Are Incentives for R&D Effective? Evidence from a Regression Discontinuity Approach

Online Appendix

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Table B1

DESCRIPTIVE STATISTICS OF THE SAMPLES USED IN THE REGRESSIONS

Variable	All firms				Small firms				Large firms			
	Min	Max	Median	Mean	Min	Max	Median	Mean	Min	Max	Median	Mean
Total investment/ pre-program sales	-0.189	0.413	0.017	0.042	-0.189	0.413	0.023	0.053	-0.186	0.374	0.012	0.031
Tangible investment / pre-program sales	-0.372	0.471	0.005	0.027	-0.336	0.471	0.003	0.027	-0.372	0.354	0.008	0.026
Intangible investment / pre-program sales	-0.153	0.376	0.001	0.015	-0.112	0.376	0.004	0.026	-0.153	0.192	0.000	0.005
Total investment/ pre-program asset	-0.291	0.576	0.020	0.047	-0.291	0.576	0.028	0.062	-0.171	0.480	0.012	0.032
Tangible investment / pre-program asset	-0.316	0.707	0.005	0.032	-0.316	0.707	0.004	0.033	-0.153	0.484	0.008	0.030
Intangible investment / pre-program asset	-0.154	0.370	0.001	0.015	-0.154	0.370	0.005	0.029	-0.138	0.149	0.000	0.002
Total investment/ pre-program capital	-1.000	10.429	0.139	0.491	-1.000	10.429	0.246	0.728	-0.693	6.662	0.081	0.256
Tangible investment / pre-program capital	-0.749	6.504	0.046	0.266	-0.749	6.504	0.046	0.339	-0.604	3.438	0.051	0.194
Intangible investment / pre-program capital	-0.653	8.953	0.005	0.225	-0.585	8.953	0.042	0.389	-0.653	5.900	-0.002	0.061
Total Investment	-103863	55137	80	769	-986	2962	61	236	-103863	55137	289	1300
Tangible investment	-43504	59262	29	895	-1004	3156	13	146	-43504	59262	160	1640
Intangible investment	-118504	35658	5	-126	-426	1905	17	90	-118504	35658	-9	-340
Labor costs/ pre-program sales	0	2.424	0.654	0.698	0.000	1.891	0.684	0.738	0.105	2.424	0.636	0.659
Service costs/ pre-program sales	0.100	4.556	0.901	0.989	0.296	4.556	1.028	1.120	0.100	2.554	0.754	0.859
Log (Employment)	1.386	10.040	5.394	5.625	1.386	5.497	4.564	4.484	4.443	10.040	5.967	6.189
Log (Wages)	3.171	4.821	3.743	3.756	3.171	4.280	3.688	3.697	3.367	4.821	3.763	3.784

Table B2

RESULTS FOR EMPLOYMENT AND WAGES

	Outcome variable: Log (Employment)			Outcome variable: Log (Wages)		
	All firms	Small firms	Large firms	All firms	Small firms	Large firms
Panel A1. Full sample						
Order of polynomial						
0	0.284*	0.226*	0.237*	0.056**	-0.009	0.088***
	(0.154)	(0.116)	(0.129)	(0.023)	(0.039)	(0.027)
1	-0.096	0.278	-0.011	0.024	-0.026	0.065
	(0.228)	(0.167)	(0.182)	(0.030)	(0.054)	(0.040)
2	0.528*	0.808***	-0.158	0.031	-0.006	0.035
	(0.277)	(0.212)	(0.265)	(0.041)	(0.082)	(0.058)
3	0.377	0.326	-0.152	0.005	0.009	-0.013
	(0.339)	(0.337)	(0.446)	(0.096)	(0.176)	(0.126)
Panel A2. Local estimates: Wide-window sample						
Order of polynomial						
0	0.077	0.331**	-0.014	0.041	-0.016	0.069***
	(0.191)	(0.143)	(0.136)	(0.025)	(0.054)	(0.027)
1	0.407	0.725***	0.068	0.025	-0.027	0.044
	(0.318)	(0.184)	(0.349)	(0.041)	(0.053)	(0.064)
2	0.312	0.415	0.318	0.021	0.074	-0.001
	(0.315)	(0.3289	(0.570)	(0.087)	(0.177)	(0.139)

Notes: The table reports the differences of the outcome variable between recipient and non-recipient firms estimated at the cut-off score (score=75). Employment is accumulated over the first 3 years after the assignment (including that of the assignment). Wages are calculated as labor costs divided by employment accumulated over the same period. Polynomial of order 0 is the difference in mean between treated and untreated. Small (large) firms are those with value added below (above) the median. In panel A1 the number of observations (firms) is 263; in panel A2 is 118.

*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B3

PRE-ASSIGNMENT MEAN-DIFFERENCES BY FIRMS' SIZE
(Standard errors in brackets)

Variables	Small Firms			Large firms		
	All	50 percent cut off sample	35 percent cut off sample	All	50 percent cut off sample	35 percent cut off sample
Sales	1547	2534	3364	74782*	3015	10904
	(967)	(1675)	(2516)	(41275)	(14429)	(18833)
Value added	279**	378*	392	16672*	1612	2801
	(140)	(194)	(258)	(9522)	(3952)	(5192)
Assets	654	1382	1392	65424*	7686	12096
	(634)	(951)	(1371)	(35288)	(15092)	(19549)
ROA	2.85	3.16	3.30	-1.36	-2.52	-0.59
	(1.96)	(2.18)	(2.14)	(1.23)	(1.72)	(1.60)
Own capital/Debts	-0.017	-0.176*	-0.137	-0.136	-0.268	-0.341
	(0.088)	(0.104)	(0.120)	(0.143)	(0.212)	(0.281)
Gross operating margin/Sales	0.024	0.021	0.005	-0.005	-0.020	-0.012
	(0.015)	(0.019)	(0.022)	(0.012)	(0.017)	(0.017)
Cash flow/Sales	0.025**	0.023	0.022	0.008	-0.006	0.002
	(0.011)	(0.017)	(0.023)	(0.013)	(0.013)	(0.012)
Financial costs/Debts	0.001	0.001	0.000	-0.014	-0.014	-0.014
	(0.002)	(0.003)	(0.003)	(0.009)	(0.016)	(0.023)
Labor costs/Sales	-0.005	-0.012	-0.031	-0.008	0.021	-0.001
	(0.015)	(0.022)	(0.030)	(0.014)	(0.019)	(0.023)
Service costs/Sales	-0.025	-0.007	0.007	0.0165	0.045**	0.051**
	(0.020)	(0.026)	(0.032)	(0.018)	(0.019)	(0.024)
Total investment/ Sales	0.007	0.027	0.053	-0.004	-0.013	-0.007
	(0.014)	(0.025)	(0.034)	(0.012)	(0.015)	(0.017)
Tangible investment/Sales	0.017	0.035	0.051	0.006	0.003	0.014
	(0.013)	(0.022)	(0.032)	(0.012)	(0.020)	(0.025)
Intangible investment/Sales	-0.011**	-0.008	0.003	-0.010	-0.016	-0.021
	(0.005)	(0.008)	(0.009)	(0.012)	(0.017)	(0.022)
Number of firms	178	90	58	179	81	57

Notes: Mean differences between untreated and treated firms.
*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B4

EFFECT OF THE PROGRAM ON DIFFERENT OUTCOME VARIABLES BY FIRMS' SIZE

	Labor costs/ Pre-program sales			Service costs/ Pre-program sales		
	Small	Large	AIC	Small	Large	AIC
Panel A. Full sample						
Order of polynomial						
0	-0.001	-0.093	242.4	-0.069	-0.057	527.9
	(0.064)	(0.086)		(0.085)	(0.089)	
1	-0.068	-0.041	248.5	0.026	0.031	533.5
	(0.095)	(0.138)		(0.137)	(0.136)	
2	-0.069	-0.241	249.9	0.076	-0.079	540.4
	(0.118)	(0.171)		(0.181)	(0.188)	
3	-0.247	-0.625*	241.8	0.220	-0.604*	541.1
	(0.156)	(0.348)		(0.185)	(0.313)	
Panel B. Local estimates: Wide-window sample						
Order of polynomial						
0	0.004	-0.010	134.2	-0.013	0.018	256.6
	(0.096)	(0.097)		(0.116)	(0.091)	
1	-0.262**	-0.290*	125.8	0.062	-0.201	262.5
	(0.115)	(0.155)		(0.195)	(0.167)	
2	-0.049	-0.206	127.3	0.246	-0.155	267.2
	(0.149)	(0.256)		(0.200)	(0.275)	
Panel C. Local estimates: Narrow- window sample						
Order of polynomial						
0	-0.066	-0.121	94.6	0.021	-0.057	194.1
	(0.102)	(0.110)		(0.166)	(0.109)	
1	-0.215	-0.238	96.2	0.256	-0.179	198.5
	(0.135)	(0.245)		(0.288)	(0.257)	
2	0.340**	-0.009	93.4	0.209	-0.226	191.5
	(0.122)	(0.354)		(0.342)	(0.316)	

Notes: The table shows the estimates of the coefficient β_k of model (2) using labor and services costs scaled by the pre-assignment sales. Costs are accumulated over the first 3 years after the assignment (included that of the assignment). Robust standard errors clustered by score are in round brackets. AIC is the Akaike Information Criterion. Small [Large] firms are those falling in the first [second] half of the distribution of the value added. Number of observations (firms) is 357 in Panel A; 171 in Panel B; 115 in Panel C.
*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B5

RESULTS FOR SERVICES

Outcome variable: Total investment/Pre-program sales

	Model (1)		Model (2)		
	β	AIC	β - Small	β - Large	AIC
Panel A. Full sample					
Order of polynomial					
0	0.032	-86.5	0.068*	0.000	-85.2
	(0.025)		(0.036)	(0.036)	
1	-0.016	-85.2	0.048	-0.114	-83.1
	(0.036)		(0.046)	(0.032)	
2	0.036	-82.9	0.139***	-0.085	-77.6
	(0.050)		(0.044)	(0.054)	
3	0.034	-80.6	0.191*	-0.165	-72.5
	(0.091)		(0.099)	(0.122)	
Panel B. Local estimates: Wide-window sample					
Order of polynomial					
0	0.030	-66.4	0.074*	-0.055*	-67.5
	(0.032)		(0.042)	(0.031)	
1	-0.035	-64.9	0.052	-0.126***	-62.8
	(0.040)		(0.047)	(0.031)	
2	0.057	-63.7	0.224**	-0.083	-60.6
	(0.074)		(0.090)	(0.087)	
Mean (st. dev.) for untreated firms - Full sample	0.030		0.029	0.031	
	(0.143)		(0.158)	(0.127)	

Notes: The table shows the estimates of the coefficient β of model (1) and (2) on service firms. For further details see the notes to Tables 3 and 5. Number of observations (firms) is 111 in Panel A; 67 in Panel B.
*, **,***: significant at 10 percent, 5 percent and 1 percent, respectively.

Table B6

ROBUSTNESS: ESTIMATIONS WITH COVARIATES

Outcome variable: Total investment/Pre-program sales

	Model (1) + covariates		Model (2) + covariates		
	β	AIC	β - Small	β - Large	AIC
Panel A. Full sample					
Order of polynomial					
0	0.015	-585.9	0.041**	-0.015	-589.54
	(0.012)		(0.016)	(0.018)	
1	0.036*	-584.2	0.071***	-0.009	-584.4
	(0.019)		(0.026)	(0.025)	
2	0.038	-581.9	0.090***	-0.016	-578.9
	(0.029)		(0.031)	(0.038)	
3	0.064	-579.2	0.142***	-0.024	-575.9
	(0.040)		(0.043)	(0.061)	
Panel B. Local estimates: Wide-window sample					
Order of polynomial					
0	0.021	-267.1	0.050*	-0.013	-266.8
	(0.018)		(0.025)	(0.022)	
1	0.034	-263.4	0.084**	-0.008	-264.1
	(0.037)		(0.039)	(0.004)	
2	0.101*	-263.8	0.165***	0.042	-265.5
	(0.053)		(0.057)	(0.081)	
Panel C. Local estimates: Narrow-window sample					
Order of polynomial					
0	0.035	-189.1	0.064**	0.001	-193.2
	(0.022)		(0.028)	(0.026)	
1	0.062	-190.1	0.143**	-0.011	-196.9
	(0.044)		(0.059)	(0.062)	
2	-0.066	-193.8	0.038	-0.186*	-202.9
	(0.040)		(0.049)	(0.093)	

Notes: The table shows the estimates of the coefficient β of model (1) and (2) on industrial firms including as covariates 2-digit sector dummies, gross operative margin/value added, own capital/debts, ROA, cash flow/sales, total assets, financial costs/debts all referred to the pre-treatment period. Number of observations (firms) is 357 in Panel A; 171 in Panel B; 115 in Panel C.

*, **,***: significant at 10 percent, 5 percent and 1 percent, respectively.

Table B7

EFFECT OF THE PROGRAM ON NON-NORMALIZED INVESTMENT

	Total investment			Log (Total investment)		
	All firms	Small	Large	All firms	Small	Large
Panel A. Full sample						
Order of polynomial						
0	421.5	192.5*	456.9	-0.039	0.002*	-0.078
	(756.9)	(104.7)	(1459.3)	(0.045)	(0.001)	(0.085)
1	-154.7	419.8***	-780.9	-0.002	0.004***	-0.022
	(641.9)	(112.3)	(1208.4)	(0.011)	(0.001)	(0.028)
2	301.2	338.5**	209.9	0.058	0.003**	0.131
	(1102.9)	(151.8)	(2379.5)	(0.061)	(0.001)	(0.136)
3	1450.9	584.2***	3585.5	0.002	0.005***	0.024
	(1346.7)	(186.3)	(2787.9)	(0.022)	(0.001)	(0.057)
Panel B. Local estimates: Wide-window sample						
Order of polynomial						
0	326.9	319.0***	264.4	0.002	0.003***	0.001
	(477.1)	(111.9)	(873.9)	(0.003)	(0.001)	(0.007)
1	644.8	363.5**	1363.5	0.004	0.003**	0.009
	(904.2)	(163.7)	(1344.9)	(0.007)	(0.002)	(0.011)
2	913.0	685.9**	2187.7	0.008	0.007***	0.020
	(954.9)	(247.4)	(2152.9)	(0.009)	(0.020)	(0.020)
Panel C. Local estimates: Narrow- window sample						
Order of polynomial						
0	614.5	275.2*	886.9	0.004	0.003*	0.006
	(560.4)	(143.7)	(740.3)	(0.004)	(0.001)	(0.006)
1	679.5	723.2**	1177.8	0.005	0.007**	0.009
	(891.1)	(308.9)	(1626.6)	(0.008)	(0.003)	(0.014)
2	-3413	-123.6	-6897***	-0.032***	-0.001	-0.063***
	(841.5)	(325.2)	(1412.1)	(0.007)	(0.003)	(0.012)

Notes: The table shows the estimates of the coefficient β of model (1) and (2) using different outcome variables. Number of observations (firms) is 357 in Panel A; 171 in Panel B; 115 in Panel C. Since investment can be negative to calculate log of investment over the same sample used in the baseline regression we added (1+the minimum of investment); i.e. the dependent variable is: log [investment+1+min(investment)]; where min(investment) is the minimum of the investment across firms. See the notes to table 5 for further details.

Table B8

EFFECT OF THE PROGRAM ON INVESTMENT NORMALIZED BY PRE-PROGRAM CAPITAL

	Total investment/ Total pre-program capital			Tangible investment/ Total pre-program capital			Intangible investment/ Total pre-program capital		
	All firms	Small	Large	All firms	Small	Large	All firms	Small	Large
Panel A. Full sample									
Order of polynomial									
0	0.192	0.432*	0.021	0.089	0.186	0.010	0.102	0.245	0.011
	(0.135)	(0.233)	(0.110)	(0.081)	(0.144)	(0.081)	(0.099)	(0.144)	(0.062)
1	0.470	0.751*	0.138	0.137	0.208	0.007	0.332*	0.543**	0.130
	(0.236)	(0.381)	(0.201)	(0.126)	(0.226)	(0.112)	(0.179)	(0.237)	(0.142)
2	0.658**	1.266***	0.019	0.130	0.383	-0.111	0.528**	0.882***	0.131
	(0.314)	(0.443)	(0.264)	(0.183)	(0.284)	(0.159)	(0.212)	(0.271)	(0.172)
3	1.083***	2.089***	-0.425	0.365*	0.894***	-0.360	0.718**	1.194***	-0.065
	(0.341)	(0.378)	(0.302)	(0.209)	(0.239)	(0.212)	(0.217)	(0.281)	(0.182)
Panel B. Local estimates: Wide-window sample									
Order of polynomial									
0	0.429*	0.718**	0.145	0.094	0.196	-0.012	0.336*	0.522**	0.157
	(0.215)	(0.321)	(0.195)	(0.109)	(0.205)	(0.088)	(0.179)	(0.222)	(0.161)
1	0.562	1.306**	-0.316	0.205	0.504	-0.087	0.358	0.801***	-0.229
	(0.412)	(0.494)	(0.273)	(0.204)	(0.298)	(0.148)	(0.259)	(0.281)	(0.175)
2	1.504***	2.349***	-0.339	0.620***	1.116***	-0.311	0.883***	1.232***	-0.027
	(0.318)	(0.459)	(0.373)	(0.188)	(0.208)	(0.228)	(0.252)	(0.370)	(0.268)
Panel C. Local estimates: Narrow- window sample									
Order of polynomial									
0	0.335	0.750	-0.054	0.121	0.251	-0.006	0.214	0.499*	-0.048
	(0.272)	(0.484)	(0.141)	(0.136)	(0.264)	(0.113)	(0.162)	(0.251)	(0.046)
1	1.288***	2.397***	-0.308	0.428*	1.012	-0.395	0.859***	1.384**	0.087
	(0378)	(0.750)	(0.281)	(0.228)	(0.350)	(0.218)	(0.223)	(0.457)	(0.105)
2	1.329**	2.514**	-1.116	0.228	0.841	-0.820**	1.101***	1.672**	-0.295
	(0.535)	(0.938)	(0.379)	(0.432)	(0.502)	(0.305)	(0.277)	(0.607)	(0.180)

Notes: The table shows the estimates of the coefficients β_k of model (2) using investment over pre-program capital as outcome variables. Number of observations (firms) is 357 in Panel A; 171 in Panel B; 115 in Panel C. Pre-program capital used as scaling variable is the sum of tangible and intangible assets taken from the balance sheet data. For further details seethe notes to Tables 3-5.

Table B9

RESULTS OF KERNEL REGRESSIONS

INVESTMENT AND REIMBURSABLE COSTS NORMALIZED BY PRE-PROGRAM SALES

	All firms					Small firms					Large firms				
	Total investment	Tangible investment	Intangible investment	Labor costs	Service costs	Total investment	Tangible investment	Intangible investment	Labor costs	Service costs	Total investment	Tangible investment	Intangible investment	Labor costs	Service costs
Panel A. Bandwidth=30															
Order of polynomial															
0	0.014	0.009	0.004	-0.051	-0.077	0.048***	0.026**	0.022**	-0.008	-0.061	-0.021	-0.010	-0.012	-0.086	-0.045
	(0.014)	(0.012)	(0.008)	(0.057)	(0.053)	(0.016)	(0.013)	(0.011)	(0.056)	(0.102)	(0.018)	(0.021)	(0.008)	(0.091)	(0.088)
1	0.041*	0.024	0.017	-0.059	0.029	0.081***	0.045**	0.035*	-0.067	0.026	-0.011	-0.007	-0.003	-0.058	0.025
	(0.022)	(0.016)	(0.013)	(0.089)	(0.089)	(0.030)	(0.022)	(0.021)	(0.095)	(0.150)	(0.031)	(0.027)	(0.012)	(0.153)	(0.151)
2	0.047	0.022	0.024	-0.173	-0.015	0.103***	0.057***	0.046	-0.082	0.092	-0.013	-0.011	-0.001	-0.274	-0.116
	(0.031)	(0.023)	(0.018)	(0.0143)	(0.149)	(0.042)	(0.019)	(0.030)	(0.175)	(0.261)	(0.047)	(0.032)	(0.017)	(0.234)	(0.231)
3	0.066	0.024	0.042	-0.375	-0.056	0.148	0.079	0.069	-0.236	0.211	-0.026	-0.033	0.007	-0.571*	-0.540
	(0.051)	(0.051)	(0.029)	(0.229)	(0.224)	(0.116)	(0.107)	(0.064)	(0.178)	(0.457)	(0.092)	(0.063)	(0.039)	(0.327)	(0.374)
Panel B. Bandwidth=15															
Order of polynomial															
0	0.018	0.013	0.005	-0.051	-0.049	0.057***	0.034**	0.022*	-0.023	-0.047	-0.020	-0.109	-0.009	-0.070	-0.013
	(0.014)	(0.012)	(0.008)	(0.063)	(0.053)	(0.017)	(0.012)	(0.012)	(0.065)	(0.118)	(0.018)	(0.022)	(0.008)	(0.089)	(0.091)
1	0.047*	0.024	0.023*	-0.142	-0.009	0.102***	0.054**	0.048**	-0.087	0.081	-0.012	-0.007	-0.004	-0.192	-0.066
	(0.025)	(0.019)	(0.013)	(0.091)	(0.096)	(0.030)	(0.024)	(0.021)	(0.092)	(0.161)	(0.036)	(0.028)	(0.012)	(0.169)	(0.174)
2	0.058	0.020	0.038	-0.256	-0.010	0.135***	0.075***	0.060	-0.136	0.149	0.026	-0.039	0.013	-0.419	-0.284
	(0.043)	(0.032)	(0.023)	(0.158)	(0.153)	(0.043)	(0.019)	(0.038)	(0.183)	(0.339)	(0.077)	(0.049)	(0.027)	(0.282)	(0.303)
3	0.044	-0.010	0.055	-0.101	0.152	0.148	0.053	0.095	-0.024	0.292	-0.069	-0.073	0.004	-0.178	-0.228
	(0.076)	(0.059)	(0.034)	(0.233)	(0.225)	(0.126)	(0.113)	(0.081)	(0.225)	(0.715)	(0.168)	(0.129)	(0.056)	(0.516)	(0.587)

Notes: The table reports the differences of the outcome variable between recipient and non-recipient firms estimated at the cut-off score (score=75). All the variables are accumulated over the first 3 years after the assignment (including that of the assignment) and scaled by sales in the pre-assignment year. We estimated the model using the Epanechnikov kernel combined with two bandwidths (± 30 and ± 15) and various polynomials. The full sample includes 341 firms in panel A and 271 in panel B. Bootstrapped standard errors (100 replications) clustered by score in round brackets. Polynomial of order 0 is the difference in mean between treated and untreated. Small (large) firms are those with value added below (above) the median.

*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B10

RESULTS OF KERNEL REGRESSIONS - EMPLOYMENT AND WAGES

	Outcome variable: Log (Employment)			Outcome variable: Log (Wages)		
	All firms	Small firms	Large firms	All firms	Small firms	Large firms
Panel B1. Bandwidth=30						
Order of polynomial						
0	0.253*	0.208*	0.243*	0.057***	-0.012	0.090***
	(0.146)	(0.113)	(0.132)	(0.022)	(0.064)	(0.028)
1	-0.054	0.298	-0.021	0.024	-0.025	0.061
	(0.264)	(0.394)	(0.214)	(0.036)	(0.079)	(0.039)
2	0.523*	0.793	-0.165	0.029	-0.007	0.031
	(0.303)	(0.765)	(0.332)	(0.054)	(0.779)	(0.072)
3	0.344	0.319	-0.138	0.013	0.015	-0.000
	(0.450)	(1.199)	(0.619)	(0.165)	(0.275)	(0.179)
Panel B2. Bandwidth=15						
Order of polynomial						
0	0.213	0.191*	0.245*	0.058**	-0.015	0.094***
	(0.135)	(0.109)	(0.129)	(0.028)	(0.013)	(0.028)
1	0.186	0.505	-0.058	0.011	-0.017	0.032
	(0.251)	(0.393)	(0.220)	(0.036)	(0.131)	(0.041)
2	0.325	0.472	-0.267	0.023	-0.024	0.038
	(0.411)	(0.760)	(0.478)	(0.074)	(0.164)	(0.095)

Notes: The table reports the differences of the outcome variable between recipient and non-recipient firms estimated at the cut-off score (score=75). Employment is accumulated over the first 3 years after the assignment (including that of the assignment). Polynomial of order 0 is the difference in mean between treated and untreated. Small (large) firms are those with value added below (above) the median.

We estimated the model using the Epanechnikov kernel combined with two bandwidths (± 30 and ± 15 points around the cut-off) and various polynomials. In panel B1 the number of observations (firms) is 263; in panel B2 is 271. Bootstrapped standard errors (100 replications) clustered by score in round brackets.

*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B11

ROBUSTNESS: DISCONTINUITY OF COVARIATES

	ROA		Net worth assets/Debts		Cash flow/Sales		Interest costs/Debts	
	Small	Large	Small	Large	Small	Large	Small	Large
Panel A. Full sample								
Order of polynomial								
0	0.139	0.317	0.042	0.018	0.015	0.006	-0.001	-0.001
	(1.575)	(1.288)	(0.109)	(0.087)	(0.018)	(0.008)	(0.003)	(0.002)
1	-1.777	-0.515	-0.223	0.035	-0.030	-0.004	-0.000	0.000
	(2.329)	(1.581)	(0.149)	(0.133)	(0.021)	(0.009)	(0.005)	(0.003)
2	-1.967	1.191	-0.387*	-0.132	-0.048	0.001	0.001	0.007
	(2.502)	(2.122)	(0.197)	(0.196)	(0.032)	(0.001)	(0.008)	(0.006)
Panel B. Local estimates: Wide-window sample								
Order of polynomial								
0	-2.325	-0.635	-0.161	-0.046	-0.013	-0.002	0.001	0.001
	(1.872)	(1.196)	(0.111)	(0.098)	(0.014)	(0.008)	(0.004)	(0.003)
1	-0.494	1.172	-0.237	0.108	-0.032	0.005	-0.006	0.013
	(2.456)	(2.098)	(0.196)	(0.205)	(0.025)	(0.011)	(0.008)	(0.009)
2	3.592	1.513	-0.265	0.902***	0.006	0.000	-0.004	0.027
	(4.446)	(4.495)	(0.386)	(0.240)	(0.032)	(0.028)	(0.012)	(0.016)
Panel C. Local estimates: Narrow-window sample								
Order of polynomial								
0	-1.357	0.596	-0.132	-0.020	-0.021	0.005	-0.002	0.003
	(1.192)	(1.084)	(0.138)	(0.123)	(0.017)	(0.008)	(0.006)	(0.004)
1	1.405	-1.349	-0.358	0.555**	-0.002	-0.024	-0.010	0.021
	(4.656)	(3.804)	(0.346)	(0.225)	(0.028)	(0.018)	(0.013)	(0.016)
2	-8.457	11.978	-0.065	1.606***	0.016	0.032	0.007	0.023
	(5.410)	(3.701)	(0.467)	(0.382)	(0.064)	(0.023)	(0.023)	(0.013)

Notes: The table shows the estimates of the coefficients β_k of model (2) using different outcome variables. Number of observations (firms) is 357 in Panel A; 171 in Panel B; 115 in Panel C. Robust standard errors clustered by score are in round brackets. For further details see the Notes to table 5.
*, **,***: significant at 10 percent, 5 percent, 1 percent, respectively.

Table B12

ROBUSTNESS: TESTS FOR DISCONTINUITY IN THE PRE-PROGRAM PERIOD AND AT DIFFERENT CUT-OFF POINTS

Panel 1. Tests for discontinuity in the pre-program period

	Total investment/ Pre-program sales		Intangible investment/ Pre-program sales		Tangible investment/ Pre-program sales	
	Small	Large	Small	Large	Small	Large
Panel A. Full sample						
Order of polynomial						
0	0.003	0.010	0.012	0.003	-0.009	0.007
	(0.034)	(0.026)	(0.029)	(0.015)	(0.011)	(0.017)
1	0.042	-0.32	0.041	-0.004	0.001	-0.028
	(0.040)	(0.038)	(0.035)	(0.021)	(0.019)	(0.027)
2	0.002	-0.039	-0.011	-0.042	0.013	0.003
	(0.053)	(0.052)	(0.046)	(0.030)	(0.026)	(0.031)
Panel B. Local estimates: Wide-window sample						
Order of polynomial						
0	0.022	-0.011	0.028	-0.004	-0.006	-0.006
	(0.034)	(0.024)	(0.027)	(0.017)	(0.018)	(0.011)
1	0.019	-0.011	-0.005	-0.008	0.025	-0.003
	(0.058)	(0.043)	(0.047)	(0.030)	(0.035)	(0.019)
2	-0.006	0.011	-0.014	0.013	0.008	-0.002
	(0.076)	(0.059)	(0.060)	(0.043)	(0.036)	(0.034)
Panel C. Local estimates: Narrow-window sample						
Order of polynomial						
0	0.041	-0.008	0.026	-0.001	0.014	-0.006
	(0.042)	(0.030)	(0.036)	(0.023)	(0.024)	(0.013)
1	-0.024	-0.022	-0.019	-0.017	-0.004	-0.005
	(0.096)	(0.065)	(0.083)	(0.050)	(0.039)	(0.032)
2	-0.109*	0.056	-0.075	0.042	-0.033	0.014
	(0.059)	(0.059)	(0.048)	(0.040)	(0.020)	(0.025)

Panel 2. F-Tests for discontinuities at different cut-off points

Order of polynomial	Total investment/ Pre-program sales	Total investment/ Pre-program capital	Total investment/ Pre-program assets
0	1.12	1.11	1.27
	(0.28)	(0.30)	(0.12)
1	1.06	1.02	1.26
	(0.37)	(0.44)	(0.14)
2	1.07	1.01	1.22
	(0.36)	(0.45)	(0.17)

Notes: The first panel of the table shows the estimates of the coefficients β_k of model (2) using investment of 2 years before the implementation of the program. Number of observations (firms) is 346 in Panel A; 166 in Panel B; 113 in Panel C. Robust standard errors clustered by score are in round brackets. The second panel shows the F- tests for the null hypothesis that a full set of score dummies interacted with the small-firms dummy included in the model (2) are equal to zero. The full sample of 357 firms has been used. P-value are in round brackets. For further details see the notes to Tables 3 and 5.