Internet Appendix to "Corporate Patenting, Customer Capital, and Financial Market Outcomes" (Not to Be Published)

Mine Ertugrul, Karthik Krishnan, Bo Xu, and Qianqian Yu

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IA1.   Details on Linking BAV Data with Compustat

Since the BAV survey is conducted at the brand level, we manually link the brand to companies from Compustat. We follow Larkin (2013) and identify the brand that is closest to the firm name and use its brand score for the firm. The details of our identification procedure based on different brand types are as follows. 1) Monobrands: For monobrands, the brand represents all or the majority of the firm's business (e.g., Starbucks, FedEx, Delta Airlines). Since the company and the brand name are the same, the brand score of the brand is applied for the company. 2) Corporate brands: The corporate name is dominant in the brand name (e.g., Apple, Colgate). In this case, we use the brand score for the company name. For instance, we use the brand score of Apple, instead of that of iPhone or iPad. 3) Mixed brands: Some corporations use their name for some of their products, but not for others. For instance, Gap Inc. operates Gap, Banana Republic, Old Navy, and Athleta. For these companies, we use the brand score of the brand that is most similar to the company name (e.g., Gap for Gap Inc.). 4) House of brands: For these brands, the corporation does not use its corporate name in any of their brands. Take Procter and Gamble as an example, it owns Olay, Tide, Crest toothpastes, etc.[1] Fortunately, BAV surveys not only the brands but the company as well. For example, BAV data includes brand score for Procter and Gamble as well as some of its brands such as Head & Shoulders and Pampers. In our analysis, we use the brand score of the company (in this example, the brand score of Procter and Gamble) rather than a weighted average of the scores for the brands of the company.

IA2.   Additional Results

In this section of the Internet Appendix, we present the results of supplemental tests that accompany the results in the paper.

Figure IA1 depicts the distribution of yearly examiner approval rate adjusted for

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[1]Although in these cases, it might be more accurate to use the weighted average of the brand scores of the products of the company, this approach is challenging for several reasons. Since companies do not report revenues from each product separately, it is difficult to take a weighted average of brand scores of different products. Furthermore, BAV data does not include all the brands that a company owns. For robustness, we conduct our baseline regressions using subsamples excluding house of brands or excluding both house of brands and mixed brands. In both cases, we obtain qualitatively similar results as those using the whole sample (as reported in Table IA18 in this Internet Appendix).

art-unit average approval rate (as defined in equation (4)).

Table IA1 reports the distribution of market capitalization by Fama-French 12 Industry classifications (excluding financial and utility industries) in our BAV sample versus the broader Compustat sample

Table IA2 reports the results on the effect of changes in patents on changes in customer capital.

Table IA3 reports the results for the variation analysis of individual examiner leniency (i.e., regressing the individual examiner leniency measure on various fixed effects and application quality as measured by the number of independent claims in a patent application).

Table IA4 reports the reduced-form results of our IV regressions.

Table IA5 reports the results of our robustness test regressing customer capital measures on the patenting variables using the IV sample.

Table IA6 reports the results of the set of seemingly unrelated regressions for the mediation analysis on the direct and indirect effects of patenting on firm performance.

Table IA7 reports the results of the regressions interacting the patenting variables with greater competition.

Table IA8 reports the results of the regressions interacting the patenting variables with greater advertising intensity.

Table IA9 presents the results on the relation between new product introduction predicted by patenting activity and customer capital.

Table IA10 presents the results on the relation between patent applications, patent grants, and new product introductions.

Tables IA11–IA13 present the results of our robustness tests using various alternative measures of customer capital.

Tables IA14 and IA15 present the results of two validation tests to support the validity of our instrument (i.e., the average examiner leniency).

Table IA16 presents the results on the relation between the likelihood of reapplication, its eventual success, and firm performance.

Table IA17 presents the effects of exploratory patents versus exploitative patents on customer capital.

Table IA18 presents the results of our baseline regressions excluding house of brands and mixed brands.

References

Larkin, Y. "Brand perception, cash flow stability, and financial policy." *Journal of Financial Economics*, 110 (2013), 232–253.

Distribution of Art Unit-Adjusted Examiner Leniency

This figure presents the distribution of art unit-adjusted patent examiner leniency (or approval rate), defined by Equation (4) in Section IV.B.2 in the paper. The sample makes use of information of patent applications filed by U.S. public firms with and information of corresponding examiners from 2000 to 2014. Examiners who reviewed less than 10 applications per year are excluded.
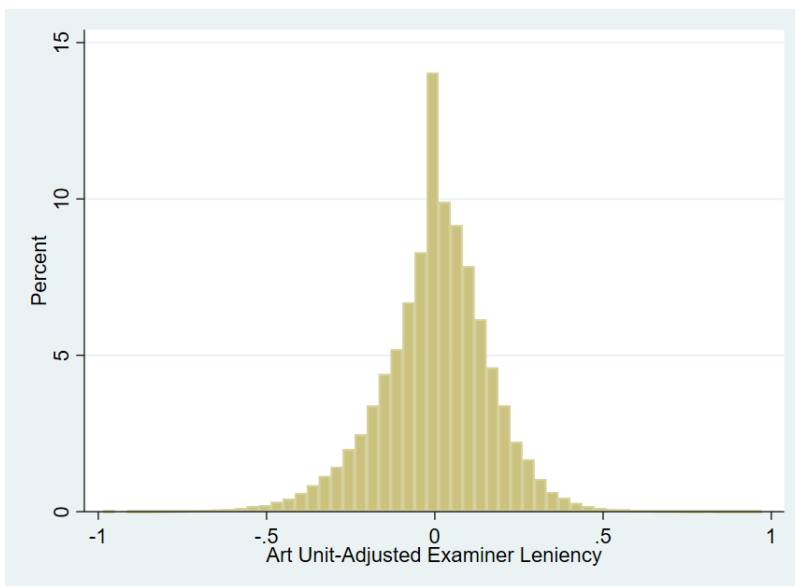
Table IA1

Market Capitalization by Industry

This table presents the sample distribution of market capitalization by Fama-French 12-industry classifications. Column "BAV Sample" reports the percentage of market capitalization for each industry over that of all firms using the BAV sample of 3,581 firm-year observations for 462 unique firms from 2000 to 2014. Column "Compustat Sample" reports the percentage of market capitalization for each industry over that of all firms using all observations from Compustat.

Fama-French 12 Industry	Industry Description	Market Capitalization (%)	
		BAV Sample	Compustat Sample
Business Equipment	Computers, Software, and Electronic Equipment	20.49	13.65
Chemicals	Chemicals and Allied Products	6.54	3.26
Consumer Durables	Cars, TV's, Furniture, and Household Appliances	4.86	2.47
Consumer Nondurables	Food, Tobacco, Textiles, Apparel, Leather, and Toys	11.10	6.36
Healthcare	Healthcare, Medical Equipment, and Drugs	14.24	9.25
Manufacturing	Machinery, Trucks, Planes, Office Furniture, Paper, and Commercial Printing	6.51	6.11
Energy	Oil, Gas, and Coal Extraction and Products	11.38	10.60
Other	Mines, Construction, Building material, Transportation, Hotels, Bus Service, and Entertainment	8.40	9.82
Telecommunication	Telephone and Television Transmission	6.03	8.37
Shops	Wholesale, Retail, and Some Services (Laundries, Repair Shops)	10.44	6.35

Table IA2

The Effect of Changes in Patenting on Changes in Customer Capital

This table presents the OLS and IV regression results of changes in customer capital on changes in the adjusted number of patents. All dependent variables are leading 1-year. Δ is the first difference operator (e.g., $\Delta\ln(\text{PATS})_{i,t} = \ln(\text{PATS})_{i,t} - \ln(\text{PATS})_{t-1}$). All variables are defined in detail in Table I. Year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. OLS results

	ΔNOVELTY	NOVELTY COMPONENTS				Δ QUALITY	QUALITY COMPONENTS				
		ΔINNOVATIVE	ΔDYNAMIC	ΔINTELLIGENT	ΔPROGRESSIVE		ΔLEADER	ΔRELIABLE	ΔHIGH QUALITY	ΔHIGH PERFORMANCE	ΔTRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9	10	11
Δln(PATS)	0.100*	0.066	0.073	0.024	0.190**	0.213***	0.078	0.174*	0.302***	0.238**	0.310***
	(0.064)	(0.187)	(0.444)	(0.734)	(0.020)	(0.000)	(0.387)	(0.071)	(0.001)	(0.031)	(0.001)
Δln(ASSETS)	0.351***	0.436***	0.322**	0.536***	0.196*	0.671***	0.818***	0.419*	0.834***	0.561***	0.680**
	(0.000)	(0.001)	(0.029)	(0.000)	(0.096)	(0.000)	(0.001)	(0.068)	(0.003)	(0.005)	(0.018)
ΔMB	0.074*	0.035	0.115**	0.108*	0.066	0.140**	0.122	0.123	0.176**	0.115*	0.134*
	(0.096)	(0.551)	(0.032)	(0.061)	(0.153)	(0.029)	(0.150)	(0.186)	(0.031)	(0.058)	(0.065)
ΔAD	1.543*	1.995**	1.051	1.413	1.254	2.704**	3.881***	1.843	2.614*	1.776	3.750
	(0.077)	(0.043)	(0.474)	(0.465)	(0.582)	(0.026)	(0.002)	(0.285)	(0.092)	(0.400)	(0.108)
ΔRD	2.005	2.942	0.495	3.537	1.952	1.449	0.115	2.676	1.103	0.256	3.350
	(0.250)	(0.114)	(0.830)	(0.221)	(0.277)	(0.549)	(0.971)	(0.470)	(0.604)	(0.897)	(0.263)
ΔROA	0.375	0.570	0.555	0.651	0.059	-0.690	0.561	-1.792*	-1.291*	0.200	-1.091
	(0.344)	(0.420)	(0.215)	(0.279)	(0.920)	(0.224)	(0.546)	(0.056)	(0.079)	(0.772)	(0.160)
ΔHHI	1.068	2.469	-0.574	1.740	1.092	-2.228	-5.025**	-2.030	-1.332	-3.389**	-0.097
	(0.574)	(0.281)	(0.785)	(0.246)	(0.662)	(0.125)	(0.021)	(0.109)	(0.613)	(0.012)	(0.958)
ΔBHR	0.013	0.058	0.031	-0.015	-0.025	-0.150*	-0.263**	-0.097	-0.157*	-0.171**	-0.062
	(0.778)	(0.308)	(0.546)	(0.809)	(0.570)	(0.073)	(0.018)	(0.388)	(0.087)	(0.041)	(0.563)
ΔSTD_DEV	-0.027	-0.495	0.092	0.567	-0.054	-0.029	0.426	-0.045	-0.386	0.256	-0.614
	(0.925)	(0.194)	(0.820)	(0.137)	(0.876)	(0.934)	(0.443)	(0.934)	(0.372)	(0.583)	(0.252)
Observations	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
R-squared	0.139	0.092	0.083	0.076	0.078	0.136	0.066	0.078	0.107	0.054	0.154
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. IV Results

| Variables | Δln(PATS) | ΔNOVELTY | NOVELTY COMPONENTS | | | | ΔQUALITY | QUALITY COMPONENTS | | | | |
| | | | ΔINNOVATIVE | ΔDYNAMIC | ΔINTELLIGENT | ΔPROGRESSIVE | | ΔLEADER | ΔRELIABLE | ΔHIGH QUALITY | ΔHIGH PERFORMANCE | ΔTRUSTWORTHY |
	1	2	3	4	5	6	7	8	9	10	11	12
ΔAVG_LENIENCY	0.470***											
	(0.000)											
Δln(PATS)		1.377*	1.874*	0.502	2.294*	0.010	2.259*	1.817	1.234	3.880**	0.673	3.691**
		(0.091)	(0.093)	(0.654)	(0.062)	(0.991)	(0.074)	(0.252)	(0.406)	(0.036)	(0.663)	(0.030)
Δln(ASSETS)	0.112**	0.684**	0.648*	0.747**	0.846**	0.585**	0.883***	1.140***	0.932**	0.676	1.049**	0.619
	(0.041)	(0.010)	(0.089)	(0.014)	(0.036)	(0.040)	(0.008)	(0.006)	(0.032)	(0.151)	(0.018)	(0.161)
ΔMB	0.011	0.077	0.005	0.157**	0.113	0.039	0.065	0.167*	0.019	0.085	0.071	-0.016
	(0.288)	(0.190)	(0.947)	(0.021)	(0.150)	(0.625)	(0.352)	(0.074)	(0.827)	(0.452)	(0.345)	(0.865)
ΔRD	0.732*	2.394	3.296	2.001	2.654	2.240	0.898	2.736	-1.388	0.458	2.875	-0.192
	(0.074)	(0.363)	(0.323)	(0.517)	(0.482)	(0.380)	(0.739)	(0.350)	(0.663)	(0.929)	(0.376)	(0.958)
ΔAD	-0.654	4.277**	4.071	3.829	4.404	4.298**	5.814**	4.359	10.267**	5.757	-0.697	9.383**
	(0.153)	(0.025)	(0.135)	(0.242)	(0.178)	(0.023)	(0.027)	(0.202)	(0.014)	(0.217)	(0.863)	(0.034)
ΔROA	-0.050	1.900**	2.984**	1.491*	1.788	1.330	3.497***	2.940**	3.859***	4.266**	3.156**	3.266***
	(0.755)	(0.026)	(0.014)	(0.088)	(0.125)	(0.159)	(0.001)	(0.023)	(0.001)	(0.012)	(0.017)	(0.009)
ΔHHI	-0.214	2.629	1.982	-0.967	3.103	6.206	2.000	3.196	-0.019	3.512	1.624	1.688
	(0.798)	(0.439)	(0.652)	(0.732)	(0.377)	(0.240)	(0.588)	(0.583)	(0.996)	(0.379)	(0.701)	(0.724)
ΔBHR	-0.009**	0.057***	0.065***	0.094***	0.028	0.031	0.085**	0.102*	0.083**	0.128***	0.018	0.093**
	(0.032)	(0.002)	(0.007)	(0.000)	(0.302)	(0.306)	(0.022)	(0.069)	(0.045)	(0.005)	(0.593)	(0.044)
ΔSTD_DEV	-0.022	-0.004	-0.146	0.078	0.347**	-0.308**	-0.007	-0.078	0.009	0.145	-0.073	-0.036
	(0.512)	(0.974)	(0.503)	(0.544)	(0.039)	(0.035)	(0.963)	(0.602)	(0.978)	(0.428)	(0.617)	(0.823)
Observations	1,084	1,084	1,084	1,084	1,084	1,084	1,084	1,084	1,084	1,084	1,084	1,084
R-squared	0.520											
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA3

Variation Analysis of Individual Examiner Leniency

This table reports how the variation in individual examiner leniency is explained by different fixed effects (i.e., year fixed effects, art unit fixed effects, and examiner fixed effects) as well as the application characteristic/quality (as proxied by the logged number of independent claims). The dependent variable, ADJ_LENIENCY, is the art-unit adjusted individual examiner leniency, as defined in detail in Equation (4) in the paper. ln(INDEP_CLAIMS) is the natural log of the number of independent claims in an application. All standard errors are adjusted for clustering at the examiner level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	ADJ_LENIENCY							
	1	2	3	4	5	6	7	8
LN(INDEP_CLAIMS)								-0.001
								(0.107)
Observations	351,229	351,217	350,606	351,217	350,606	350,592	350,592	298,580
Adjusted R-squared	0.003	0.009	0.492	0.012	0.506	0.526	0.535	0.572
Year FE	Yes			Yes	Yes		Yes	Yes
Art Unit FE		Yes		Yes		Yes	Yes	Yes
Examiner FE			Yes		Yes	Yes	Yes	Yes

Table IA4

Instrumental Variable Analysis on the Effect of Patenting on Customer Capital: Reduced-Form Results

This table reports the reduced-form results of our instrumental variable analysis, i.e., regressing various measures of customer capital on the instrument, AVG_LENIENCY, and other control variables. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

| Variables | NOVELTY | NOVELTY COMPONENTS | | | | QUALITY | QUALITY COMPONENTS | | | | |
| | | INNOVATIVE | DYNAMIC | INTELLIGENT | PROGRESSIVE | | LEADER | RELIABLE | HIGH QUALITY | HIGH PERFORMANCE | TRUSTWORTHY |
	1	2	3	4	5	6	7	8	9	10	11
AVG_LENIENCY	0.992***	1.272***	0.372	1.598***	0.726	1.741**	1.236*	1.845*	2.091*	1.754**	1.777
	(0.008)	(0.006)	(0.392)	(0.004)	(0.243)	(0.047)	(0.081)	(0.075)	(0.064)	(0.029)	(0.152)
ln(ASSETS)	1.161***	1.109***	0.859***	1.547***	1.130***	1.884***	2.113***	1.550**	2.246***	1.840***	1.671**
	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.011)	(0.002)	(0.001)	(0.012)
MB	0.360***	0.369***	0.269***	0.380***	0.423***	0.065	0.400***	-0.115	0.070	0.134	-0.164
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.599)	(0.002)	(0.376)	(0.655)	(0.319)	(0.297)
RD	2.374	1.694	-1.421	6.247**	2.977	-2.397	-1.604	-3.956	-2.521	0.076	-3.981
	(0.219)	(0.501)	(0.477)	(0.012)	(0.277)	(0.513)	(0.698)	(0.309)	(0.568)	(0.983)	(0.429)
AD	7.229***	9.841***	4.123**	6.941**	8.011***	5.257	6.146	4.093	7.208	3.847	4.990
	(0.000)	(0.001)	(0.012)	(0.041)	(0.001)	(0.349)	(0.232)	(0.531)	(0.329)	(0.399)	(0.469)
ROA	0.572	-0.043	1.255	0.841	0.234	4.670**	2.583	4.715**	6.775***	3.898***	5.380**
	(0.590)	(0.973)	(0.159)	(0.562)	(0.850)	(0.015)	(0.139)	(0.050)	(0.005)	(0.009)	(0.019)
HHI	-2.019	-4.871**	-3.482*	2.224	-1.948	-4.225	-4.462	-5.469	-4.874	-0.678	-5.644
	(0.250)	(0.021)	(0.071)	(0.470)	(0.244)	(0.306)	(0.355)	(0.255)	(0.234)	(0.799)	(0.350)
BHR	-0.032	-0.031	0.005	-0.076	-0.027	0.086**	0.062	0.091*	0.136***	-0.020	0.159***
	(0.391)	(0.375)	(0.829)	(0.145)	(0.630)	(0.017)	(0.110)	(0.080)	(0.003)	(0.546)	(0.003)
STD_DEV	0.262	0.307**	0.309**	0.408	0.023	-0.065	0.225	0.143	-0.105	0.070	-0.659**
	(0.133)	(0.015)	(0.032)	(0.312)	(0.868)	(0.752)	(0.130)	(0.766)	(0.743)	(0.677)	(0.028)
ln(APPS)	0.099	0.104	0.045	0.164	0.084	-0.025	0.148	-0.088	-0.022	-0.051	-0.110
	(0.167)	(0.244)	(0.562)	(0.137)	(0.277)	(0.870)	(0.309)	(0.648)	(0.890)	(0.670)	(0.606)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
R-squared	0.338	0.231	0.226	0.265	0.335	0.495	0.369	0.383	0.515	0.401	0.386
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA5

Robustness Test: The Effect of Patenting on Customer Capital Using the IV Sample

This table reports the OLS regression results of customer capital on various measures of patenting activities using the IV sample (i.e., the sample of firms that have filed at least one patent application during 2000 – 2014). Panels A, B, and C report regression results using the adjusted number of patents, adjusted number of citations and market value of patents, respectively, as the main explanatory variable. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Adjusted Number of Patents

| Variables | NOVELTY | NOVELTY COMPONENTS | | | | QUALITY | QUALITY COMPONENTS | | | | |
| | | INNOVATIVE | DYNAMIC | INTELLIGENT | PROGRESSIVE | | LEADER | RELIABLE | HIGH QUALITY | HIGH PERFORMANCE | TRUSTWORTHY |
	1	2	3	4	5	6	7	8	9	10	11
ln(PATS)	0.250***	0.263**	0.165	0.365**	0.208**	0.026	0.331**	-0.145	0.022	0.071	-0.147
	(0.005)	(0.014)	(0.123)	(0.011)	(0.024)	(0.876)	(0.039)	(0.493)	(0.911)	(0.648)	(0.517)
ln(ASSETS)	1.050***	0.967***	0.789***	1.430***	1.015***	1.771***	1.965***	1.477**	2.126***	1.714***	1.571**
	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.010)	(0.002)	(0.001)	(0.014)
MB	0.353***	0.355***	0.264***	0.368***	0.424***	0.050	0.380***	-0.121	0.049	0.123	-0.182
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.696)	(0.004)	(0.359)	(0.758)	(0.374)	(0.245)
RD	1.578	0.707	-1.871	5.597**	1.880	-3.125	-2.253	-4.533	-3.269	-0.768	-4.803
	(0.425)	(0.784)	(0.357)	(0.020)	(0.501)	(0.392)	(0.595)	(0.249)	(0.455)	(0.828)	(0.336)
AD	9.365***	13.115***	4.824*	8.373	11.147***	9.946	8.084	9.978	12.222	8.229	11.219
	(0.005)	(0.001)	(0.061)	(0.137)	(0.005)	(0.225)	(0.221)	(0.321)	(0.248)	(0.274)	(0.252)
ROA	1.054	0.461	1.438	1.471	0.845	5.114**	2.983	5.034**	7.541***	4.254**	5.756**
	(0.366)	(0.741)	(0.151)	(0.338)	(0.518)	(0.010)	(0.115)	(0.036)	(0.003)	(0.011)	(0.010)
HHI	-1.331	-4.154*	-3.326	3.359	-1.203	-3.015	-2.927	-4.231	-3.972	0.077	-4.019
	(0.449)	(0.066)	(0.103)	(0.285)	(0.444)	(0.483)	(0.551)	(0.389)	(0.361)	(0.980)	(0.515)
BHR	-0.188**	-0.150	-0.046	-0.252*	-0.304***	0.195	0.097	0.192	0.247	0.027	0.411**
	(0.028)	(0.158)	(0.585)	(0.057)	(0.002)	(0.198)	(0.560)	(0.258)	(0.173)	(0.857)	(0.035)
STD_DEV	1.951***	1.761**	1.829***	2.884***	1.328**	-1.590	0.381	-2.573	-0.840	-0.895	-4.025***
	(0.001)	(0.045)	(0.001)	(0.005)	(0.024)	(0.168)	(0.708)	(0.178)	(0.569)	(0.344)	(0.008)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
R-squared	0.349	0.234	0.231	0.274	0.345	0.494	0.369	0.384	0.514	0.401	0.390
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Adjusted Number of Citations

Variables	NOVELTY	NOVELTY COMPONENTS				QUALITY	QUALITY COMPONENTS				
		INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE		LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
	1	2	3	4	5	6	7	8	9	10	11
ln(CITES)	0.217***	0.238***	0.164**	0.285**	0.181**	0.059	0.249*	-0.069	0.087	0.136	-0.106
	(0.001)	(0.006)	(0.048)	(0.017)	(0.017)	(0.665)	(0.069)	(0.683)	(0.607)	(0.318)	(0.557)
ln(ASSETS)	1.048***	0.958***	0.774***	1.448***	1.013***	1.746***	1.988***	1.440**	2.081***	1.664***	1.558**
	(0.000)	(0.005)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.013)	(0.003)	(0.001)	(0.016)
MB	0.353***	0.355***	0.264***	0.371***	0.425***	0.048	0.383***	-0.124	0.046	0.120	-0.184
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.705)	(0.004)	(0.344)	(0.772)	(0.386)	(0.240)
RD	1.542	0.635	-1.966	5.651**	1.849	-3.254	-2.169	-4.707	-3.503	-1.033	-4.856
	(0.430)	(0.805)	(0.330)	(0.018)	(0.503)	(0.375)	(0.609)	(0.232)	(0.428)	(0.768)	(0.333)
AD	9.401***	13.130***	4.802*	8.496	11.176***	9.868	8.219	9.827	12.072	8.071	11.149
	(0.006)	(0.002)	(0.066)	(0.136)	(0.005)	(0.230)	(0.219)	(0.325)	(0.256)	(0.286)	(0.252)
ROA	1.117	0.530	1.485	1.556	0.898	5.129***	3.058	5.011**	7.563***	4.290**	5.724**
	(0.336)	(0.702)	(0.140)	(0.308)	(0.491)	(0.010)	(0.104)	(0.037)	(0.003)	(0.010)	(0.010)
HHI	-1.431	-4.257*	-3.387*	3.205	-1.287	-3.016	-3.070	-4.159	-3.965	0.068	-3.955
	(0.419)	(0.062)	(0.098)	(0.311)	(0.410)	(0.481)	(0.526)	(0.398)	(0.360)	(0.982)	(0.521)
BHR	-0.198**	-0.161	-0.052	-0.267**	-0.312***	0.195	0.083	0.199	0.247	0.026	0.418**
	(0.020)	(0.131)	(0.534)	(0.042)	(0.002)	(0.197)	(0.612)	(0.243)	(0.171)	(0.864)	(0.032)
STD_DEV	1.997***	1.811**	1.863***	2.946***	1.367**	-1.579	0.436	-2.590	-0.824	-0.869	-4.048***
	(0.001)	(0.039)	(0.001)	(0.004)	(0.020)	(0.169)	(0.662)	(0.177)	(0.576)	(0.353)	(0.008)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
R-squared	0.344	0.229	0.231	0.272	0.342	0.497	0.365	0.385	0.516	0.407	0.390
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. Market Value of Patents

Variables	NOVELTY	NOVELTY COMPONENTS				QUALITY	QUALITY COMPONENTS				
		INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE		LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
	1	2	3	4	5	6	7	8	9	10	11
ln(MKV)	0.094***	0.087*	0.077**	0.112**	0.102**	-0.015	0.080	-0.039	-0.050	0.014	-0.082
	(0.008)	(0.050)	(0.036)	(0.049)	(0.018)	(0.810)	(0.247)	(0.626)	(0.512)	(0.827)	(0.339)
ln(ASSETS)	1.136***	1.064***	0.837***	1.570***	1.072***	1.795***	2.105***	1.418**	2.169***	1.746***	1.537**
	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.010)	(0.002)	(0.000)	(0.012)
MB	0.355***	0.358***	0.264***	0.374***	0.424***	0.052	0.387***	-0.124	0.055	0.125	-0.181
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.679)	(0.003)	(0.341)	(0.731)	(0.366)	(0.242)
RD	1.843	1.043	-1.765	6.102**	1.993	-2.979	-1.695	-4.758	-2.973	-0.634	-4.833
	(0.349)	(0.686)	(0.379)	(0.012)	(0.470)	(0.407)	(0.686)	(0.216)	(0.494)	(0.855)	(0.325)
AD	9.709***	13.500***	5.023*	8.924	11.389***	10.032	8.625	9.749	12.366	8.352	11.069
	(0.004)	(0.001)	(0.051)	(0.117)	(0.004)	(0.220)	(0.197)	(0.328)	(0.241)	(0.265)	(0.253)
ROA	1.014	0.426	1.405	1.427	0.800	5.123***	2.955	5.048**	7.568***	4.250**	5.794***
	(0.377)	(0.757)	(0.158)	(0.347)	(0.535)	(0.010)	(0.114)	(0.036)	(0.003)	(0.010)	(0.010)
HHI	-1.204	-4.057*	-3.197	3.469	-1.028	-3.077	-2.891	-4.260	-4.135	0.076	-4.174
	(0.490)	(0.076)	(0.114)	(0.268)	(0.511)	(0.476)	(0.550)	(0.392)	(0.347)	(0.980)	(0.504)
BHR	-0.197**	-0.161	-0.051	-0.267**	-0.311***	0.192	0.082	0.199	0.243	0.023	0.415**
	(0.019)	(0.127)	(0.540)	(0.042)	(0.001)	(0.200)	(0.616)	(0.243)	(0.174)	(0.875)	(0.032)
STD_DEV	1.926***	1.739**	1.807***	2.857***	1.299**	-1.584	0.364	-2.564	-0.821	-0.897	-4.000***
	(0.001)	(0.050)	(0.001)	(0.006)	(0.027)	(0.170)	(0.718)	(0.181)	(0.577)	(0.346)	(0.009)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
R-squared	0.342	0.228	0.229	0.270	0.342	0.495	0.365	0.384	0.514	0.400	0.390
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Seemingly Unrelated Regression Results for Mediation Analysis of the Direct and Indirect Effects of Patenting on Firm Performance

This table reports the seemingly unrelated regression results that generate the direct and indirect effects of the average examiner leniency on various outcome variables, including revenue (logged sales), market share (percentage of sales across all firms in the same 3-digit SIC code industry in a year), profitability (ROA), gross profit margin, and firm valuation (MB). All variables are defined in detail in Table I. P-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	NOVELTY 1	QUALITY 2	ln(SALES) 3	MKT_SHR 4	ROA 5	PROFIT_MGN 6	MB 7
NOVELTY			0.017***	0.085	0.004**	0.003**	0.125***
			(0.000)	(0.516)	(0.014)	(0.011)	(0.000)
QUALITY			0.015***	0.404***	0.003***	0.002***	0.000
			(0.000)	(0.000)	(0.000)	(0.007)	(0.998)
AVG_LENIENCY	0.920**	1.894***	0.060	0.978	0.004	-0.002	0.151
	(0.049)	(0.009)	(0.435)	(0.644)	(0.848)	(0.904)	(0.575)
ln(ASSETS)	0.938***	2.425***	0.692***	5.112***	-0.023***	-0.003	-0.909***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.516)	(0.000)
RD	5.490***	-0.182	1.057***	14.799**	0.200***	-0.011	4.057***
	(0.000)	(0.936)	(0.000)	(0.025)	(0.007)	(0.848)	(0.000)
AD	4.600***	5.637**	-0.379	-50.305***	-0.407***	-0.124**	-3.308***
	(0.002)	(0.014)	(0.117)	(0.000)	(0.000)	(0.040)	(0.000)
HHI	-1.006	-5.027**	-0.061	13.139**	-0.046	-0.049	1.584**
	(0.464)	(0.019)	(0.786)	(0.038)	(0.505)	(0.382)	(0.046)
STD_DEV	0.163	0.114	-0.021	0.392	-0.004	0.000	-0.144
	(0.293)	(0.636)	(0.400)	(0.576)	(0.625)	(0.941)	(0.108)
Observations	1,428	1,428	1,429	1,424	1,424	1,429	1,428
R-squared	0.241	0.498	0.704	0.176	0.643	0.0298	0.295
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Product Market Competition, Patenting, and Customer Capital

This table presents the OLS regression results of customer capital on the interaction of product market competition and patenting activities. HIGH_COMP is a dummy variable equal to 1 if Hoberg and Phillips' TNIC HHI is in the lowest quartile and 0 otherwise. The same set of control variables as in Table II are included in all regressions but the coefficients are not reported in order to conserve space. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Adjusted Number of Patents

	NOVELTY COMPONENTS					QUALITY COMPONENTS			
	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(PATS)×HIGH_COMP	0.220***	0.136**	0.356***	0.089	0.110	0.019	-0.023	0.085	-0.077
	(0.006)	(0.043)	(0.003)	(0.190)	(0.333)	(0.891)	(0.890)	(0.419)	(0.680)
ln(PATS)	0.090	0.172***	0.297**	0.162*	0.201	0.330*	0.418**	0.533***	0.333*
	(0.355)	(0.008)	(0.019)	(0.050)	(0.147)	(0.057)	(0.032)	(0.000)	(0.077)
HIGH_COMP	-0.014	-0.096	-0.212	0.034	-0.196	-0.260	-0.118	-0.059	-0.228
	(0.914)	(0.421)	(0.146)	(0.773)	(0.384)	(0.358)	(0.696)	(0.753)	(0.477)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.192	0.158	0.193	0.250	0.281	0.363	0.530	0.322	0.342
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Adjusted Number of Citations

	NOVELTY COMPONENTS					QUALITY COMPONENTS			
VARIABLES	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(CITES)×HIGH_COMP	0.230***	0.139**	0.387***	0.088	0.109	0.004	-0.051	0.077	-0.085
	(0.005)	(0.040)	(0.001)	(0.204)	(0.332)	(0.978)	(0.750)	(0.470)	(0.647)
ln(CITES)	0.080	0.173***	0.274**	0.134*	0.214*	0.303**	0.342**	0.497***	0.323**
	(0.321)	(0.003)	(0.011)	(0.055)	(0.071)	(0.035)	(0.032)	(0.000)	(0.040)
HIGH_COMP	-0.020	-0.094	-0.234	0.037	-0.188	-0.241	-0.087	-0.042	-0.215
	(0.872)	(0.424)	(0.110)	(0.753)	(0.397)	(0.391)	(0.770)	(0.822)	(0.498)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.192	0.159	0.195	0.250	0.281	0.363	0.530	0.322	0.343
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. Market Value of Patents

	NOVELTY COMPONENTS					QUALITY COMPONENTS			
	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(MKV)×HIGH_COMP	0.095***	0.063**	0.146***	0.048	0.033	0.018	-0.029	0.056	-0.024
	(0.009)	(0.041)	(0.006)	(0.131)	(0.565)	(0.771)	(0.695)	(0.249)	(0.764)
ln(MKV)	0.059	0.057	0.148***	0.067*	0.113	0.007	0.036	0.106*	-0.031
	(0.149)	(0.103)	(0.010)	(0.057)	(0.108)	(0.937)	(0.612)	(0.070)	(0.756)
HIGH_COMP	-0.055	-0.136	-0.263*	-0.012	-0.182	-0.303	-0.079	-0.144	-0.253
	(0.674)	(0.275)	(0.075)	(0.922)	(0.431)	(0.301)	(0.803)	(0.441)	(0.441)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.193	0.157	0.194	0.250	0.281	0.361	0.528	0.314	0.340
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA8

Advertising Intensity, Patenting, and Customer Capital

This table presents the OLS regression results of customer capital on the interaction of advertising intensity and patenting activities. HIGH_AD is a dummy variable equal to 1 if the ratio of advertising expenses to total assets is greater than the sample median and 0 otherwise. The same set of control variables as in Table III are included in all regressions but the coefficients are not reported in order to conserve space. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Adjusted Number of Patents

	NOVELTY COMPONENTS						QUALITY COMPONENTS		
	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(PATS)×HIGH_AD	0.160	0.081	0.489**	0.258**	0.467**	0.285	0.556***	0.383**	0.337*
	(0.174)	(0.451)	(0.031)	(0.033)	(0.031)	(0.116)	(0.008)	(0.022)	(0.089)
ln(PATS)	0.047	0.153*	0.150	0.078	0.049	0.237	0.229	0.408***	0.217
	(0.671)	(0.063)	(0.329)	(0.408)	(0.751)	(0.185)	(0.236)	(0.005)	(0.267)
HIGH_AD	-0.129	0.127	-0.401	-0.146	-0.667**	-0.536	-0.791*	-0.065	-0.762**
	(0.452)	(0.365)	(0.212)	(0.331)	(0.044)	(0.107)	(0.061)	(0.777)	(0.041)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.190	0.159	0.200	0.256	0.287	0.364	0.534	0.329	0.344
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Adjusted Number of Citations

	NOVELTY COMPONENTS						QUALITY COMPONENTS		
	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(CITES)×HIGH_AD	0.151	0.050	0.441**	0.235**	0.423**	0.320*	0.536***	0.363**	0.356*
	(0.197)	(0.633)	(0.037)	(0.046)	(0.039)	(0.057)	(0.009)	(0.026)	(0.052)
ln(CITES)	0.037	0.162**	0.136	0.051	0.069	0.192	0.145	0.368***	0.195
	(0.702)	(0.035)	(0.302)	(0.539)	(0.617)	(0.208)	(0.387)	(0.003)	(0.243)
HIGH_AD	-0.123	0.166	-0.348	-0.121	-0.618*	-0.604*	-0.785*	-0.059	-0.807**
	(0.467)	(0.227)	(0.263)	(0.408)	(0.058)	(0.064)	(0.061)	(0.797)	(0.028)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.190	0.159	0.199	0.255	0.286	0.365	0.534	0.330	0.345
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. Market Value of Patents

	NOVELTY COMPONENTS						QUALITY COMPONENTS		
	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9
ln(MKV)×HIGH_AD	0.048	-0.000	0.172*	0.088*	0.169*	0.085	0.129	0.110	0.139
	(0.404)	(0.996)	(0.052)	(0.091)	(0.062)	(0.268)	(0.192)	(0.144)	(0.113)
ln(MKV)	0.045	0.063	0.078	0.028	0.033	-0.033	-0.031	0.057	-0.101
	(0.346)	(0.144)	(0.296)	(0.493)	(0.692)	(0.737)	(0.724)	(0.414)	(0.392)
HIGH_AD	-0.077	0.243*	-0.330	-0.097	-0.616*	-0.438	-0.461	0.079	-0.786**
	(0.678)	(0.098)	(0.354)	(0.543)	(0.067)	(0.173)	(0.291)	(0.743)	(0.030)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.189	0.156	0.196	0.252	0.284	0.361	0.529	0.318	0.342
Controls, Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA9
New Product Introduction Predicted by Patenting Activity and Customer Capital

This table presents the OLS regression results of customer capital on new product introduction predicted by patenting activity. All dependent variables are leading 1-year. All variables are defined in detail in Table I. The main explanatory variable of interest, PRED_ln(PRODUCT_RELEASE), is the predicted logged number of news articles on product release estimated by regressing ln(PRODUCT_RELEASE) on ln(PATS) and controls and fixed effects as in Table III. Industry and year fixed effects are included in all regressions. P-values based on bootstrapped standard errors are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

| Variables | NOVELTY | NOVELTY COMPONENTS | | | | QUALITY | QUALITY COMPONENTS | | | | |
| | | INNOVATIVE | DYNAMIC | INTELLIGENT | PROGRESSIVE | | LEADER | RELIABLE | HIGH QUALITY | HIGH PERFORMANCE | TRUSTWORTHY |
	1	2	3	4	5	6	7	8	9	10	11
PRED_ln(PRODUCT_RELEASE)	3.536***	0.564	1.032***	1.763**	0.946**	2.082**	1.166	1.928**	2.378**	3.047***	1.892*
	(0.000)	(0.313)	(0.005)	(0.015)	(0.043)	(0.012)	(0.132)	(0.049)	(0.031)	(0.000)	(0.079)
ln(ASSETS)	-0.709***	0.573**	0.134	0.647*	0.437**	0.868**	1.493***	0.773*	1.067**	0.153	0.856*
	(0.004)	(0.020)	(0.434)	(0.069)	(0.033)	(0.023)	(0.000)	(0.068)	(0.046)	(0.646)	(0.060)
MB	0.037	0.153*	0.066	0.007	0.152*	-0.237*	0.115	-0.379***	-0.240	-0.305***	-0.375**
	(0.762)	(0.093)	(0.288)	(0.956)	(0.085)	(0.056)	(0.399)	(0.007)	(0.132)	(0.009)	(0.020)
RD	-6.706	3.039	-5.182**	4.527	1.378	-9.252*	-1.893	-9.552	-14.849**	-11.363**	-8.602
	(0.189)	(0.379)	(0.040)	(0.336)	(0.675)	(0.074)	(0.702)	(0.130)	(0.027)	(0.014)	(0.226)
AD	-2.015	2.673***	0.211	0.144	1.221	-0.106	0.868	-0.888	1.021	-1.484	-0.045
	(0.161)	(0.008)	(0.763)	(0.900)	(0.323)	(0.941)	(0.513)	(0.622)	(0.629)	(0.267)	(0.981)
ROA	-1.916*	0.003	1.003*	0.641	0.123	2.950**	1.722	2.757**	3.788**	2.942***	3.542***
	(0.052)	(0.997)	(0.068)	(0.483)	(0.867)	(0.011)	(0.118)	(0.049)	(0.020)	(0.001)	(0.009)
HHI	3.438**	0.227	0.045	3.907**	1.339	2.838	2.486	2.593	1.639	6.065***	1.406
	(0.021)	(0.845)	(0.968)	(0.026)	(0.211)	(0.251)	(0.310)	(0.373)	(0.589)	(0.002)	(0.695)
BHR	-0.010	-0.008	0.002	-0.017	0.013	0.097***	0.044	0.121***	0.138***	0.029	0.153***
	(0.820)	(0.773)	(0.919)	(0.666)	(0.653)	(0.001)	(0.257)	(0.006)	(0.000)	(0.326)	(0.000)
STD_DEV	-1.321***	0.016	-0.207	-0.439	-0.315	-0.970**	-0.228	-0.778	-1.194**	-1.261***	-1.388***
	(0.006)	(0.952)	(0.271)	(0.243)	(0.156)	(0.012)	(0.501)	(0.184)	(0.024)	(0.000)	(0.008)
Observations	3,580	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.574	0.189	0.157	0.189	0.247	0.452	0.281	0.361	0.529	0.321	0.339
Industry and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA10

Patent Applications, Patent Grants, and New Product Introductions

This table presents the relationship between patent applications, patent grants, and new product introductions. Column 1 reports the results regressing new product introduction in the next year on the logged number of patent applications. Column 2 reports the results regressing the logged number of adjusted number of patents filed in the next year on new product introduction. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	$\ln(\text{PRODUCT\_RELEASE})_{t+1}$ 1	$\ln(\text{PATS})_{t+1}$ 2
ln(APPS)	0.001	
	(0.976)	
ln(PRODUCT_RELEASE)		0.025
		(0.322)
ln(ASSETS)	0.354***	0.330***
	(0.000)	(0.000)
MB	0.088***	0.022
	(0.001)	(0.249)
RD	0.769	4.755***
	(0.286)	(0.000)
AD	-0.572	0.366*
	(0.488)	(0.089)
ROA	0.308	0.306
	(0.139)	(0.142)
HHI	-1.746*	1.239**
	(0.066)	(0.013)
BHR	0.004	-0.001
	(0.634)	(0.912)
STD_DEV	-0.002	-0.154***
	(0.976)	(0.001)
Observations	1,365	3,581
R-squared	0.476	0.265
Firm and Year FE	Yes	Yes

Table IA11

Baseline Regressions Using PCA-Based Measures of Customer Capital

This table presents the OLS regression results of the principal component analysis (PCA) based measures of customer capital on different measures of patenting. All dependent variables are leading 1-year. In Columns 1, 3, and 5, the dependent variable is the product novelty measure calculated using PCA of INNOVATIVE, DYNAMIC, INTELLIGENT, and PROGRESSIVE, which are percentages of BAV survey respondents who evaluated the brand as innovative, dynamic, intelligent, and progressive, respectively. In Columns 2, 4, and 6, the dependent variable is the product quality measure calculated using PCA of LEADER, RELIABLE, HIGH QUALITY, HIGH PERFORMANCE, and TRUSTWORTHY, which are the percentages of BAV survey respondents who evaluated the brand as a leader, reliable, of high quality, of high performance, and trustworthy, respectively. Firm and year fixed effects are included in all regressions. All other variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	NOVELTY_PCA 1	QUALITY_PCA 2	NOVELTY_PCA 3	QUALITY_PCA 4	NOVELTY_PCA 5	QUALITY_PCA 6
ln(PATS)	0.096**	0.108***				
	(0.016)	(0.008)				
ln(CITES)			0.089***	0.101***		
			(0.007)	(0.003)		
ln(MKV)					0.045**	0.016
					(0.013)	(0.387)
ln(ASSETS)	0.388***	0.417***	0.390***	0.419***	0.389***	0.444***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB	0.126***	0.009	0.125***	0.008	0.123***	0.008
	(0.000)	(0.691)	(0.000)	(0.720)	(0.000)	(0.718)
AD	1.242	0.746	1.260	0.765	1.367*	0.867
	(0.105)	(0.424)	(0.102)	(0.422)	(0.087)	(0.367)
RD	2.902***	0.547	2.858***	0.496	3.017***	0.770
	(0.000)	(0.501)	(0.000)	(0.540)	(0.000)	(0.350)
ROA	0.118	0.702**	0.121	0.704**	0.131	0.725**
	(0.719)	(0.030)	(0.716)	(0.032)	(0.699)	(0.029)
HHI	0.108	-0.050	0.087	-0.076	0.108	0.019
	(0.872)	(0.946)	(0.897)	(0.919)	(0.873)	(0.980)
BHR	-0.044*	0.027	-0.044*	0.026	-0.045*	0.026
	(0.098)	(0.260)	(0.096)	(0.265)	(0.094)	(0.281)
STD_DEV	0.376*	-0.367*	0.375*	-0.367**	0.344*	-0.386**
	(0.057)	(0.051)	(0.057)	(0.050)	(0.082)	(0.040)
Observations	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.241	0.440	0.241	0.440	0.241	0.436
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Patenting and BAV Pillars as Alternative Measures of Customer Capital

This table presents the OLS regression results on the relation between the adjusted number of patents and the BAV pillars as alternative measures of customer capital. In Columns 1 – 4, the dependent variables are the four BAV pillars: ENERGIZED_DIFFERENTIATION, RELEVANCE, ESTEEM, and KNOWLEDGE. ENERGIZED_DIFFERENTIATION is the average of DIFFERENT, DISTINCTIVE, UNIQUE, DYNAMIC, and INNOVATIVE, where DIFFERENT, DISTINCTIVE, UNIQUE, DYNAMIC, and INNOVATIVE are the percentages of survey respondents who view the brand as different, distinctive, unique, dynamic, and innovative, respectively. RELEVANCE is the average score for the question "How appropriate is brand for you personally" on a scale from 1 to 7. ESTEEM is the product of REGARD and the weighted average of RELIABLE, HIGH_QUALITY, and LEADER. REGARD is the score for the question "How highly you think of the brand" on a scale from 1 to 7 and RELIABLE, HIGH QUALITY, and LEADER are the percentages of survey respondents who view the brand as reliable, high quality, and a leader. KNOWLEDGE is the score for the question "How familiar are you with brand" on a scale from 1 to 7. In Column 5, the dependent variable is AVG_BAV_COMPONENTS, which is the average of all components measured in percentages that are used to create the BAV pillars including DIFFERENT, DISTINCTIVE, UNIQUE, DYNAMIC, INNOVATIVE, RELIABLE, HIGH QUALITY, and LEADER. Firm and year fixed effects are included in all regressions. All other variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	ENERGIZED_DIFFERENTIATION 1	RELEVANCE 2	ESTEEM 3	KNOWLEDGE 4	AVG_BAV_COMPOENENTS 5
ln(PATS)	0.005**	0.032**	0.011*	0.038*	0.197***
	(0.048)	(0.028)	(0.085)	(0.080)	(0.004)
ln(ASSETS)	0.018***	0.132***	0.077***	0.216***	0.825***
	(0.006)	(0.000)	(0.000)	(0.000)	(0.000)
MB	0.006***	-0.003	0.004	-0.029**	0.103**
	(0.003)	(0.702)	(0.239)	(0.016)	(0.022)
RD	0.016	-0.348	-0.013	-0.015	-0.159
	(0.830)	(0.197)	(0.922)	(0.974)	(0.920)
AD	0.100***	0.133	0.038	0.262	1.768***
	(0.010)	(0.190)	(0.507)	(0.281)	(0.005)
ROA	0.009	0.219**	0.085*	0.242	0.827
	(0.697)	(0.017)	(0.080)	(0.201)	(0.116)
HHI	-0.124***	-0.202	-0.018	0.028	-1.915**
	(0.005)	(0.189)	(0.845)	(0.926)	(0.049)
BHR	-0.000	0.004	0.003**	0.003	0.029
	(0.933)	(0.401)	(0.030)	(0.381)	(0.157)
STD_DEV	0.011***	-0.021	-0.006	-0.013	0.096
	(0.007)	(0.216)	(0.450)	(0.591)	(0.258)
Observations	3,581	3,581	3,581	3,581	3,581
R-squared	0.242	0.146	0.358	0.155	0.389
Firm and Year FE	Yes	Yes	Yes	Yes	Yes

Table IA13

Patenting and Advertising Expenses Based Measure of Customer Capital

This table presents the results on the relationship between patenting and the alternative measure of customer capital based on cumulative advertising expenses. Columns 1 – 3 use the BAV sample and Columns 4 – 6 use the Compustat sample over 2000 – 2014. Following Eisfeldt and Papanikolaou (2013) and Belo, Lin, and Vitorino (2014), we measure the stock of Customer Capital (Ad based)$_t$ using the perpetual inventory method: $Customer\ Capital\ (Ad\ based)_t = (1 - \delta)Customer\ Capital(Ad\ based)_{t-1} + Ad\ Expenses_t$. The initial value is set to be: $Customer\ Capital\ (Ad\ based)_0 = (Ad\ Expenses_0)/(g + \delta)$, where $Ad\ Expenses_0$ is the firm's advertising expenses in the first year in the sample; δ is the depreciation rate of advertising based customer capital which is set to be 50%; and g in the growth rate of a firm's advertising expenses which is set to be 10%. Industry and year fixed effects are included in all regressions. All other variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

	BAV Sample			Compustat Sample		
	Customer Capital (Ad Based)					
Variables	1	2	3	4	5	6
ln(PATS)	0.259**			0.318***		
	(0.045)			(0.000)		
ln(CITES)		0.256**			0.288***	
		(0.037)			(0.000)	
ln(MKV)			0.094*			0.121***
			(0.072)			(0.000)
ln(ASSETS)	0.393***	0.400***	0.425***	0.282***	0.291***	0.286***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB	0.062	0.058	0.044	0.035***	0.034***	0.031***
	(0.315)	(0.352)	(0.470)	(0.000)	(0.000)	(0.000)
RD	-2.179	-2.241	-2.001	-0.248**	-0.255**	-0.255**
	(0.529)	(0.518)	(0.557)	(0.029)	(0.025)	(0.024)
ROA	1.303*	1.297	1.225	-0.093***	-0.102***	-0.114***
	(0.100)	(0.102)	(0.127)	(0.005)	(0.002)	(0.001)
HHI	1.151	1.045	1.286	1.401**	1.381**	1.412**
	(0.557)	(0.594)	(0.504)	(0.023)	(0.024)	(0.020)
BHR	-0.113*	-0.118*	-0.122**	-0.045***	-0.045***	-0.046***
	(0.066)	(0.055)	(0.047)	(0.000)	(0.000)	(0.000)
STD_DEV	0.797	0.786	0.707	0.297***	0.293***	0.282***
	(0.300)	(0.306)	(0.359)	(0.000)	(0.000)	(0.000)
Observations	3,579	3,579	3,579	41,148	41,148	41,148
Adjusted R-squared	0.304	0.304	0.300	0.362	0.361	0.358
Industry and Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA14

Robustness Test: Random Assignment of Examiner Leniency Irrespective of Application and Applicant Characteristics

This table reports the first-stage results of the IV regressions including different control variables. The dependent variable is the endogenous variable, ln(PATS). ln(AVG_INDE_CLAIMS) is the natural log of the average number of independent claims for all the applications submitted by a firm in a given year. ln(AGE) is the natural logarithm of one plus the number of years since the firm's stock appeared on CRSP for the first time. SALES_GROWTH is the growth rate in sales. Firm and year fixed effects are included in all regressions. All other variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	ln(PATS)			
	1	2	3	4
AVG_LENIENCY	0.606***	0.613***	0.611***	0.618***
	(0.000)	(0.000)	(0.000)	(0.000)
ln(APPS)	0.633***	0.631***	0.616***	0.614***
	(0.000)	(0.000)	(0.000)	(0.000)
ln(AVG_INDEP_CLAIMS)		0.036		0.042
		(0.244)		(0.159)
ln(ASSETS)			0.155***	0.156***
			(0.001)	(0.001)
MB			0.022*	0.022*
			(0.090)	(0.090)
RD			0.280	0.249
			(0.619)	(0.656)
AD			-0.005	-0.033
			(0.995)	(0.966)
ROA			-0.190	-0.187
			(0.179)	(0.181)
HHI			0.573	0.644
			(0.254)	(0.213)
BHR			-0.015***	-0.014***
			(0.003)	(0.005)
STD_DEV			-0.035	-0.037
			(0.267)	(0.240)
LN(AGE)			-0.010	-0.010
			(0.845)	(0.839)
SALES_GROWTH			-0.026*	-0.025*
			(0.085)	(0.093)
Observations	1,330	1,330	1,330	1,330
R-squared	0.724	0.724	0.732	0.733
Firm and Year FE	Yes	Yes	Yes	Yes

Table IA15

Robustness Test: Unrelatedness of Average Examiner Leniency to Firm and Application Characteristics

This table presents the association between our instrument, AVG_LENIENCY, and application as well as firm characteristics. ln(AVG_INDEP_CLAIMS) is the natural log of the average number of independent claims for all the applications submitted by a firm in a given year. ln(AGE) is the natural logarithm of one plus the number of years since the firm's stock appeared on CRSP for the first time. SALES_GROWTH is the growth rate in sales. All other variables are defined in detail in Table I. Firm and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	AVG_LENIENCY		
	1	2	3
ln(APPS)	-0.003	-0.002	-0.002
	(0.450)	(0.552)	(0.589)
ln(AVG_INDEP_CLAIMS)		-0.015	-0.013
		(0.153)	(0.242)
ln(ASSETS)			-0.003
			(0.784)
MB			-0.001
			(0.866)
RD			0.122
			(0.154)
AD			0.181
			(0.172)
ROA			0.068
			(0.239)
BHR			-0.000
			(0.844)
STD_DEV			-0.002
			(0.710)
ln(AGE)			0.011
			(0.555)
SALES_GROWTH			0.005
			(0.478)
Observations	1,608	1,608	1,358
R-squared	0.0110	0.0153	0.0202
Firm and Year FE	Yes	Yes	Yes
F-statistic for joint significance of Firm FE	0.372	0.372	0.365

Reapplications and Firm Performance

This table presents the association between the fraction of applications as well as patents with two or more revisions and various firm characteristics. APPS_2PLUS_REVISIONS is the percentage of applications that go through two or more revisions. PATS_2PLUS_REVISIONS is the percentage of patent grants that go through two or more revisions. ln(AGE) is the natural logarithm of one plus the number of years since the firm's stock appeared on CRSP for the first time. SALES_GROWTH is the growth rate in sales. All other variables are defined in detail in Table I. Firm and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Variables	APPS_2PLUS_REVISIONS 1	PATS_2PLUS_REVISIONS 2
ln(ASSETS)	0.004	-0.016
	(0.894)	(0.508)
MB	0.008	0.017
	(0.263)	(0.124)
RD	0.123	0.322
	(0.615)	(0.281)
AD	-0.089	0.254
	(0.843)	(0.590)
ROA	0.007	-0.048
	(0.938)	(0.658)
BHR	0.003	-0.002
	(0.537)	(0.426)
ln(AGE)	-0.042	-0.028
	(0.397)	(0.536)
SALES_GROWTH	0.002	0.026
	(0.884)	(0.131)
Observations	1,362	1,244
R-squared	0.0619	0.250
Firm and Year FE	Yes	Yes

Table IA17

Exploratory vs. Exploitative Patents

This table reports the effects of exploratory patents versus exploitative patents on customer capital. In Panel A, the main explanatory variables are ln(ADJ_EXPLORE80) and ln(ADJ_EXPLOIT80). In Panel B, the main explanatory variables are ln(ADJ_EXPLORE60) and ln(ADJ_EXPLOIT60). ln(ADJ_EXPLORE80) is the natural logarithm of one plus the class-adjusted number of patents for which more than 80% of its citations are outside of the firm's existing patent/citation base. ln(ADJ_EXPLOIT80) is the natural logarithm of one plus the class-adjusted number of patents for which more than 80% of its citations are within the firm's existing patent/citation base. ln(ADJ_EXPLORE60) is the natural logarithm of one plus the class-adjusted number of patents for which more than 60% of its citations are outside of the firm's existing patent/citation base. ln(ADJ_EXPLOIT60) is the natural logarithm of one plus the class-adjusted number of patents for which more than 60% of its citations are within the firm's existing patent/citation base. All dependent variables are leading 1-year. Firm and year fixed effects are included in all regressions. All variables are defined in detail in Table I. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Exploratory patents (with more than 80% of citations based on new knowledge) versus exploitative patents (with more than 80% of citations based on existing knowledge)

| | NOVELTY | NOVELTY COMPONENTS | | | | QUALITY | QUALITY COMPONENTS | | | | |
| | | INNOVATIVE | DYNAMIC | INTELLIGENT | PROGRESSIVE | | LEADER | RELIABLE | HIGH QUALITY | HIGH PERFORMANCE | TRUSTWORTHY |
Variables	1	2	3	4	5	6	7	8	9	10	11
ln(ADJ_EXPLORE80)	0.269***	0.103	0.227***	0.470***	0.277***	0.414***	0.376**	0.368**	0.343*	0.613***	0.373*
	(0.005)	(0.342)	(0.005)	(0.003)	(0.003)	(0.003)	(0.020)	(0.025)	(0.050)	(0.000)	(0.051)
ln(ADJ_EXPLOIT80)	-0.143	-0.053	-0.027	-0.360	-0.131	-0.026	-0.222	-0.067	0.101	-0.074	0.134
	(0.309)	(0.738)	(0.828)	(0.128)	(0.326)	(0.915)	(0.365)	(0.798)	(0.758)	(0.738)	(0.657)
ln(ASSETS)	0.807***	0.760***	0.462***	1.260***	0.746***	1.506***	1.852***	1.366***	1.795***	1.135***	1.381***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB	0.231***	0.230***	0.198***	0.221***	0.273***	0.019	0.262***	-0.143*	0.052	0.068	-0.143
	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.808)	(0.004)	(0.088)	(0.613)	(0.404)	(0.137)
AD	2.098	3.802**	1.859	-0.187	2.918*	2.859	-0.181	2.223	5.888	2.762	3.604
	(0.162)	(0.048)	(0.224)	(0.944)	(0.095)	(0.402)	(0.951)	(0.603)	(0.216)	(0.313)	(0.427)
RD	6.054***	5.656***	-0.256	13.236***	5.581***	0.988	3.653	0.004	-2.949	3.752	0.483
	(0.000)	(0.002)	(0.857)	(0.000)	(0.009)	(0.731)	(0.238)	(0.999)	(0.430)	(0.143)	(0.903)
ROA	0.236	-0.286	0.769	0.381	0.079	2.537**	1.501	2.311	3.469**	2.303***	3.098**
	(0.698)	(0.702)	(0.167)	(0.670)	(0.911)	(0.031)	(0.185)	(0.105)	(0.034)	(0.008)	(0.022)
HHI	0.596	-0.049	-1.023	2.711	0.748	-0.349	1.368	-0.343	-3.096	2.471	-2.144
	(0.633)	(0.973)	(0.454)	(0.197)	(0.533)	(0.895)	(0.630)	(0.911)	(0.338)	(0.229)	(0.572)
BHR	-0.080	-0.066	-0.054	-0.079	-0.119**	0.105	-0.021	0.178*	0.116	0.028	0.225**
	(0.121)	(0.318)	(0.301)	(0.330)	(0.029)	(0.211)	(0.829)	(0.073)	(0.289)	(0.723)	(0.041)
STD_DEV	0.740*	0.778	0.473	0.901	0.809**	-1.319**	0.130	-1.960**	-1.347	-0.780	-2.636***
	(0.057)	(0.108)	(0.219)	(0.191)	(0.035)	(0.048)	(0.865)	(0.034)	(0.134)	(0.158)	(0.002)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.244	0.187	0.158	0.191	0.251	0.453	0.282	0.362	0.530	0.323	0.343
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Exploratory patents (with more than 60% of citations based on new knowledge) versus exploitative patents (with more than 60% of citations based on existing knowledge)

	NOVELTY	NOVELTY COMPONENTS				QUALITY	QUALITY COMPONENTS				
		INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE		LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9	10	11
ln(ADJ_EXPLORE60)	0.257***	0.101	0.196**	0.466***	0.265***	0.355**	0.380**	0.306*	0.261	0.547***	0.281
	(0.006)	(0.344)	(0.016)	(0.003)	(0.004)	(0.012)	(0.021)	(0.070)	(0.140)	(0.000)	(0.157)
ln(ADJ_EXPLOIT60)	-0.076	-0.014	0.025	-0.237	-0.077	0.051	-0.163	0.015	0.183	0.007	0.213
	(0.562)	(0.926)	(0.833)	(0.278)	(0.545)	(0.826)	(0.490)	(0.954)	(0.570)	(0.974)	(0.468)
ln(ASSETS)	0.787***	0.748***	0.452***	1.221***	0.729***	1.492***	1.828***	1.353***	1.786***	1.117***	1.375***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MB	0.229***	0.229***	0.197***	0.219***	0.272***	0.018	0.261***	-0.144*	0.051	0.066	-0.145
	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)	(0.824)	(0.004)	(0.085)	(0.623)	(0.421)	(0.132)
AD	2.053	3.775**	1.839	-0.282	2.878*	2.835	-0.243	2.202	5.883	2.726	3.606
	(0.167)	(0.049)	(0.226)	(0.915)	(0.097)	(0.406)	(0.935)	(0.606)	(0.216)	(0.319)	(0.427)
RD	6.011***	5.617***	-0.256	13.147***	5.538***	1.000	3.558	0.055	-2.896	3.734	0.547
	(0.000)	(0.003)	(0.857)	(0.000)	(0.009)	(0.726)	(0.247)	(0.986)	(0.436)	(0.143)	(0.889)
ROA	0.218	-0.297	0.759	0.346	0.064	2.521**	1.479	2.297	3.458**	2.284***	3.089**
	(0.720)	(0.691)	(0.173)	(0.700)	(0.929)	(0.031)	(0.190)	(0.106)	(0.035)	(0.009)	(0.023)
HHI	0.559	-0.073	-1.065	2.659	0.713	-0.418	1.331	-0.398	-3.177	2.386	-2.231
	(0.657)	(0.960)	(0.438)	(0.207)	(0.554)	(0.875)	(0.640)	(0.898)	(0.328)	(0.248)	(0.558)
BHR	-0.079	-0.065	-0.053	-0.078	-0.119**	0.106	-0.020	0.178*	0.117	0.029	0.225**
	(0.122)	(0.320)	(0.304)	(0.335)	(0.029)	(0.207)	(0.835)	(0.072)	(0.286)	(0.715)	(0.040)
STD_DEV	0.739*	0.779	0.466	0.903	0.807**	-1.334**	0.130	-1.973**	-1.367	-0.799	-2.659***
	(0.059)	(0.108)	(0.226)	(0.191)	(0.036)	(0.047)	(0.865)	(0.034)	(0.131)	(0.149)	(0.002)
Observations	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581	3,581
R-squared	0.244	0.187	0.158	0.191	0.251	0.453	0.282	0.362	0.530	0.323	0.343
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The Effect of Patenting on Customer Capital (Excluding House of Brands and Mixed Brands)

This table presents the OLS regression results of customer capital on various measures of patenting activities, excluding house of brands and mixed brands. Panels A, B, and C report regression results with class-adjusted number of patents, class-adjusted number of citations, and market value of patents as the main explanatory variable, respectively. All dependent variables are leading 1-year. All variables are defined in detail in Table I. Firm and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level and corresponding p-values are reported in parentheses below the coefficient estimates. ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Main Explanatory Variable: Adjusted Number of Patents

Variables	NOVELTY	NOVELTY COMPONENTS				QUALITY	QUALITY COMPONENTS				
		INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE		LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
	1	2	3	4	5	6	7	8	9	10	11
ln(PATS)	0.275***	0.221*	0.235***	0.393***	0.250**	0.430**	0.304*	0.287	0.625***	0.612***	0.322
	(0.004)	(0.066)	(0.003)	(0.010)	(0.016)	(0.013)	(0.071)	(0.156)	(0.008)	(0.000)	(0.106)
ln(ASSETS)	0.841***	0.774***	0.618***	1.226***	0.744***	1.421***	1.865***	1.297***	1.390***	1.234***	1.318***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.003)	(0.000)	(0.001)
MB	0.212***	0.254***	0.215***	0.146	0.234***	-0.081	0.132	-0.228**	0.003	0.017	-0.330***
	(0.002)	(0.002)	(0.000)	(0.111)	(0.004)	(0.366)	(0.214)	(0.022)	(0.980)	(0.862)	(0.001)
AD	4.438***	7.641***	3.603*	1.162	5.347**	0.347	0.438	-1.051	1.691	0.714	-0.055
	(0.006)	(0.000)	(0.082)	(0.731)	(0.014)	(0.935)	(0.910)	(0.843)	(0.762)	(0.838)	(0.992)
RD	6.748***	4.451**	2.054	15.341***	5.147**	2.370	4.559	1.863	-1.187	6.953**	-0.339
	(0.000)	(0.050)	(0.191)	(0.000)	(0.044)	(0.460)	(0.195)	(0.607)	(0.779)	(0.018)	(0.934)
ROA	0.415	-0.082	0.749	0.650	0.342	2.515**	1.356	2.197	3.665**	2.503***	2.854**
	(0.515)	(0.912)	(0.196)	(0.496)	(0.647)	(0.037)	(0.270)	(0.132)	(0.026)	(0.005)	(0.036)
HHI	3.780**	2.825*	0.197	8.963***	3.135*	2.184	5.932	1.632	-3.031	5.992**	0.397
	(0.023)	(0.068)	(0.907)	(0.004)	(0.069)	(0.525)	(0.154)	(0.671)	(0.495)	(0.039)	(0.928)
BHR	-0.070	-0.032	-0.051	-0.063	-0.134**	0.048	-0.019	0.110	0.027	-0.051	0.173
	(0.242)	(0.678)	(0.409)	(0.514)	(0.037)	(0.627)	(0.866)	(0.350)	(0.822)	(0.590)	(0.183)
STD_DEV	0.879*	0.660	0.834**	1.104	0.916**	-0.760	0.492	-1.173	-1.132	-0.057	-1.928**
	(0.050)	(0.230)	(0.048)	(0.173)	(0.038)	(0.292)	(0.549)	(0.262)	(0.255)	(0.923)	(0.043)
Observations	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337
R-squared	0.291	0.206	0.171	0.263	0.274	0.429	0.278	0.338	0.491	0.335	0.307
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Main Explanatory Variable: Adjusted Number of Citations

		NOVELTY COMPONENTS					QUALITY COMPONENTS				
	NOVELTY	INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE	QUALITY	LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9	10	11
ln(CITES)	0.269***	0.207**	0.244***	0.393***	0.233***	0.368**	0.301**	0.226	0.478**	0.566***	0.270
	(0.001)	(0.043)	(0.001)	(0.004)	(0.010)	(0.011)	(0.037)	(0.187)	(0.014)	(0.000)	(0.115)
ln(ASSETS)	0.845***	0.782***	0.617***	1.229***	0.753***	1.450***	1.868***	1.324***	1.455***	1.258***	1.342***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)
MB	0.209***	0.252***	0.212***	0.141	0.231***	-0.085	0.128	-0.231**	-0.002	0.011	-0.333***
	(0.002)	(0.002)	(0.000)	(0.119)	(0.004)	(0.339)	(0.221)	(0.020)	(0.984)	(0.911)	(0.001)
AD	4.463***	7.671***	3.612*	1.190	5.381**	0.436	0.463	-0.973	1.873	0.802	0.017
	(0.007)	(0.000)	(0.081)	(0.732)	(0.012)	(0.920)	(0.907)	(0.857)	(0.746)	(0.826)	(0.998)
RD	6.596***	4.357*	1.886	15.099***	5.043**	2.287	4.381	1.866	-1.140	6.713**	-0.385
	(0.000)	(0.052)	(0.234)	(0.000)	(0.042)	(0.471)	(0.207)	(0.604)	(0.785)	(0.020)	(0.925)
ROA	0.437	-0.062	0.766	0.681	0.364	2.558**	1.381	2.229	3.735**	2.558***	2.886**
	(0.496)	(0.934)	(0.189)	(0.481)	(0.628)	(0.037)	(0.265)	(0.132)	(0.027)	(0.005)	(0.036)
HHI	3.718**	2.790*	0.123	8.861***	3.098*	2.171	5.858	1.655	-2.960	5.908**	0.396
	(0.024)	(0.070)	(0.941)	(0.004)	(0.070)	(0.526)	(0.156)	(0.667)	(0.505)	(0.040)	(0.929)
BHR	-0.073	-0.034	-0.053	-0.067	-0.136**	0.044	-0.022	0.107	0.021	-0.057	0.170
	(0.225)	(0.659)	(0.386)	(0.490)	(0.034)	(0.656)	(0.847)	(0.362)	(0.860)	(0.549)	(0.190)
STD_DEV	0.883**	0.664	0.838**	1.111	0.920**	-0.753	0.498	-1.169	-1.124	-0.047	-1.923**
	(0.048)	(0.227)	(0.046)	(0.169)	(0.037)	(0.293)	(0.542)	(0.262)	(0.258)	(0.936)	(0.043)
Observations	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337
R-squared	0.292	0.206	0.172	0.264	0.274	0.428	0.278	0.338	0.489	0.335	0.307
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. Main Explanatory Variable: Market Value of Patents

	NOVELTY	NOVELTY COMPONENTS				QUALITY	QUALITY COMPONENTS				
		INNOVATIVE	DYNAMIC	INTELLIGENT	PROGRESSIVE		LEADER	RELIABLE	HIGH QUALITY	HIGH PERFORMANCE	TRUSTWORTHY
Variables	1	2	3	4	5	6	7	8	9	10	11
ln(MKV)	0.157***	0.117**	0.113***	0.267***	0.132***	0.139*	0.250***	0.073	0.122	0.199***	0.053
	(0.000)	(0.031)	(0.004)	(0.000)	(0.008)	(0.053)	(0.003)	(0.415)	(0.136)	(0.008)	(0.570)
ln(ASSETS)	0.834***	0.777***	0.629***	1.184***	0.747***	1.493***	1.800***	1.361***	1.557***	1.337***	1.413***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)
MB	0.201***	0.246***	0.207***	0.127	0.225***	-0.091	0.115	-0.233**	-0.005	0.004	-0.333***
	(0.003)	(0.002)	(0.000)	(0.153)	(0.006)	(0.322)	(0.272)	(0.021)	(0.967)	(0.970)	(0.001)
AD	4.825***	7.946***	3.918*	1.744	5.690**	0.876	0.920	-0.713	2.401	1.466	0.304
	(0.006)	(0.000)	(0.069)	(0.618)	(0.011)	(0.843)	(0.818)	(0.896)	(0.682)	(0.693)	(0.956)
RD	6.953***	4.642**	2.288	15.519***	5.364**	2.981	4.582	2.325	-0.080	7.821***	0.258
	(0.000)	(0.042)	(0.141)	(0.000)	(0.036)	(0.361)	(0.192)	(0.518)	(0.985)	(0.009)	(0.950)
ROA	0.439	-0.060	0.775	0.675	0.367	2.578**	1.366	2.244	3.775**	2.593***	2.913**
	(0.506)	(0.938)	(0.192)	(0.492)	(0.633)	(0.039)	(0.274)	(0.131)	(0.028)	(0.006)	(0.036)
HHI	3.899**	2.935*	0.332	9.068***	3.261*	2.535	5.949	1.897	-2.398	6.490**	0.738
	(0.014)	(0.056)	(0.840)	(0.002)	(0.052)	(0.452)	(0.137)	(0.620)	(0.587)	(0.022)	(0.866)
BHR	-0.076	-0.036	-0.056	-0.072	-0.139**	0.041	-0.027	0.106	0.018	-0.062	0.168
	(0.213)	(0.639)	(0.369)	(0.461)	(0.032)	(0.686)	(0.812)	(0.373)	(0.885)	(0.524)	(0.198)
STD_DEV	0.799*	0.601	0.777*	0.970	0.850*	-0.829	0.367	-1.210	-1.193	-0.157	-1.954**
	(0.076)	(0.279)	(0.068)	(0.229)	(0.055)	(0.255)	(0.655)	(0.247)	(0.235)	(0.800)	(0.041)
Observations	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337
R-squared	0.293	0.206	0.170	0.268	0.275	0.425	0.282	0.337	0.486	0.327	0.305
Firm and Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes