitability of the company. All the other variables are centrality measures of activist network. Centrality captures the importance of the node position in a network. Three centrality measures are used. Closeness centrality shows how close each node to any other node. Betweennes centrality captures how well situated a node is in terms of the paths that it lies on. Degree centrality, is defined a the number of links incident to a node. Bonacich centrality is a degree centrality adjusted for the centrality of the neighbours in a network. The centrality measures were computed for both Simple and Spring networks. (By construction, centrality measures for Simple network are identical to the centrality measures of Number of Connections network.) I aggregated the centrality measures for each campaign. That is, *act_simple_closeness* is a sum of closeness centralities of every active activist participating in a campaign, and *oth_simple_closeness* is a sum of closeness centralities of every passive activist that invested in the company but does not participate in a campaign.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 success_of_stated_obj	1																					
2 won_board_ind	0.22	1																				
3 total.activist.number	0.01	0.3	1																			
4 activist.size.vweighted	-0.05	-0.01	-0.1	1																		
5 activist.size.average	0	-0.14	-0.59	0.76	1																	
6 age	-0.04	-0.22	-0.01	0.01	0.02	1																
7 leverage	-0.03	0.1	-0.02	0.03	0.03	0.03	1															
8 size	-0.16	-0.14	0.05	0.12	0.04	0.38	-0.01	1														
9 mtb	-0.02	0.14	-0.03	0.03	0.03	0.03	0.96	0.01	1													
10 oper_profit	-0.2	-0.3	0.04	0.07	0.02	0.37	0	0.95	0.01	1												
11 act_s_clos	-0.13	-0.02	0.25	-0.05	-0.17	-0.03	0.06	-0.04	0.06	-0.01	1											
12 act_s_betw	-0.19	-0.08	0.18	-0.03	-0.1	-0.01	0.02	-0.03	0.02	0	0.92	1										
13 act_s_bon	0.15	0.03	-0.29	0.06	0.18	0.02	-0.09	0.06	-0.09	0.02	-0.95	-0.91	1									
14 act_sp_clos	-0.13	-0.02	0.25	-0.05	-0.17	-0.03	0.06	-0.04	0.06	-0.01	1	0.92	-0.95	1								
15 act_sp_betw	-0.19	-0.08	0.18	-0.03	-0.1	-0.01	0.02	-0.03	0.02	0	0.92	1	-0.91	0.92	1							
16 act_sp_bon	0.13	0	-0.27	0.06	0.18	0.03	-0.04	0.05	-0.04	0.01	-0.98	-0.89	0.93	-0.98	-0.89	1						
17 oth_s_clos	0.1	0.22	0.56	-0.11	-0.35	-0.14	-0.04	-0.12	-0.05	-0.13	0.14	-0.01	-0.18	0.14	-0.01	-0.18	1					
18 oth_s_betw	0.12	0.26	0.66	-0.1	-0.33	-0.09	-0.05	-0.12	-0.05	-0.12	0.09	-0.01	-0.17	0.09	-0.01	-0.14	0.87	1				
19 oth_s_bon	-0.08	-0.23	-0.59	0.11	0.36	0.13	0.04	0.12	0.04	0.13	-0.1	0.02	0.18	-0.1	0.02	0.17	-0.94	-0.91	1			
20 oth_sp_clos	0.1	0.22	0.56	-0.11	-0.35	-0.14	-0.04	-0.12	-0.05	-0.13	0.14	-0.01	-0.18	0.14	-0.01	-0.18	1	0.87	-0.94	1		
21 oth_sp_betw	0.12	0.26	0.66	-0.1	-0.33	-0.09	-0.05	-0.12	-0.05	-0.12	0.09	-0.01	-0.17	0.09	-0.01	-0.14	0.87	1	-0.91	0.87	1	
22 oth_sp_bon	-0.09	-0.24	-0.55	0.11	0.35	0.16	0.05	0.11	0.05	0.13	-0.11	0.03	0.17	-0.11	0.03	0.18	-0.96	-0.87	0.97	-0.96	-0.87	1

Table 18: OLS regressions with centrality measures, robust se

	Dependent variable:											
	won_board_ind						success_of_stated_obj					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
act_s_clos	−0.044						−0.069*					
	(0.046)						(0.041)					
act_s_betw		−0.087**						−0.094***				
		(0.040)						(0.029)				
act_s_bon			0.064*						0.083**			
			(0.034)						(0.035)			
act_sp_clos				−0.044						−0.069*		
				(0.046)						(0.041)		
act_sp_betw					−0.087**						−0.094***	
					(0.040)						(0.029)	
act_sp_bon						0.041						0.066*
						(0.049)						(0.034)
total.activist.number	0.005***	0.005***	0.005***	0.005***	0.005***	0.005***	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.406***	0.401***	0.389***	0.406***	0.401***	0.406***	0.594***	0.594***	0.578***	0.594***	0.594***	0.592***
	(0.071)	(0.069)	(0.071)	(0.071)	(0.069)	(0.072)	(0.058)	(0.055)	(0.058)	(0.058)	(0.055)	(0.057)
Observations	268	268	268	268	268	268	473	473	473	473	473	473
R^2	0.100	0.107	0.106	0.100	0.107	0.098	0.019	0.037	0.027	0.019	0.037	0.018
Adjusted R^2	0.093	0.100	0.100	0.093	0.100	0.091	0.015	0.033	0.023	0.015	0.033	0.014

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma N + controls + \epsilon$. The regressions are run using the centrality measures to proxy for persuasiveness of an activist. Centrality is a characteristic of a node that captures the importance of the node position in a network. I use three centrality measures for this analysis. Closeness centrality shows how close each node to any other node. Betweennes centrality captures how well situated a node is in terms of the paths that it lies on. Degree centrality, is defined a the number of links incident to a node. Bonacich centrality is a degree centrality adjusted for the centrality of the neighbours in a network. The centrality measures were computed for both Simple and Spring networks. (By construction, centrality measures for Simple network are identical to the centrality measures of Number of Connections network.) After that I aggregated the centrality measures for each campaign. That is, *act_simple_closeness* is a sum of closeness centralities of every active activist participating in a campaign, and *oth_simple_closeness* is a sum of closeness centralities of every passive activist that invested in the company but does not participate in a campaign. *total.activist.number* is the number of passive activist investors that hold shares of the company. Robust standard errors in parenthesis.

Table 19: OLS regressions with centrality measures, robust se

	Dependent variable:											
	won_board_ind						success_of_stated_obj					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
act_s_clos	−0.038						−0.071***					
	(0.030)						(0.022)					
oth_s_clos	0.140***						0.058***					
	(0.036)						(0.022)					
act_s_betw		−0.063						−0.089***				
		(0.042)						(0.022)				
oth_s_betw		0.149***						0.056***				
		(0.033)						(0.022)				
act_s_bon			0.056*						0.084***			
			(0.032)						(0.022)			
oth_s_bon			−0.160***						−0.054**			
			(0.038)						(0.022)			
act_sp_clos				−0.038						−0.071***		
				(0.030)						(0.022)		
oth_sp_clos				0.140***						0.058***		
				(0.036)						(0.022)		
act_sp_betw					−0.063						−0.089***	
					(0.042)						(0.022)	
oth_sp_betw					0.149***						0.056***	
					(0.033)						(0.022)	
act_sp_bon						0.034						0.070***
						(0.031)						(0.022)
oth_sp_bon						−0.162***						−0.058***
						(0.038)						(0.022)
Constant	0.714***	0.712***	0.718***	0.714***	0.712***	0.717***	0.645***	0.645***	0.645***	0.645***	0.645***	0.645***
	(0.027)	(0.028)	(0.028)	(0.027)	(0.028)	(0.027)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Observations	268	268	268	268	268	268	473	473	473	473	473	473
R^2	0.053	0.076	0.063	0.053	0.076	0.064	0.032	0.049	0.036	0.032	0.049	0.030
Adjusted R^2	0.046	0.069	0.056	0.046	0.069	0.057	0.028	0.045	0.032	0.028	0.045	0.026

Notes: OLS regression of the equation $Y = \alpha + \beta x + \gamma \bar{x} + controls + \epsilon$.The regressions are run using the centrality measures to proxy for persuasiveness of an activist. Centrality is a characteristic of a node that captures the importance of the node position in a network. I use three centrality measures for this analysis. Closeness centrality shows how close each node to any other node. Betweennes centrality captures how well situated a node is in terms of the paths that it lies on. Degree centrality, is defined a the number of links incident to a node. Bonacich centrality is a degree centrality adjusted for the centrality of the neighbours in a network. The centrality measures were computed for both Simple and Spring networks. (By construction, centrality measures for Simple network are identical to the centrality measures of Number of Connections network.) After that I aggregated the centrality measures for each campaign. That is, *act_simple_closeness* is a sum of closeness centralities of every active activist participating in a campaign, and *oth_simple_closeness* is a sum of closeness centralities of every passive activist that invested in the company but does not participate in a campaign. Robust standard errors in parenthesis.