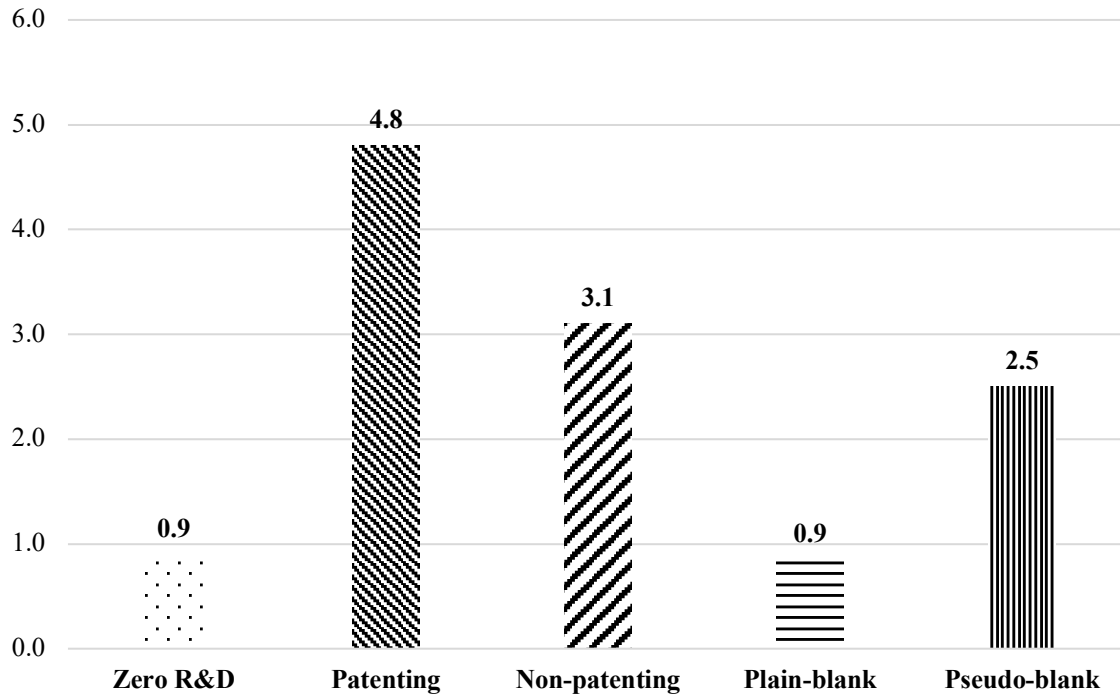


## INTERNET APPENDIX

Figure A1: Number of New Product Announcements by All Types of Firms



**Description:** Zero R&D, Patenting, and Non-patenting denote firms that report R&D. Plain-blank represents firms that do not report or R&D or seek patents. Pseudo-blank firms fail to report R&D but seek patents (Koh et al., 2017).

**Interpretation:** Non-patenting firms have more new products announcements than zero R&D firms, plain-blank firms and pseudo-blank firms, suggesting that non-patenting firms have material innovation activity.

**Table A1 Alternative Sample: Firms that Switch Their Patenting Choice**

**Description:** This table presents results repeating Table 2 (Table 3) in Panel A (B). The sample is based on the 2-year period surrounding the year when positive R&D firms switch from non-patenting (patenting) to patenting (non-patenting). All variables are defined in Appendix D. The z(t)-statistics provided in parentheses are adjusted for heteroskedasticity using the Huber-White Sandwich estimator and are clustered at the firm level. Statistical significance at 10%, 5%, and 1% is denoted by \*, \*\*, and \*\*\*, respectively.

**Interpretation:** Changing from patenting to non-patenting stems from changes in the type of innovation activity of the firm rather than success or failure.

**Panel A: Product Announcement**

Dependent Variable:	(1) Announcement_dummy	(2) #Announcement
Constant	-31.038*** (-10.21)	-29.846*** (-9.23)
<b>Non-patenting</b>	<b>-0.774***</b> <b>(-4.23)</b>	<b>-0.639***</b> <b>(-3.45)</b>
Firm Size	0.156* (1.91)	0.171* (1.77)
Competition	-4.544 (-1.32)	-3.363 (-1.06)
Leverage	-1.489** (-2.56)	-0.822 (-1.43)
ROA	0.702 (1.22)	0.687 (1.17)
Market-to-book	0.015 (0.75)	0.021 (0.98)
Volatility	0.289*** (2.93)	0.209*** (3.54)
Industry and Year Dummy	Yes	Yes
Observations	968	968
Pseudo R <sup>2</sup> /Log Likelihood	0.196	-950.2

**Panel B: Analyst Following and Institutional Investors**

	(1)	(2)	(3)	(4)
<b>Dependent Variable:</b>	<b>Analyst Following</b>		<b>Institutional Ownership</b>	
Constant	-36.416 (-0.35)	-36.400 (-0.43)	-4.049*** (-11.97)	-4.045*** (-11.49)
<b>Non-patenting</b>	<b>-0.148*</b> <b>(-1.88)</b>	<b>-0.243**</b> <b>(-2.37)</b>	<b>-0.031*</b> <b>(-1.69)</b>	<b>-0.052*</b> <b>(-1.95)</b>
#Announcement	-	-0.060 (-1.01)	-	-0.015* (-1.90)
<b>Non-patenting * #Announcement</b>	-	<b>0.119*</b> <b>(1.81)</b>	-	<b>0.040***</b> <b>(4.27)</b>
Firm Size	0.363*** (2.89)	0.377*** (2.94)	0.022*** (3.39)	0.023*** (3.64)
Competition	6.268** (2.03)	6.288** (2.02)	1.884*** (6.18)	1.901*** (6.24)
Leverage	-1.086 (-1.34)	-1.065 (-1.31)	-0.011 (-0.16)	-0.006 (-0.09)
ROA	0.000 (0.00)	-0.048 (-0.05)	0.412*** (15.43)	0.403*** (14.92)
Market-to-book	0.040*** (2.76)	0.040*** (2.74)	0.008*** (4.44)	0.008*** (4.32)
Volatility	-0.092 (-0.87)	-0.072 (-0.70)	-0.054*** (-3.71)	-0.050*** (-3.37)
Industry and Year Dummy	Yes	Yes	Yes	Yes
Observations	968	968	968	968
Log Likelihood/Adjusted R <sup>2</sup>	-4,069	-4,055	0.095	0.097

**Table A2: Articles included in Appendix A****Panel 1: Selected Finance Studies using Patents to Measure Success and Failure**

	<i>Title</i>	<i>Approach</i>	<i>Finance</i>	<i>Year</i>
1	Private equity and long-run investment: The case of innovation	Exclude 0 patent firms	JF	2011
2	Are overconfident CEOs better innovators?	Count as zero	JF	2012
3	Do hostile takeovers stifle innovation? Evidence from antitakeover legislation and corporate patenting	Count as zero	JF	2013
4	Does going public affect innovation?	Exclude 0 patent firms	JF	2015
5	Does stock liquidity enhance or impede firm innovation?	Count as zero	JF	2014
6	Corporate innovations and mergers and acquisitions	Count as zero	JF	2014
7	The bright side of financial derivatives: Options trading and firm innovation	Count as zero	JFE	2017
8	Independent boards and innovation	Count as zero	JFE	2017
9	Financial dependence and innovation: The case of public versus private firms	Count as zero	JFE	2017
10	Investment cycles and startup innovation	Count as zero	JFE	2013
11	Pilot CEOs and corporate innovation	Count as zero	JFE	2017
12	Are foreign investors locusts? The long-term effects of foreign institutional ownership	Count as zero	JFE	2017
13	Do corporate taxes hinder innovation?	Count as zero	JFE	2017
14	Credit supply and corporate innovation	Count as zero	JFE	2013
15	Innovative efficiency and stock return	Count as zero	JFE	2013
16	Firm boundaries matter: Evidence from conglomerates and R&D activity	Count as zero	JFE	2014
17	Did bank distress stifle innovation during the Great Depression?	Count as zero	JFE	2014
18	Banking deregulation and innovation	Count as zero	JFE	2013
19	Non-executive employee stock options and corporate innovation	Count as zero	JFE	2015
20	Does banking competition affect innovation?	Count as zero	JFE	2015
21	The dark side of analyst coverage: The case of innovation	Count as zero	JFE	2013
22	Creditor rights and innovation: Evidence from patent collateral	Exclude 0 patent firms	JFE	2017
23	Financial market development and innovation: Cross-country evidence	Count as zero	JFE	2014
24	How does hedge fund activism reshape corporate innovation?	Count as zero	JFE	2017
25	Motivating innovation in newly public firms	Count as zero	JFE	2014
26	Misvaluing Innovation	Count as zero	RFS	2013
27	Bankruptcy codes and innovation	Count as zero	RFS	2009
28	Corporate venture capital, value creation, and innovation	Count as zero	RFS	2014
29	Tolerance for failure and corporate innovation	Count as zero	RFS	2011
30	Wrongful discharge laws and innovation	Exclude 0 patent firms	RFS	2014
31	The real effects of lending relationships on innovative firms and inventor mobility	Exclude 0 patent inventors	RFS	2017
32	Intellectual property rights protection, ownership, and innovation: Evidence from China	Count as zero	RFS	2017

**Panel 2: Selected Other Studies using Patents to Measure Success and Failure**

	<i>Title</i>	<i>Approach</i>	<i>Acct/Econ/Mgt</i>	<i>Year</i>
1	The R&D premium and takeover risk	Count as zero	TAR	2016
2	Innovation and institutional ownership	Exclude 0 patent firms	AER	2013
3	Financing innovation: evidence from R&D grants	Count as zero	AER	2017
4	Identifying technological spillovers and product market rivalry	Exclude 0 patent firms	Econometrica	2013
5	Technological innovation, resource allocation, and growth	Count as zero	QJE	2017
6	CEO overconfidence and innovation	Count as zero	MS	2011
7	Entry and patenting in the software industry	Count as zero	MS	2011
8	What makes them tick? Employee motives and firm innovation	Count as zero	MS	2010
9	CEO confidence and unreported R&D	Count as zero	MS	2017
10	Innovation in business groups	Count as zero	MS	2010
11	Do unions affect innovation?	Count as zero	MS	2017
12	Debtor rights, credit supply, and innovation	Count as zero	MS	2017
13	Employment non-discrimination acts and corporate innovation	Count as zero	MS	2017
14	Learning from customers: Corporate innovation along the supply chain	Count as zero	MS	2017
15	Entrepreneurial exits and innovation	Count as zero	MS	2014
16	Knowing when to leap: Transitioning between exploitative and explorative R&D	Exclude 0 patent firms or Count as zero	SMJ	2014
17	The quest for originality: A new typology of knowledge search and breakthrough inventions	Exclude 0 patent firms	AMJ	2016
18	Making the most of where you are: Geography, networks, and innovation in organizations	Exclude 0 patent firms	AMJ	2014
19	Exploring the locus of invention: The dynamics of network communities and firms' invention productivity	Exclude 0 patent firms	AMJ	2014
20	Geographic distribution of R&D activity: How does it affect innovation quality?	Exclude 0 patent firms	AMJ	2010
21	A longitudinal study of the influence of alliance network structure and composition on firm exploratory innovation	Exclude 0 patent firms	AMJ	2010