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Online Supplementary Material
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Directed Technological Change and General Purpose Technologies:
Can AI Accelerate the Clean Energy Innovation?

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A.1   List of Technology Codes Used to Identify Energy Technologies

Table SI1: Electricity Codes

Type	Sub-sector	Codes
Clean	Biomass and waste	F02B43/08
Clean	Enabling technologies Systems integration	Y02E40/70, Y04S
Clean	Nuclear Energy	Y02E30
Clean	Renewable Energy	Y02E10
Clean	Renewable Energy Geothermal	F03G7/04, Y02E10/10
Clean	Renewable Energy Hydro	Y02E10/20
Clean	Renewable Energy Marine	E02B9/08, F03B13/10, F03B13/12, F03G7/05, Y02E10/30
Clean	Renewable Energy Solar	F03G6, F26B3/28, H01L31/04, Y02E10/40, Y02E10/50, Y02E10/60
Clean	Renewable Energy Wind	F03D, H01L27/142, Y02E10/70
Dirty	Hydrofracturing	C10G1, E21B43
Dirty	Traditional Fossil Fuels	C10J, C10L1, C10L3, C10L5, F01K, F02C, F22, F23, F27, F28
Grey	Biomass and waste	C10L5/40, F01K25/14, Y02E20, Y02E50
Grey	Efficiency	B01J8/20, B01J8/24, C10J3, F01K17/06, F01K23, F01K27, F01K3, F01K5, F02B1/12, F02B11, F02B13/02, F02B3/06, F02B49, F02B7, F02C3/20, F02C3/32, F02C3/34, F02C3/36, F02C6/10, F02C7/30, F02G5, F22B31, F22B33/14, F22G, F23B10, F23B30, F23B70, F23B80, F23C1, F23C10, F23C5/24, F23C6, F23D1, F23D17, F23D7, F27B15, Y02E20/10, Y02E20/30, Y02E40

Note: The table lists the technology codes from the Cooperative Patent Classification (CPC) used to identify electricity patents. For maximum coverage we also search for the equivalent codes from the International Patent Classification (IPC). We identify a patent family as belonging to a given category if it has at least one patent with a relevant technology code.

Table SI2: Transport Codes

Type	Sub-sector	Codes
Clean	Batteries	Y02T10/70
Clean	Biomass and waste	F02B43/08
Clean	Electric vehicles	B60K1, B60L15, B60L, B60L3, B60L7, B60R16, B60R16/033, B60R16/04, B60S5/06, B60W10, Y02T10/64
Clean	Enabling technologies	Y02T90
Clean	Enabling technologies Systems integration	Y02T90/167, Y02T90/168, Y02T90/169
Clean	Fuel cells, Batteries	H01M
Clean	Hybrid vehicles	B60K6, B60L7/10, B60L7/20, B60W20, Y02T10/62
Clean	Hydrogen vehicles / fuel cells	B60W10/28
Clean/Grey	Mitigation Air	Y02T50
Clean/Grey	Mitigation Maritime	Y02T70
Clean/Grey	Mitigation Rail	Y02T30
Dirty	Internal combustion engine	F02B, F02D, F02F, F02M, F02N, F02P
Grey	Efficiency	F02B1/12, F02B11, F02B13/02, F02B3/06, F02B47/06, F02B49, F02B7, F02D41, F02M23, F02M25, F02M3, F02M39, F02M41, F02M43, F02M45, F02M47, F02M49, F02M51, F02M53, F02M55, F02M57, F02M59, F02M61, F02M63, F02M65, F02M67, F02M69, F02M71, Y02T10/10

Note: The table lists the technology codes from the Cooperative Patent Classification (CPC) used to identify transport patents. For maximum coverage we also search for the equivalent codes from the International Patent Classification (IPC). We identify a patent family as belonging to a given category if it has at least one patent with a relevant technology code.

A.2 Overlap between AI and ICT Patent Families

Figure SI1: AI and ICT Overlap
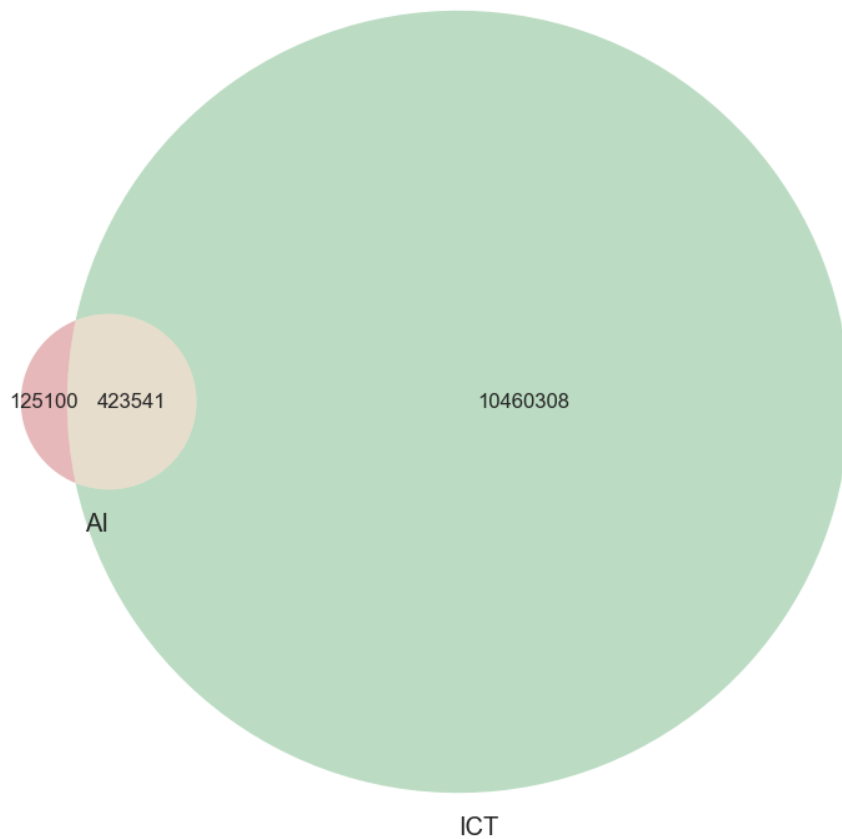
Note: The venn diagram shows the number of AI patent families which are only categorised as AI, the number of ICT families only categorised as ICT, and the number of families identified by both methodologies. It shows that (1) the pool of ICT families is much larger than that of AI families; (2) the majority of AI families are also categorised as ICT; and (3) the majority of ICT families are not AI.

A.3 Data Cleaning Steps for Orbis Firm-level Data

For each vintage, the year was defined as the current year if the variable "closing date" was on or after June 1st, and the previous year if the "closing date" was before June 1st.

Sometimes firms report both a consolidated and unconsolidated account, leading to duplicate observations. To deal with such duplicates, we first drop observations with consolidation code C2 (consolidated account, when there is an unconsolidated companion). For remaining duplicates with differing consolidation codes, we then drop observations with consolidation code LF (Limited number of financial item), followed by those with code C1 (Consolidated account, when there is no recorded unconsolidated companion), and lastly U2 (Unconsolidated account, when there is a recorded consolidated companion). We drop all observations of a firm with a given consolidation code. Where duplicates remain with multiple values of the variable "closing date" we retain the most recently reported observations. We then take the average of all competing values for any remaining duplicates.

We drop each observation with total assets, operating revenue, sales and employment simultaneously missing. We also set total assets and employment to missing if they change by more than 100% upwards or 50% downwards one year and the reverse the following year. We also drop each firm which has an employment, sales, total assets, or tangible fixed assets figure that is negative in any year, or if the ratio of employment to sales, employment to total assets, employment to revenue, or sales to total assets and vice versa is larger than 99.9 pct in any year.

We construct a full panel which contains an observation for each firm and year in our sample. We then construct variables indicating when a firm was first and last observed within our Orbis data, and drop any observations with years before the "first observed" or after the "last observed" variable. For any years in between for which the firm is missing in Orbis, financial variables are set to missing, and patenting variables depend on whether a patent family in PATSTAT during this year is associated with the firm. For any year-firm observation which does not have any associated patent families, patent flow variables are set to 0.

B Additional Figures and Tables For Family-Level Analysis

B.1 Longer Versions of Table 3

Table SI3: Long Version of Table 3

	(1) AI	(2) AI	(3) AI	(4) AI	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Clean Family	0.437***	0.530**	0.463**	0.420**	8.243***	7.071**	10.329***	9.951***
	(0.024)	(0.069)	(0.077)	(0.070)	(0.263)	(0.943)	(0.951)	(0.947)
Grey Family	0.264***	0.040	-0.124	-0.151	0.894**	0.432	0.443	0.196
	(0.001)	(0.105)	(0.098)	(0.103)	(0.142)	(0.255)	(0.211)	(0.208)
Nbr Citations Made (1000s)	8.134***	3.081**	0.177	-0.434	103.298***	47.204**	3.524*	-3.953
	(0.497)	(0.610)	(0.302)	(0.235)	(9.297)	(7.022)	(1.124)	(1.487)
Nbr Patents in Family				-0.020				0.124
				(0.010)				(0.062)
Nbr Countries in Family				0.000				-0.573
				(0.011)				(0.279)
Citations Received (3 yrs)				0.026*				0.184**
				(0.008)				(0.035)
Constant	0.121***	0.245**	0.575***	0.624***	1.402***	4.591***	7.691***	9.157**
	(0.010)	(0.042)	(0.033)	(0.030)	(0.107)	(0.461)	(0.443)	(1.172)
Ratio Clean/Dirty	304.35***	212.71**	94.15**	85.39**	501.72***	239.56**	229.29***	220.91***
	(16.63)	(27.86)	(15.77)	(14.24)	(16.00)	(31.96)	(21.11)	(21.02)
Sample			Gr. Triadic	Gr. Triadic			Gr. Triadic	Gr. Triadic
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X	X		X	X	X
Quality Proxies				X				X
Adjusted R2	0.006	0.043	0.058	0.060	0.067	0.312	0.441	0.445
Observations	2,550,428	1,495,048	131,564	131,564	2,550,428	1,495,048	131,564	131,564

Linear Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Percentage of backward citations going to AI or ICT

Table SI4: Similar to Table 3 with more specifications for AI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Clean Family	0.470***	0.437***	0.580**	0.408***	0.530**	0.491**	0.490**	0.560***	0.463**	0.420**	0.416**
	(0.000)	(0.024)	(0.067)	(0.026)	(0.069)	(0.068)	(0.067)	(0.000)	(0.077)	(0.070)	(0.071)
Grey Family	0.259***	0.264***	0.050	0.265***	0.040	0.013	0.013	0.241***	-0.124	-0.151	-0.152
	(0.001)	(0.001)	(0.101)	(0.022)	(0.105)	(0.110)	(0.109)	(0.000)	(0.098)	(0.103)	(0.102)
Nbr Citations Made (1000s)	7.928***	8.134***	3.262***	5.492***	3.081**	0.299	0.467	0.545	0.177	-0.434	-0.291
	(0.461)	(0.497)	(0.679)	(0.392)	(0.610)	(0.442)	(0.414)	(0.415)	(0.302)	(0.235)	(0.299)
Nbr Patents in Family						-0.021	-0.027			-0.020	-0.022
						(0.015)	(0.017)			(0.010)	(0.011)
Nbr Countries in Family						0.073	0.076			0.000	0.003
						(0.044)	(0.045)			(0.011)	(0.012)
Citations Received (3 yrs)						0.045**				0.026*	
						(0.010)				(0.008)	
Citations Received (5 yrs)							0.030**				0.017*
							(0.006)				(0.004)
Constant	0.107***	0.121***	0.217**	0.233***	0.245**	0.111	0.113	0.516***	0.575***	0.624***	0.618***
	(0.002)	(0.010)	(0.034)	(0.015)	(0.042)	(0.044)	(0.044)	(0.010)	(0.033)	(0.030)	(0.028)
Ratio Clean/Dirty	327.54***	304.35***	232.66**	163.61***	212.71**	212.71**	212.71**	105.80***	94.15**	85.39***	84.71***
	(0.26)	(4.12)	(27.08)	(10.47)	(27.86)	(27.86)	(27.86)	(0.08)	(15.77)	(8.37)	(8.37)
Sample								Gr. Triadic	Gr. Triadic	Gr. Triadic	Gr. Triadic
Year FEs		X		X	X	X	X		X	X	X
Firm FEs			X		X	X	X		X	X	X
Quality Proxies						X	X			X	X
Adjusted R2	0.004	0.006	0.041	0.006	0.043	0.045	0.045	0.002	0.058	0.060	0.060
Observations	2.55e+06	2.55e+06	1.50e+06	1.50e+06	1.50e+06	1.50e+06	1.50e+06	1.15e+05	1.32e+05	1.32e+05	1.32e+05

Linear Regression.
Heteroskedasticity Robust Standard Errors in Parentheses.
Dependent Variable: Percentage of AI Families in Cited Families
Note: To make things more comparable, Column 4 replicates Column 2 but using the same sample of observations as in Column 5.

Table SI5: Similar to Table 3 with more specifications for ICT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Clean Family	8.642***	8.243***	8.119***	10.055***	7.071**	6.770**	6.767**	16.809***	10.329***	9.951***	9.942***
	(0.009)	(0.263)	(0.692)	(0.454)	(0.943)	(0.937)	(0.941)	(0.001)	(0.951)	(0.947)	(0.946)
Grey Family	1.097***	0.894**	0.727*	0.406	0.432	0.190	0.192	0.332***	0.443	0.196	0.199
	(0.020)	(0.142)	(0.179)	(0.200)	(0.255)	(0.449)	(0.449)	(0.211)	(0.211)	(0.208)	(0.202)
Nbr Citations Made (1000s)	109.614***	103.298***	54.146**	80.584**	47.204**	18.434**	19.985**	18.456***	3.524*	-3.953	-2.760
	(10.508)	(9.297)	(7.745)	(10.546)	(7.022)	(2.861)	(2.975)	(1.419)	(1.124)	(1.487)	(1.050)
Nbr Patents in Family						0.250	0.217			0.124	0.111
						(0.215)	(0.205)			(0.062)	(0.058)
Nbr Countries in Family						0.245	0.264			-0.573	-0.562
						(0.120)	(0.126)			(0.279)	(0.275)
Citations Received (3 yrs)						0.330**				0.184**	
						(0.045)				(0.035)	
Citations Received (5 yrs)							0.211**				0.113**
							(0.028)				(0.019)
Constant	1.133***	1.402***	3.954***	2.858***	4.591***	3.252**	3.265**	4.405***	7.691***	9.157**	9.128**
	(0.049)	(0.107)	(0.314)	(0.205)	(0.461)	(0.414)	(0.412)	(0.033)	(0.443)	(1.172)	(1.178)
Ratio Clean/Dirty	525.98***	501.72***	275.06***	340.68***	239.56**	239.56**	239.56**	348.11***	229.29***	220.91***	220.71***
	(0.52)	(1.68)	(23.45)	(15.39)	(31.96)	(31.96)	(31.96)	(0.03)	(21.11)	(4.06)	(4.06)
Sample								Gr. Triadic	Gr. Triadic	Gr. Triadic	Gr. Triadic
Year FEs		X		X	X	X	X		X	X	X
Firm FEs			X		X	X	X		X	X	X
Quality Proxies						X	X			X	X
Adjusted R2	0.057	0.067	0.301	0.083	0.312	0.318	0.318	0.103	0.441	0.445	0.445
Observations	2.55e+06	2.55e+06	1.50e+06	1.50e+06	1.50e+06	1.50e+06	1.50e+06	1.15e+05	1.32e+05	1.32e+05	1.32e+05

Linear Regression.
Heteroskedasticity Robust Standard Errors in Parentheses.
Dependent Variable: Percentage of AI Families in Cited Families
Note: To make things more comparable, Column 4 replicates Column 2 but using the same sample of observations as in Column 5.

B.2 Separating Transport and Electricity Families

Table SI6: Similar to Table 3 but only for Transport Families

	(1) AI	(2) AI	(3) AI	(4) AI	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Clean Family	0.502***	0.872**	0.682**	0.625**	3.993***	4.921**	5.409**	5.134**
	(0.050)	(0.111)	(0.141)	(0.132)	(0.194)	(0.608)	(0.753)	(0.699)
Grey Family	0.298***	0.141	-0.115	-0.155	0.663**	-0.198	-1.224	-1.428*
	(0.009)	(0.061)	(0.120)	(0.126)	(0.084)	(0.346)	(0.434)	(0.487)
Nbr Citations Made (1000s)	10.991***	4.180*	0.413*	-0.460	68.676***	38.654**	3.717**	-1.407
	(0.222)	(1.125)	(0.141)	(0.245)	(1.946)	(8.021)	(0.690)	(1.799)
Nbr Patents in Family				-0.022				0.030
				(0.011)				(0.034)
Nbr Countries in Family				-0.020				-0.315
				(0.015)				(0.120)
Citations Received (3 yrs)				0.037*				0.167*
				(0.009)				(0.040)
Constant	0.177**	0.069	0.633**	0.738**	1.373**	2.147**	5.399***	6.067***
	(0.034)	(0.066)	(0.090)	(0.114)	(0.148)	(0.342)	(0.380)	(0.274)
Ratio Clean/Dirty	320.10***	398.99**	87.94**	80.53**	296.07***	258.40**	117.09**	111.14**
	(31.78)	(50.73)	(18.16)	(16.97)	(14.40)	(31.94)	(16.31)	(15.14)
Sample			Gr. Triadic	Gr. Triadic			Gr. Triadic	Gr. Triadic
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X	X		X	X	X
Quality Proxies				X				X
Adjusted R2	0.006	0.056	0.072	0.074	0.035	0.174	0.253	0.258
Observations	1,300,651	878,182	83,433	83,433	1,300,651	878,182	83,433	83,433

Linear Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Percentage of backward citations going to AI or ICT

Table SI7: Similar to Table 3 but only for Electricity Families

	(1) AI	(2) AI	(3) AI	(4) AI	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Clean Family	0.190***	0.187*	0.014	0.003	16.011***	19.803**	33.257**	32.749**
	(0.010)	(0.058)	(0.059)	(0.061)	(0.418)	(2.395)	(3.905)	(3.964)
Grey Family	0.136***	0.066	0.030	0.026	1.546**	2.941**	3.070***	2.974***
	(0.006)	(0.038)	(0.048)	(0.048)	(0.313)	(0.307)	(0.081)	(0.165)
Nbr Citations Made (1000s)	4.332**	0.952	-1.288	-1.421*	150.644*	67.586	-1.612	-15.035
	(0.758)	(0.769)	(0.595)	(0.444)	(45.563)	(41.354)	(10.370)	(10.666)
Nbr Patents in Family				-0.006				0.102
				(0.011)				(0.037)
Nbr Countries in Family				0.002				-0.636
				(0.013)				(0.403)
Citations Received (3 yrs)				0.006				0.194**
				(0.003)				(0.024)
Constant	0.124***	0.295***	0.405***	0.425***	1.264***	5.214**	9.497**	12.015*
	(0.008)	(0.019)	(0.023)	(0.027)	(0.029)	(0.689)	(1.554)	(3.701)
Ratio Clean/Dirty	136.34***	71.53*	3.68	0.89	918.29***	582.47**	751.80**	740.32**
	(7.39)	(22.23)	(15.66)	(16.08)	(23.98)	(70.45)	(88.28)	(89.61)
Sample			Gr. Triadic	Gr. Triadic			Gr. Triadic	Gr. Triadic
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X	X		X	X	X
Quality Proxies				X				X
Adjusted R2	0.003	0.029	0.024	0.024	0.134	0.461	0.708	0.711
Observations	1,249,777	608,033	46,383	46,383	1,249,777	608,033	46,383	46,383

Linear Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Percentage of backward citations going to AI or ICT

B.3 Using Count rather than Percentage as Outcome Variable

Table SI8: Similar to Table 3 but using count of citations to AI and ICT

	(1) AI	(2) AI	(3) AI	(4) AI	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Clean Family	1.172***	0.903***	0.612***	0.601***	1.393***	0.848***	0.858***	0.844***
	(0.022)	(0.099)	(0.091)	(0.081)	(0.012)	(0.081)	(0.088)	(0.086)
Grey Family	0.647***	0.151**	-0.056	-0.067	0.165***	0.081*	-0.027	-0.042
	(0.002)	(0.064)	(0.052)	(0.055)	(0.003)	(0.045)	(0.023)	(0.026)
Nbr Citations Made (log)	1.261***	1.222***	1.109***	1.116***	1.258***	1.214***	1.117***	1.095***
	(0.010)	(0.048)	(0.093)	(0.084)	(0.022)	(0.022)	(0.024)	(0.022)
Nbr Patents in Family				-0.015***				0.003
				(0.004)				(0.002)
Nbr Countries in Family				-0.039***				-0.033***
				(0.004)				(0.008)
Citations Received (3 yrs)				0.007***				0.002***
				(0.001)				(0.001)
Constant	-6.266***	-5.132***	-4.504***	-4.290***	-3.765***	-2.717***	-2.401***	-2.205***
	(0.049)	(0.163)	(0.400)	(0.358)	(0.069)	(0.072)	(0.092)	(0.087)
Ratio Clean/Dirty	248.32***	176.46**	132.91**	113.18**	308.68***	142.81**	180.33**	159.26**
	(20.82)	(29.65)	(27.91)	(21.00)	(22.49)	(20.75)	(22.65)	(22.72)
Sample			Gr. Triadic	Gr. Triadic			Gr. Triadic	Gr. Triadic
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X	X		X	X	X
Quality Proxies				X				X
Adjusted R2								
Observations	2,550,428	1,157,642	97,052	97,052	2,550,428	1,378,673	125,339	125,339

Linear Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Percentage of backward citations going to AI or ICT

B.4 Forward Citations as Outcome Variable

Table SI9: Long Version of Table 4

	(1) AI	(2) AI	(3) AI	(4) AI	(5) AI	(6) ICT	(7) ICT	(8) ICT
Clean Family	0.508***	0.497***	0.413***	0.394***	0.508***	0.480***	0.413***	0.377***
	(0.024)	(0.022)	(0.042)	(0.041)	(0.024)	(0.040)	(0.042)	(0.042)
Grey Family	0.324***	0.322***	0.265***	0.262***	0.324***	0.342***	0.265***	0.262***
	(0.019)	(0.017)	(0.032)	(0.030)	(0.019)	(0.022)	(0.032)	(0.027)
Nbr Patents in Family	0.013***	0.013***	0.013***	0.012***	0.013***	0.013***	0.013***	0.013***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Nbr Countries in Family	0.017***	0.019***	0.053***	0.053***	0.017***	0.018***	0.053***	0.052***
	(0.003)	(0.003)	(0.006)	(0.006)	(0.003)	(0.003)	(0.006)	(0.005)
Granted	0.217***	0.215***	0.227***	0.229***	0.217***	0.216***	0.227***	0.227***
	(0.039)	(0.039)	(0.035)	(0.035)	(0.039)	(0.038)	(0.035)	(0.035)
Triadic	0.121***	0.129***	0.152***	0.155***	0.121***	0.118***	0.152***	0.149***
	(0.017)	(0.019)	(0.020)	(0.020)	(0.017)	(0.016)	(0.020)	(0.019)
Nbr Citations Made (log)	0.572***	0.553***	0.456***	0.443***	0.572***	0.530***	0.456***	0.431***
	(0.018)	(0.025)	(0.018)	(0.021)	(0.018)	(0.027)	(0.018)	(0.024)
AI Citing		0.240***		0.130***				
		(0.046)		(0.026)				
Clean X Citing AI		0.061***		0.119***				
		(0.014)		(0.022)				
Grey X Citing AI		0.008		0.042				
		(0.017)		(0.028)				
ICT Citing						0.335***		0.156***
						(0.047)		(0.039)
Clean X Citing ICT						-0.111***		0.007
						(0.005)		(0.020)
Grey X Citing ICT						-0.126***		-0.022
						(0.016)		(0.027)
Constant	-1.407***	-1.385***	-0.960***	-0.945***	-1.407***	-1.401***	-0.960***	-0.957***
	(0.088)	(0.093)	(0.090)	(0.095)	(0.088)	(0.090)	(0.090)	(0.091)
Sample								
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Quality Proxies	X	X	X	X	X	X	X	X
Pseudo R2	0.282	0.284	0.338	0.339	0.282	0.285	0.338	0.340
Observations	2.55e+06	2.55e+06	1.47e+06	1.47e+06	2.55e+06	2.55e+06	1.47e+06	1.47e+06

Poisson Pseudo-Likelihood Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Citations Received Within 3 Years of Priority.
Note: Quality Proxies include the size of the family, the number of countries where the family was filed, the logged number of citations made by the family, whether it is granted, and whether it is triadic.

Table SI10: Like Table 4, Using Citations Within 5 Years as an Outcome

	(1) AI	(2) AI	(3) AI	(4) AI	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Clean Family	0.492***	0.484***	0.395***	0.381***	0.492***	0.468***	0.395***	0.367***
	(0.022)	(0.020)	(0.040)	(0.039)	(0.022)	(0.038)	(0.040)	(0.041)
Grey Family	0.309***	0.308***	0.243***	0.241***	0.309***	0.334***	0.243***	0.247***
	(0.018)	(0.016)	(0.030)	(0.029)	(0.018)	(0.020)	(0.030)	(0.026)
Nbr Patents in Family	0.013***	0.013***	0.014***	0.013***	0.013***	0.013***	0.014***	0.014***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Nbr Countries in Family	0.019***	0.021***	0.051***	0.051***	0.019***	0.020***	0.051***	0.051***
	(0.003)	(0.003)	(0.005)	(0.005)	(0.003)	(0.003)	(0.005)	(0.005)
Granted	0.221***	0.220***	0.242***	0.245***	0.221***	0.221***	0.242***	0.243***
	(0.037)	(0.036)	(0.033)	(0.032)	(0.037)	(0.036)	(0.033)	(0.033)
Triadic	0.144***	0.151***	0.171***	0.173***	0.144***	0.141***	0.171***	0.169***
	(0.021)	(0.022)	(0.020)	(0.020)	(0.021)	(0.019)	(0.020)	(0.020)
Nbr Citations Made (log)	0.584***	0.567***	0.457***	0.446***	0.584***	0.544***	0.457***	0.434***
	(0.021)	(0.027)	(0.018)	(0.021)	(0.021)	(0.030)	(0.018)	(0.024)
AI Citing		0.247***		0.136***				
		(0.050)		(0.027)				
Clean X Citing AI		0.028*		0.078***				
		(0.014)		(0.016)				
Grey X Citing AI		-0.028		0.017				
		(0.017)		(0.019)				
ICT Citing						0.329***		0.157***
						(0.053)		(0.040)
Clean X Citing ICT						-0.115***		-0.007
						(0.005)		(0.018)
Grey X Citing ICT						-0.146***		-0.040
						(0.017)		(0.026)
Constant	-0.985***	-0.967***	-0.520***	-0.508***	-0.985***	-0.984***	-0.520***	-0.521***
	(0.084)	(0.089)	(0.083)	(0.087)	(0.084)	(0.088)	(0.083)	(0.084)
Sample								
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Quality Proxies	X	X	X	X	X	X	X	X
Pseudo R2	0.35133	0.35265	0.39754	0.39836	0.35133	0.35398	0.39754	0.39864
Observations	2.55e+06	2.55e+06	1.48e+06	1.48e+06	2.55e+06	2.55e+06	1.48e+06	1.48e+06

Poisson Pseudo-Likelihood Regression.
Standard Errors in Parentheses. Clustered at the type and firm level.
Dependent Variable: Citations Received Within 5 Years of Priority.
Note: Quality Proxies include the size of the family, the number of countries where the family was filed, the logged number of citations made by the family, whether it is granted, and whether it is triadic.

C   Additional Figures and Tables For Firm-Level Analysis

C.1   Firms Patenting in Energy and AI/ICT

Figure SI2: Firms Patenting in Energy and AI
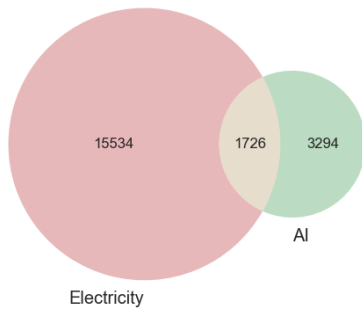
(a) Firms Patenting in Electricity and AI
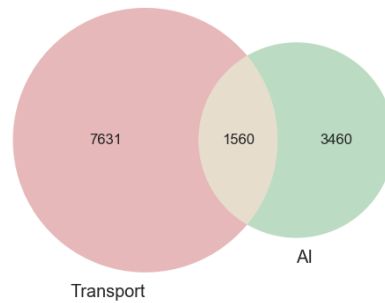
(b) Firms Patenting in Transport and AI
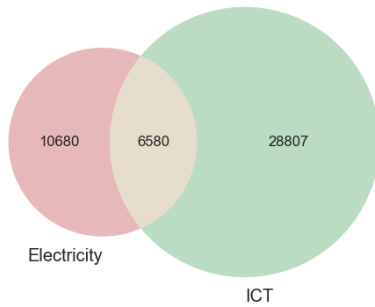
(c) Firms Patenting in Electricity and ICT
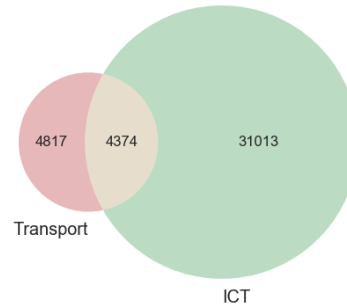
(d) Firms Patenting in Transport and ICT

Note: The figure shows the number of firms which have at least one patent in either electricity/transport, AI/ICT, or both over the study period.

C.2   Additional Regression Tables

C.2.1   Comparing Clean and Dirty Portfolios

Table SI11: Long Version of Table 6

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AI	AI	AI	AI	ICT	ICT	ICT	ICT
Family Count (log)	0.944***	0.974***	0.979***	0.997***	0.888***	0.921***	0.979***	0.970***
	(0.049)	(0.050)	(0.040)	(0.055)	(0.038)	(0.042)	(0.026)	(0.030)
Clean Portfolio	1.471***	-0.020	0.156	-0.599*	0.904***	0.176	0.495***	0.188
	(0.098)	(0.297)	(0.123)	(0.363)	(0.062)	(0.182)	(0.057)	(0.154)
Grey Portfolio	0.873***	-0.121	0.253	-0.516	0.439***	-0.297	0.067	-0.667***
	(0.076)	(0.310)	(0.170)	(0.393)	(0.068)	(0.234)	(0.071)	(0.199)
Total Assets (log)	0.136*	0.146*	-0.083*	-0.074	0.163***	0.154***	0.006	0.013
	(0.080)	(0.079)	(0.048)	(0.048)	(0.055)	(0.053)	(0.034)	(0.033)
Nbr Empoyees (log)	-0.208***	-0.229***	0.069	0.061	-0.097***	-0.114***	0.016	0.017
	(0.057)	(0.058)	(0.065)	(0.065)	(0.031)	(0.032)	(0.043)	(0.043)
Age (log)	-0.521***	-0.525***	-0.416**	-0.428***	-0.460***	-0.466***	-0.284***	-0.258***
	(0.200)	(0.170)	(0.164)	(0.164)	(0.136)	(0.138)	(0.088)	(0.086)
Firm Sectoral Focus		-0.028		-0.101		-0.046		-0.091
		(0.194)		(0.167)		(0.117)		(0.099)
Firm Clean Focus		-0.004		-0.005		-0.001		-0.003*
		(0.004)		(0.003)		(0.002)		(0.002)
Firm Grey Focus		-0.001		0.004		-0.002		-0.006***
		(0.004)		(0.005)		(0.002)		(0.002)
Clean X Firm Sectoral Focus		0.523***		0.179		0.201*		-0.142
		(0.195)		(0.162)		(0.115)		(0.111)
Grey X Firm Sectoral Focus		0.231		-0.045		0.235**		-0.131
		(0.158)		(0.160)		(0.093)		(0.105)
Clean X Firm Clean Focus		0.012***		0.012**		0.006**		0.003
		(0.005)		(0.005)		(0.003)		(0.002)
Grey X Firm Clean Focus		0.011***		0.017***		0.009***		0.009***
		(0.004)		(0.005)		(0.003)		(0.002)
Clean X Firm Grey Focus		0.017***		0.013*		0.010***		0.009***
		(0.004)		(0.007)		(0.002)		(0.002)
Grey X Firm Grey Focus		0.010*		0.003		0.005		0.011***
		(0.006)		(0.006)		(0.004)		(0.003)
Constant	-2.653**	-2.557*	-0.204	-0.361	-2.663**	-2.226*	-0.610	-0.676
	(1.354)	(1.314)	(1.094)	(1.057)	(1.170)	(1.139)	(0.665)	(0.673)
Portfolio Type	Transport	Transport	Electricity	Electricity	Transport	Transport	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs	X	X	X	X	X	X	X	X
Firm level controls	X	X	X	X	X	X	X	X
Observations	10,733	10,733	10,082	10,082	17,310	17,310	22,476	22,476
R2	0.738	0.740	0.450	0.455	0.835	0.836	0.732	0.733

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI or ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI12: Similar to Table 6 with more specifications for AI in Transport

	(1) AI	(2) AI	(3) AI	(4) AI	(5) AI	(6) AI	(7) AI	(8) AI
Family Count (log)	1.023***	0.939***	0.944***	0.973***	0.961***	0.974***	0.943***	0.774***
	(0.026)	(0.047)	(0.049)	(0.029)	(0.053)	(0.050)	(0.027)	(0.035)
Clean Portfolio	1.105***	1.433***	1.471***	0.304	-0.013	-0.020	0.796**	0.421
	(0.105)	(0.089)	(0.098)	(0.337)	(0.271)	(0.297)	(0.327)	(0.390)
Grey Portfolio	0.905***	0.837***	0.873***	0.346	-0.135	-0.121	0.482*	0.184
	(0.084)	(0.078)	(0.076)	(0.298)	(0.306)	(0.310)	(0.281)	(0.331)
Total Assets (log)			0.136*			0.146*		0.012
			(0.080)			(0.079)		(0.094)
Nbr Empoyees (log)			-0.208***			-0.229***		0.262**
			(0.057)			(0.058)		(0.115)
Age (log)			-0.521***			-0.525***		-0.114
			(0.200)			(0.170)		(0.075)
Firm Sectoral Focus				-0.218	-0.079	-0.028		
				(0.173)	(0.197)	(0.194)		
Firm Clean Focus				-0.002	-0.006*	-0.004		
				(0.003)	(0.003)	(0.004)		
Firm Grey Focus				0.011***	0.000	-0.001		
				(0.004)	(0.005)	(0.004)		
Clean X Firm Sectoral Focus				1.212***	0.589***	0.523***		
				(0.193)	(0.186)	(0.195)		
Grey X Firm Sectoral Focus				0.669***	0.297*	0.231		
				(0.159)	(0.153)	(0.158)		
Clean X Firm Clean Focus				0.003	0.013***	0.012***		
				(0.004)	(0.004)	(0.005)		
Grey X Firm Clean Focus				0.006	0.011***	0.011***		
				(0.004)	(0.004)	(0.004)		
Clean X Firm Grey Focus				0.008*	0.014***	0.017***		
				(0.004)	(0.004)	(0.004)		
Grey X Firm Grey Focus				-0.004	0.009	0.010*		
				(0.004)	(0.006)	(0.006)		
Firm Sectoral Focus (mean)							-0.251	0.008
							(0.161)	(0.170)
Firm Clean Focus (mean)							0.004	-0.004
							(0.004)	(0.005)
Firm Grey Focus (mean)							0.011**	0.004
							(0.005)	(0.005)
Clean X Firm Sectoral Focus (mean)							1.238***	1.006***
							(0.180)	(0.193)
Grey X Firm Sectoral Focus (mean)							0.699***	0.508***
							(0.151)	(0.167)
Clean X Firm Clean Focus (mean)							-0.006	0.005
							(0.004)	(0.006)
Grey X Firm Clean Focus (mean)							0.001	0.005
							(0.004)	(0.005)
Clean X Firm Grey Focus (mean)							0.005	0.011**
							(0.005)	(0.005)
Grey X Firm Grey Focus (mean)							-0.002	0.009
							(0.004)	(0.005)
Constant	-4.234***	-3.542***	-2.653**	-4.203***	-3.336***	-2.557*	-4.297***	-5.723***
	(0.095)	(0.214)	(1.354)	(0.246)	(0.293)	(1.314)	(0.257)	(1.089)
Portfolio Type	Transport	Transport	Transport	Transport	Transport	Transport	Transport	Transport
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X		X	X		
Firm level controls			X			X		X
Observations	30,805	12,902	10,733	30,805	12,902	10,733	30,805	23,447
R2	0.621	0.719	0.738	0.653	0.722	0.740	0.654	0.694

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI13: Similar to Table 6 with more specifications for AI in Electricity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AI	AI	AI	AI	AI	AI	AI	AI
Family Count (log)	1.037***	0.968***	0.979***	1.060***	0.964***	0.997***	1.058***	0.890***
	(0.047)	(0.040)	(0.040)	(0.068)	(0.051)	(0.055)	(0.071)	(0.074)
Clean Portfolio	-0.102	0.214*	0.156	-0.441	-0.636**	-0.599*	-0.446	-1.541**
	(0.207)	(0.115)	(0.123)	(0.617)	(0.316)	(0.363)	(0.616)	(0.705)
Grey Portfolio	0.243*	0.203	0.253	0.055	-0.689**	-0.516	-0.026	-0.931**
	(0.141)	(0.146)	(0.170)	(0.403)	(0.334)	(0.393)	(0.387)	(0.443)
Total Assets (log)			-0.083*			-0.074		0.051
			(0.048)			(0.048)		(0.112)
Nbr Empoyees (log)			0.069			0.061		0.276*
			(0.065)			(0.065)		(0.146)
Age (log)			-0.416**			-0.428***		-0.405***
			(0.164)			(0.164)		(0.098)
Firm Sectoral Focus				0.025	-0.063	-0.101		
				(0.225)	(0.156)	(0.167)		
Firm Clean Focus				-0.007	-0.007**	-0.005		
				(0.005)	(0.003)	(0.003)		
Firm Grey Focus				0.008	-0.000	0.004		
				(0.007)	(0.004)	(0.005)		
Clean X Firm Sectoral Focus				-0.580*	0.040	0.179		
				(0.326)	(0.162)	(0.162)		
Grey X Firm Sectoral Focus				0.009	-0.084	-0.045		
				(0.205)	(0.156)	(0.160)		
Clean X Firm Clean Focus				0.006	0.013***	0.012**		
				(0.008)	(0.004)	(0.005)		
Grey X Firm Clean Focus				0.014**	0.019***	0.017***		
				(0.006)	(0.004)	(0.005)		
Clean X Firm Grey Focus				0.015	0.014**	0.013*		
				(0.009)	(0.006)	(0.007)		
Grey X Firm Grey Focus				-0.009	0.007	0.003		
				(0.009)	(0.005)	(0.006)		
Firm Sectoral Focus (mean)							0.081	-0.025
							(0.210)	(0.204)
Firm Clean Focus (mean)							-0.007	-0.015***
							(0.005)	(0.006)
Firm Grey Focus (mean)							0.006	-0.002
							(0.008)	(0.010)
Clean X Firm Sectoral Focus (mean)							-0.620*	-0.562
							(0.346)	(0.372)
Grey X Firm Sectoral Focus (mean)							0.047	-0.239
							(0.199)	(0.214)
Clean X Firm Clean Focus (mean)							0.005	0.024***
							(0.008)	(0.008)
Grey X Firm Clean Focus (mean)							0.014**	0.023***
							(0.006)	(0.006)
Clean X Firm Grey Focus (mean)							0.011	0.022*
							(0.010)	(0.012)
Grey X Firm Grey Focus (mean)							-0.007	0.008
							(0.009)	(0.010)
Constant	-4.090***	-2.898***	-0.204	-4.124***	-2.771***	-0.361	-4.045***	-5.203***
	(0.119)	(0.111)	(1.094)	(0.288)	(0.258)	(1.057)	(0.303)	(1.262)
Portfolio Type	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X		X	X		
Firm level controls			X			X		X
Observations	48,082	12,402	10,082	48,082	12,402	10,082	48,082	33,997
R2	0.301	0.433	0.450	0.314	0.437	0.455	0.311	0.374

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI14: Similar to Table 6 with more specifications for ICT in Transport

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Family Count (log)	0.986***	0.891***	0.888***	0.956***	0.921***	0.921***	0.951***	0.850***
	(0.020)	(0.039)	(0.038)	(0.021)	(0.042)	(0.042)	(0.021)	(0.027)
Clean Portfolio	0.816***	0.893***	0.904***	0.560***	0.270*	0.176	0.705***	0.294
	(0.054)	(0.057)	(0.062)	(0.202)	(0.158)	(0.182)	(0.180)	(0.216)
Grey Portfolio	0.449***	0.426***	0.439***	0.043	-0.236	-0.297	0.157	-0.131
	(0.069)	(0.066)	(0.068)	(0.169)	(0.219)	(0.234)	(0.165)	(0.219)
Total Assets (log)			0.163***			0.154***		-0.020
			(0.055)			(0.053)		(0.042)
Nbr Empoyees (log)			-0.097***			-0.114***		0.168***
			(0.031)			(0.032)		(0.049)
Age (log)			-0.460***			-0.466***		0.003
			(0.136)			(0.138)		(0.061)
Firm Sectoral Focus				-0.274***	-0.050	-0.046		
				(0.102)	(0.117)	(0.117)		
Firm Clean Focus				0.004***	-0.001	-0.001		
				(0.001)	(0.002)	(0.002)		
Firm Grey Focus				0.007***	-0.001	-0.002		
				(0.003)	(0.003)	(0.002)		
Clean X Firm Sectoral Focus				0.413***	0.196*	0.201*		
				(0.110)	(0.108)	(0.115)		
Grey X Firm Sectoral Focus				0.515***	0.209**	0.235**		
				(0.082)	(0.086)	(0.093)		
Clean X Firm Clean Focus				-0.001	0.005*	0.006**		
				(0.003)	(0.003)	(0.003)		
Grey X Firm Clean Focus				0.004**	0.008***	0.009***		
				(0.002)	(0.003)	(0.003)		
Clean X Firm Grey Focus				0.004	0.008***	0.010***		
				(0.003)	(0.002)	(0.002)		
Grey X Firm Grey Focus				-0.004	0.005	0.005		
				(0.003)	(0.004)	(0.004)		
Firm Sectoral Focus (mean)							-0.390***	-0.260**
							(0.096)	(0.109)
Firm Clean Focus (mean)							0.007***	0.002
							(0.002)	(0.002)
Firm Grey Focus (mean)							0.008***	0.003
							(0.003)	(0.003)
Clean X Firm Sectoral Focus (mean)							0.506***	0.431***
							(0.103)	(0.114)
Grey X Firm Sectoral Focus (mean)							0.641***	0.524***
							(0.085)	(0.092)
Clean X Firm Clean Focus (mean)							-0.005*	0.004
							(0.002)	(0.003)
Grey X Firm Clean Focus (mean)							0.001	0.005*
							(0.002)	(0.003)
Clean X Firm Grey Focus (mean)							0.002	0.007*
							(0.003)	(0.004)
Grey X Firm Grey Focus (mean)							-0.005	0.003
							(0.003)	(0.005)
Constant	-2.226***	-1.677***	-2.663**	-2.294***	-1.650***	-2.226*	-2.345***	-2.871***
	(0.064)	(0.155)	(1.170)	(0.127)	(0.174)	(1.139)	(0.139)	(0.526)
Portfolio Type	Transport	Transport	Transport	Transport	Transport	Transport	Transport	Transport
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X		X	X		
Firm level controls			X			X		X
Observations	30,805	21,231	17,310	30,805	21,231	17,310	30,805	23,447
R2	0.759	0.822	0.835	0.764	0.822	0.836	0.763	0.790

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI15: Similar to Table 6 with more specifications for ICT in Electricity

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Family Count (log)	0.998***	0.998***	0.979***	1.055***	0.991***	0.970***	1.054***	0.927***
	(0.026)	(0.024)	(0.026)	(0.022)	(0.027)	(0.030)	(0.022)	(0.025)
Clean Portfolio	0.732***	0.485***	0.495***	1.103***	0.181	0.188	1.120***	0.463*
	(0.076)	(0.052)	(0.057)	(0.287)	(0.141)	(0.154)	(0.277)	(0.254)
Grey Portfolio	0.011	0.059	0.067	-0.378	-0.558***	-0.667***	-0.402*	-0.999***
	(0.075)	(0.062)	(0.071)	(0.240)	(0.173)	(0.199)	(0.243)	(0.280)
Total Assets (log)			0.006			0.013		-0.011
			(0.034)			(0.033)		(0.026)
Nbr Empoyees (log)			0.016			0.017		0.196***
			(0.043)			(0.043)		(0.037)
Age (log)			-0.284***			-0.258***		-0.112**
			(0.088)			(0.086)		(0.048)
Firm Sectoral Focus				-0.184	-0.099	-0.091		
				(0.137)	(0.090)	(0.099)		
Firm Clean Focus				0.009***	-0.002	-0.003*		
				(0.003)	(0.001)	(0.002)		
Firm Grey Focus				-0.004	-0.005***	-0.006***		
				(0.003)	(0.001)	(0.002)		
Clean X Firm Sectoral Focus				-0.331**	-0.143	-0.142		
				(0.131)	(0.100)	(0.111)		
Grey X Firm Sectoral Focus				-0.051	-0.118	-0.131		
				(0.127)	(0.095)	(0.105)		
Clean X Firm Clean Focus				-0.012***	0.003	0.003		
				(0.004)	(0.002)	(0.002)		
Grey X Firm Clean Focus				0.005	0.008***	0.009***		
				(0.003)	(0.002)	(0.002)		
Clean X Firm Grey Focus				0.002	0.009***	0.009***		
				(0.004)	(0.002)	(0.002)		
Grey X Firm Grey Focus				0.007	0.010***	0.011***		
				(0.004)	(0.002)	(0.003)		
Firm Sectoral Focus (mean)							-0.124	-0.203*
							(0.111)	(0.107)
Firm Clean Focus (mean)							0.010***	0.005*
							(0.003)	(0.003)
Firm Grey Focus (mean)							-0.007	-0.010**
							(0.004)	(0.005)
Clean X Firm Sectoral Focus (mean)							-0.316***	-0.303***
							(0.115)	(0.108)
Grey X Firm Sectoral Focus (mean)							-0.052	-0.182
							(0.113)	(0.114)
Clean X Firm Clean Focus (mean)							-0.013***	-0.001
							(0.004)	(0.003)
Grey X Firm Clean Focus (mean)							0.004	0.011***
							(0.003)	(0.003)
Clean X Firm Grey Focus (mean)							0.001	0.007
							(0.005)	(0.006)
Grey X Firm Grey Focus (mean)							0.008*	0.018***
							(0.005)	(0.006)
Constant	-1.946***	-1.462***	-0.610	-2.347***	-1.315***	-0.676	-2.319***	-2.797***
	(0.078)	(0.081)	(0.665)	(0.172)	(0.138)	(0.673)	(0.181)	(0.324)
Portfolio Type	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs		X	X		X	X		
Firm level controls			X			X		X
Observations	48,082	28,739	22,476	48,082	28,739	22,476	48,082	34,170
R2	0.601	0.710	0.732	0.616	0.711	0.733	0.616	0.666

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

C.2.2 Examining the Role of AI and ICT Stocks

Table SI16: Similar to Table 7 without Energy stocks and more specifications for AI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AI	AI	AI	AI	AI	AI	AI	AI
Family Count (log)	0.780***	0.781***	0.913***	0.916***	0.817***	0.837***	1.001***	1.009***
	(0.028)	(0.029)	(0.044)	(0.046)	(0.083)	(0.090)	(0.040)	(0.040)
Clean Portfolio	1.247***	0.726***	0.970***	1.007***	-0.134	0.079	0.227*	0.126
	(0.129)	(0.126)	(0.132)	(0.146)	(0.222)	(0.181)	(0.121)	(0.138)
Grey Portfolio	0.986***	0.955***	0.762***	0.819***	0.059	0.127	0.069	0.126
	(0.084)	(0.147)	(0.120)	(0.132)	(0.156)	(0.129)	(0.116)	(0.128)
Stock AI (log, t-1)	0.295***	0.179***	-0.065	-0.060	0.241***	0.288***	-0.086	-0.095
	(0.034)	(0.036)	(0.068)	(0.076)	(0.057)	(0.067)	(0.074)	(0.085)
Clean X Stock AI (log, t-1)		0.156***	0.135***	0.129***		-0.094	-0.007	0.005
		(0.040)	(0.040)	(0.042)		(0.070)	(0.044)	(0.045)
Grey X Stock AI (log, t-1)		0.025	0.038	0.029		-0.035	0.038	0.032
		(0.036)	(0.036)	(0.036)		(0.051)	(0.076)	(0.076)
Total Assets (log)				0.160*				-0.065
				(0.088)				(0.047)
Nbr Empoyees (log)				-0.215***				0.037
				(0.056)				(0.079)
Age (log)				-0.633**				-0.342*
				(0.294)				(0.202)
Constant	-4.257***	-3.895***	-3.218***	-2.342*	-3.910***	-4.050***	-2.706***	-0.345
	(0.100)	(0.118)	(0.315)	(1.359)	(0.121)	(0.132)	(0.221)	(1.225)
Portfolio Type	Transport	Transport	Transport	Transport	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Firm level controls				X				X
Observations	26,810	26,810	11,337	9,610	41,591	41,591	10,957	9,097
R2	0.652	0.655	0.724	0.742	0.326	0.328	0.434	0.448

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI17: Similar to Table 7 without Energy stocks and more specifications for ICT

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Family Count (log)	0.880***	0.880***	0.893***	0.890***	0.775***	0.792***	1.038***	1.015***
	(0.022)	(0.023)	(0.042)	(0.043)	(0.032)	(0.034)	(0.023)	(0.025)
Clean Portfolio	0.808***	0.941***	0.941***	0.963***	0.628***	0.913***	0.669***	0.658***
	(0.055)	(0.089)	(0.096)	(0.107)	(0.082)	(0.070)	(0.094)	(0.107)
Grey Portfolio	0.496***	0.514***	0.441***	0.442***	-0.108	-0.047	-0.112	-0.175*
	(0.069)	(0.099)	(0.107)	(0.120)	(0.080)	(0.084)	(0.090)	(0.103)
Stock ICT (log, t-1)	0.102***	0.120***	0.023	0.037	0.169***	0.204***	-0.049	-0.034
	(0.015)	(0.017)	(0.055)	(0.055)	(0.014)	(0.018)	(0.040)	(0.045)
Clean X Stock ICT (log, t-1)		-0.024	-0.005	-0.007		-0.059***	-0.033*	-0.027
		(0.017)	(0.017)	(0.018)		(0.018)	(0.019)	(0.021)
Grey X Stock ICT (log, t-1)		-0.005	0.000	0.001		-0.014	0.031	0.040*
		(0.023)	(0.025)	(0.026)		(0.021)	(0.022)	(0.023)
Total Assets (log)				0.155***				0.008
				(0.052)				(0.032)
Nbr Empoyees (log)				-0.108***				0.031
				(0.033)				(0.046)
Age (log)				-0.571***				-0.218**
				(0.190)				(0.094)
Constant	-2.375***	-2.470***	-1.838***	-2.176*	-2.063***	-2.262***	-1.271***	-0.917
	(0.054)	(0.090)	(0.399)	(1.223)	(0.066)	(0.067)	(0.242)	(0.682)
Portfolio Type	Transport	Transport	Transport	Transport	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Firm level controls				X				X
Observations	26,810	26,810	18,675	15,604	41,591	41,591	25,213	20,266
R2	0.768	0.768	0.823	0.836	0.625	0.626	0.707	0.725

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

C.2.3 Examining the Role of Energy Stock

Table SI18: Similar to Table 7 with more specifications for AI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AI	AI	AI	AI	AI	AI	AI	AI
Family Count (log)	0.982***	0.982***	0.930***	0.922***	0.971***	1.064***	1.014***	1.017***
	(0.044)	(0.044)	(0.043)	(0.045)	(0.108)	(0.126)	(0.041)	(0.042)
Clean Portfolio	1.026***	0.750***	0.912***	1.014***	-0.202	0.350***	0.142	0.006
	(0.122)	(0.147)	(0.248)	(0.273)	(0.231)	(0.112)	(0.159)	(0.184)
Grey Portfolio	0.846***	0.847***	0.589***	0.645***	0.128	0.134	-0.219	-0.230
	(0.091)	(0.147)	(0.204)	(0.225)	(0.142)	(0.117)	(0.193)	(0.218)
Stock AI (log, t-1)	0.362***	0.273***	0.054	0.020	0.303***	0.333***	-0.029	-0.067
	(0.037)	(0.066)	(0.082)	(0.096)	(0.058)	(0.082)	(0.078)	(0.087)
Stock Energy (log, t-1)	-0.216***	-0.199***	-0.258***	-0.186**	-0.143***	-0.136***	-0.108*	-0.048
	(0.037)	(0.045)	(0.069)	(0.083)	(0.040)	(0.051)	(0.056)	(0.063)
Clean X Stock AI (log, t-1)		0.138*	0.124*	0.137*		-0.030	-0.022	-0.014
		(0.073)	(0.069)	(0.074)		(0.101)	(0.047)	(0.047)
Grey X Stock AI (log, t-1)		-0.061	-0.008	-0.015		-0.060	-0.021	-0.035
		(0.081)	(0.066)	(0.070)		(0.065)	(0.085)	(0.086)
Clean X Energy Stock (log, t-1)		-0.029	0.011	-0.007		-0.112*	0.023	0.033
		(0.046)	(0.059)	(0.065)		(0.068)	(0.037)	(0.042)
Grey X Energy Stock (log, t-1)		0.039	0.046	0.046		0.028	0.086*	0.103*
		(0.051)	(0.051)	(0.057)		(0.042)	(0.047)	(0.053)
Total Assets (log)				0.178**				-0.065
				(0.088)				(0.047)
Nbr Empoyees (log)				-0.201***				0.038
				(0.057)				(0.079)
Age (log)				-0.562*				-0.341*
				(0.308)				(0.203)
Constant	-3.758***	-3.595***	-1.960***	-2.226	-3.774***	-4.075***	-2.339***	-0.210
	(0.106)	(0.127)	(0.493)	(1.394)	(0.136)	(0.114)	(0.316)	(1.203)
Portfolio Type	Transport	Transport	Transport	Transport	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Firm level controls				X				X
Observations	26,810	26,810	11,337	9,610	41,591	41,591	10,957	9,097
R2	0.658	0.660	0.725	0.742	0.330	0.335	0.435	0.449

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI19: Similar to Table 7 with more specifications for ICT

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT	(7) ICT	(8) ICT
Family Count (log)	0.937***	0.939***	0.896***	0.887***	0.977***	1.032***	1.039***	1.016***
	(0.028)	(0.030)	(0.044)	(0.044)	(0.033)	(0.036)	(0.024)	(0.026)
Clean Portfolio	0.735***	0.680***	0.683***	0.697***	0.512***	0.903***	0.489***	0.476***
	(0.056)	(0.075)	(0.112)	(0.126)	(0.081)	(0.064)	(0.092)	(0.102)
Grey Portfolio	0.460***	0.303***	0.067	0.023	-0.000	-0.054	-0.252**	-0.331***
	(0.066)	(0.100)	(0.164)	(0.171)	(0.069)	(0.075)	(0.105)	(0.115)
Stock ICT (log, t-1)	0.121***	0.231***	0.211***	0.197***	0.235***	0.305***	0.081*	0.083*
	(0.017)	(0.022)	(0.066)	(0.060)	(0.014)	(0.019)	(0.042)	(0.049)
Stock Energy (log, t-1)	-0.065***	-0.169***	-0.283***	-0.244***	-0.205***	-0.250***	-0.189***	-0.183***
	(0.023)	(0.026)	(0.047)	(0.049)	(0.019)	(0.023)	(0.039)	(0.045)
Clean X Stock ICT (log, t-1)		-0.121***	-0.068***	-0.072***		-0.099***	-0.092***	-0.084***
		(0.027)	(0.024)	(0.024)		(0.023)	(0.021)	(0.023)
Grey X Stock ICT (log, t-1)		-0.095***	-0.101***	-0.112***		-0.041*	0.001	0.006
		(0.026)	(0.027)	(0.029)		(0.025)	(0.019)	(0.022)
Clean X Energy Stock (log, t-1)		0.109***	0.089***	0.093***		0.017	0.105***	0.101***
		(0.025)	(0.025)	(0.026)		(0.033)	(0.030)	(0.032)
Grey X Energy Stock (log, t-1)		0.100***	0.137***	0.154***		0.057*	0.062***	0.070**
		(0.026)	(0.040)	(0.041)		(0.030)	(0.024)	(0.028)
Total Assets (log)				0.149***				0.010
				(0.052)				(0.032)
Nbr Empoyees (log)				-0.097***				0.036
				(0.034)				(0.046)
Age (log)				-0.505***				-0.170*
				(0.193)				(0.094)
Constant	-2.250***	-2.162***	-1.067***	-1.700	-1.927***	-2.178***	-1.067***	-0.950
	(0.056)	(0.077)	(0.402)	(1.245)	(0.062)	(0.060)	(0.238)	(0.657)
Portfolio Type	Transport	Transport	Transport	Transport	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Firm FEs			X	X			X	X
Firm level controls				X				X
Observations	26,810	26,810	18,675	15,604	41,591	41,591	25,213	20,266
R2	0.769	0.769	0.824	0.836	0.635	0.639	0.707	0.726

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI20: Similar to SI18 controlling for Sectoral/Clean/Grey Focus (Transport)

	(1)	(2)	(3)	(4)	(5)	(6)
	AI	AI	AI	AI	AI	AI
Family Count (log)	0.973***	0.974***	0.982***	0.922***	0.841***	0.994***
	(0.029)	(0.050)	(0.044)	(0.045)	(0.048)	(0.046)
Clean Portfolio	0.304	-0.020	0.750***	1.014***	0.689**	0.032
	(0.337)	(0.297)	(0.147)	(0.273)	(0.341)	(0.355)
Grey Portfolio	0.346	-0.121	0.847***	0.645***	0.219	-0.233
	(0.298)	(0.310)	(0.147)	(0.225)	(0.465)	(0.338)
Firm Sectoral Focus	-0.218	-0.028			-0.121	-0.095
	(0.173)	(0.194)			(0.156)	(0.204)
Firm Clean Focus	-0.002	-0.004			-0.005	0.000
	(0.003)	(0.004)			(0.004)	(0.005)
Firm Grey Focus	0.011***	-0.001			0.011***	0.002
	(0.004)	(0.004)			(0.003)	(0.004)
Clean X Firm Sectoral Focus	1.212***	0.523***			1.323***	0.662***
	(0.193)	(0.195)			(0.189)	(0.199)
Grey X Firm Sectoral Focus	0.669***	0.231			0.688***	0.235
	(0.159)	(0.158)			(0.180)	(0.175)
Clean X Firm Clean Focus	0.003	0.012***			-0.001	0.006
	(0.004)	(0.005)			(0.005)	(0.005)
Grey X Firm Clean Focus	0.006	0.011***			0.001	0.011**
	(0.004)	(0.004)			(0.005)	(0.005)
Clean X Firm Grey Focus	0.008*	0.017***			-0.003	0.013***
	(0.004)	(0.004)			(0.005)	(0.004)
Grey X Firm Grey Focus	-0.004	0.010*			-0.007	0.009*
	(0.004)	(0.006)			(0.006)	(0.005)
Total Assets (log)		0.146*		0.178**		0.175**
		(0.079)		(0.088)		(0.084)
Nbr Empoyees (log)		-0.229***		-0.201***		-0.237***
		(0.058)		(0.057)		(0.058)
Age (log)		-0.525***		-0.562*		-0.581**
		(0.170)		(0.308)		(0.268)
Stock AI (log, t-1)			0.273***	0.020	0.326***	0.033
			(0.066)	(0.096)	(0.059)	(0.110)
Clean X Stock AI (log, t-1)			0.138*	0.137*	0.205***	0.143*
			(0.073)	(0.074)	(0.067)	(0.081)
Grey X Stock AI (log, t-1)			-0.061	-0.015	-0.068	-0.057
			(0.081)	(0.070)	(0.090)	(0.081)
Stock Energy (log, t-1)			-0.199***	-0.186**	-0.162***	-0.166*
			(0.045)	(0.083)	(0.054)	(0.090)
Clean X Energy Stock (log, t-1)			-0.029	-0.007	-0.081	-0.040
			(0.046)	(0.065)	(0.049)	(0.067)
Grey X Energy Stock (log, t-1)			0.039	0.046	0.104	0.049
			(0.051)	(0.057)	(0.072)	(0.062)
Constant	-4.203***	-2.557*	-3.595***	-2.226	-3.617***	-2.202*
	(0.246)	(1.314)	(0.127)	(1.394)	(0.200)	(1.287)
Portfolio Type	Transport	Transport	Transport	Transport	Transport	Transport
Portfolio FEs	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X
Firm FEs		X		X		X
Firm level controls		X		X		X
Observations	30,805	10,733	26,810	9,610	26,810	9,610
R2	0.653	0.740	0.660	0.742	0.696	0.745

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI21: Similar to SI18 controlling for Sectoral/Clean/Grey Focus (Electricity)

	(1)	(2)	(3)	(4)	(5)	(6)
	AI	AI	AI	AI	AI	AI
Family Count (log)	1.060***	0.997***	1.064***	1.017***	1.016***	1.091***
	(0.068)	(0.055)	(0.126)	(0.042)	(0.068)	(0.052)
Clean Portfolio	-0.441	-0.599*	0.350***	0.006	0.803	-0.024
	(0.617)	(0.363)	(0.112)	(0.184)	(0.946)	(0.462)
Grey Portfolio	0.055	-0.516	0.134	-0.230	0.911**	-1.207**
	(0.403)	(0.393)	(0.117)	(0.218)	(0.444)	(0.476)
Firm Sectoral Focus	0.025	-0.101			-0.438	-0.077
	(0.225)	(0.167)			(0.284)	(0.178)
Firm Clean Focus	-0.007	-0.005			-0.029***	-0.006
	(0.005)	(0.003)			(0.008)	(0.004)
Firm Grey Focus	0.008	0.004			0.005	0.005
	(0.007)	(0.005)			(0.007)	(0.004)
Clean X Firm Sectoral Focus	-0.580*	0.179			0.089	0.225
	(0.326)	(0.162)			(0.495)	(0.174)
Grey X Firm Sectoral Focus	0.009	-0.045			0.369	-0.237
	(0.205)	(0.160)			(0.287)	(0.150)
Clean X Firm Clean Focus	0.006	0.012**			0.026***	0.009*
	(0.008)	(0.005)			(0.009)	(0.005)
Grey X Firm Clean Focus	0.014**	0.017***			0.029***	0.020***
	(0.006)	(0.005)			(0.008)	(0.006)
Clean X Firm Grey Focus	0.015	0.013*			0.015*	0.011*
	(0.009)	(0.007)			(0.009)	(0.006)
Grey X Firm Grey Focus	-0.009	0.003			-0.009	0.005
	(0.009)	(0.006)			(0.008)	(0.006)
Total Assets (log)		-0.074		-0.065		-0.057
		(0.048)		(0.047)		(0.047)
Nbr Empoyees (log)		0.061		0.038		0.022
		(0.065)		(0.079)		(0.076)
Age (log)		-0.428***		-0.341*		-0.350*
		(0.164)		(0.203)		(0.210)
Stock AI (log, t-1)			0.333***	-0.067	0.582***	-0.020
			(0.082)	(0.087)	(0.104)	(0.096)
Clean X Stock AI (log, t-1)			-0.030	-0.014	-0.285**	-0.073
			(0.101)	(0.047)	(0.122)	(0.060)
Grey X Stock AI (log, t-1)			-0.060	-0.035	-0.317***	-0.123
			(0.065)	(0.086)	(0.084)	(0.087)
Stock Energy (log, t-1)			-0.136***	-0.048	-0.057	-0.054
			(0.051)	(0.063)	(0.072)	(0.065)
Clean X Energy Stock (log, t-1)			-0.112*	0.033	-0.166	-0.011
			(0.068)	(0.042)	(0.122)	(0.051)
Grey X Energy Stock (log, t-1)			0.028	0.103*	-0.056	0.156***
			(0.042)	(0.053)	(0.073)	(0.058)
Constant	-4.124***	-0.361	-4.075***	-0.210	-4.534***	-0.515
	(0.288)	(1.057)	(0.114)	(1.203)	(0.292)	(1.177)
Portfolio Type	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X
Firm FEs		X		X		X
Firm level controls		X		X		X
Observations	48,082	10,082	41,591	9,097	41,591	9,097
R2	0.314	0.455	0.335	0.449	0.355	0.455

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing AI.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI22: Similar to SI18 controlling for Sectoral/Clean/Grey Focus (Transport)

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT
Family Count (log)	0.956***	0.921***	0.860***	0.880***	0.810***	0.937***
	(0.021)	(0.042)	(0.029)	(0.039)	(0.034)	(0.038)
Clean Portfolio	0.560***	0.176	0.895***	0.838***	0.502***	0.339
	(0.202)	(0.182)	(0.080)	(0.151)	(0.188)	(0.216)
Grey Portfolio	0.043	-0.297	0.284***	0.047	-0.322	-0.550**
	(0.169)	(0.234)	(0.097)	(0.180)	(0.263)	(0.248)
Firm Sectoral Focus	-0.274***	-0.046			-0.166*	-0.097
	(0.102)	(0.117)			(0.088)	(0.121)
Firm Clean Focus	0.004***	-0.001			-0.002	-0.002
	(0.001)	(0.002)			(0.003)	(0.002)
Firm Grey Focus	0.007***	-0.002			0.004**	-0.002
	(0.003)	(0.002)			(0.002)	(0.002)
Clean X Firm Sectoral Focus	0.413***	0.201*			0.410***	0.269**
	(0.110)	(0.115)			(0.104)	(0.116)
Grey X Firm Sectoral Focus	0.515***	0.235**			0.473***	0.223**
	(0.082)	(0.093)			(0.084)	(0.095)
Clean X Firm Clean Focus	-0.001	0.006**			0.004	0.005*
	(0.003)	(0.003)			(0.003)	(0.003)
Grey X Firm Clean Focus	0.004**	0.009***			0.006**	0.011***
	(0.002)	(0.003)			(0.003)	(0.003)
Clean X Firm Grey Focus	0.004	0.010***			0.003	0.009***
	(0.003)	(0.002)			(0.003)	(0.002)
Grey X Firm Grey Focus	-0.004	0.005			0.000	0.006*
	(0.003)	(0.004)			(0.003)	(0.004)
Total Assets (log)		0.154***		0.143***		0.134***
		(0.053)		(0.048)		(0.046)
Nbr Empoyees (log)		-0.114***		-0.095***		-0.119***
		(0.032)		(0.034)		(0.035)
Age (log)		-0.466***		-0.503**		-0.511**
		(0.138)		(0.220)		(0.216)
Stock AI (log, t-1)			0.188***	0.076	0.205***	0.101*
			(0.037)	(0.054)	(0.034)	(0.056)
Clean X Stock AI (log, t-1)			0.029	0.064*	0.017	0.039
			(0.039)	(0.038)	(0.035)	(0.034)
Grey X Stock AI (log, t-1)			-0.034	-0.036	-0.056	-0.082*
			(0.046)	(0.041)	(0.048)	(0.044)
Stock Energy (log, t-1)			-0.035	-0.109**	-0.019	-0.102**
			(0.024)	(0.050)	(0.031)	(0.051)
Clean X Energy Stock (log, t-1)			-0.018	-0.021	-0.016	-0.043
			(0.025)	(0.034)	(0.031)	(0.036)
Grey X Energy Stock (log, t-1)			0.047*	0.076**	0.067*	0.061*
			(0.027)	(0.038)	(0.037)	(0.035)
Constant	-2.294***	-2.226*	-2.105***	-1.536	-2.030***	-1.179
	(0.127)	(1.139)	(0.085)	(1.159)	(0.099)	(1.122)
Portfolio Type	Transport	Transport	Transport	Transport	Transport	Transport
Portfolio FEs	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X
Firm FEs		X		X		X
Firm level controls		X		X		X
Observations	30,805	17,310	26,810	15,604	26,810	15,604
R2	0.764	0.836	0.776	0.836	0.780	0.837

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.

Table SI23: Electricity: Similar to SI18 controlling for Sectoral/Clean/Grey Focus (Electricity)

	(1) ICT	(2) ICT	(3) ICT	(4) ICT	(5) ICT	(6) ICT
Family Count (log)	1.055***	0.970***	1.023***	1.006***	0.941***	1.006***
	(0.022)	(0.030)	(0.039)	(0.025)	(0.034)	(0.028)
Clean Portfolio	1.103***	0.188	1.022***	0.231**	0.930***	0.005
	(0.287)	(0.154)	(0.066)	(0.097)	(0.222)	(0.159)
Grey Portfolio	-0.378	-0.667***	-0.059	-0.340***	-0.195	-1.336***
	(0.240)	(0.199)	(0.069)	(0.112)	(0.304)	(0.233)
Firm Sectoral Focus	-0.184	-0.091			-0.348***	-0.001
	(0.137)	(0.099)			(0.128)	(0.084)
Firm Clean Focus	0.009***	-0.003*			0.001	-0.002
	(0.003)	(0.002)			(0.004)	(0.002)
Firm Grey Focus	-0.004	-0.006***			-0.006	-0.004**
	(0.003)	(0.002)			(0.005)	(0.002)
Clean X Firm Sectoral Focus	-0.331**	-0.142			-0.226*	-0.207**
	(0.131)	(0.111)			(0.129)	(0.092)
Grey X Firm Sectoral Focus	-0.051	-0.131			-0.014	-0.337***
	(0.127)	(0.105)			(0.134)	(0.095)
Clean X Firm Clean Focus	-0.012***	0.003			-0.002	0.002
	(0.004)	(0.002)			(0.004)	(0.002)
Grey X Firm Clean Focus	0.005	0.009***			0.008*	0.009***
	(0.003)	(0.002)			(0.004)	(0.003)
Clean X Firm Grey Focus	0.002	0.009***			0.004	0.007***
	(0.004)	(0.002)			(0.005)	(0.002)
Grey X Firm Grey Focus	0.007	0.011***			0.008	0.012***
	(0.004)	(0.003)			(0.005)	(0.003)
Total Assets (log)		0.013		0.015		0.021
		(0.033)		(0.033)		(0.033)
Nbr Empoyees (log)		0.017		0.036		0.034
		(0.043)		(0.045)		(0.045)
Age (log)		-0.258***		-0.173*		-0.149
		(0.086)		(0.095)		(0.092)
Stock AI (log, t-1)			0.268***	0.083*	0.259***	0.087**
			(0.046)	(0.043)	(0.045)	(0.043)
Clean X Stock AI (log, t-1)			-0.138***	-0.089***	-0.133***	-0.097***
			(0.041)	(0.024)	(0.042)	(0.026)
Grey X Stock AI (log, t-1)			-0.025	0.003	-0.054	-0.013
			(0.047)	(0.032)	(0.048)	(0.038)
Stock Energy (log, t-1)			-0.095***	-0.165***	0.000	-0.166***
			(0.028)	(0.041)	(0.045)	(0.041)
Clean X Energy Stock (log, t-1)			-0.025	0.093***	0.002	0.095***
			(0.032)	(0.027)	(0.052)	(0.028)
Grey X Energy Stock (log, t-1)			0.009	0.072**	-0.034	0.108***
			(0.032)	(0.031)	(0.057)	(0.035)
Constant	-2.347***	-0.676	-2.004***	-0.817	-2.342***	-0.917
	(0.172)	(0.673)	(0.062)	(0.673)	(0.138)	(0.682)
Portfolio Type	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
Portfolio FEs	X	X	X	X	X	X
Year FEs	X	X	X	X	X	X
Firm FEs		X		X		X
Firm level controls		X		X		X
Observations	48,082	22,476	41,591	20,266	41,591	20,266
R2	0.616	0.733	0.613	0.726	0.624	0.727

Poisson pseudo-maximum likelihood regression. Standard errors in parentheses, Clustered at firm level.
Dependent variable: Count of Families citing ICT.
Firm level controls include total assets (log), number of employees (log), and years since incorporation (log).
The label (log) refers to the natural logarithm of 1 + the variable in question.