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Electronic Companion—"Pioneering Inventors or Thicket Builders:
Which U.S. Firms Use Continuations in Patenting?" by Deepak Hegde,
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PIONEERING INVENTORS OR THICKET- BUILDERS: WHICH U.S. FIRMS USE CONTINUATIONS IN PATENTING?

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Online Appendix (Supplementary Tables)

TABLE A1: CONTINUATIONS PROPENSITIES FOR COMPUSTAT-MATCHED AND OUT-OF-SAMPLE PATENTS

	Ordinary patents	CAP	CIP	Divisional	Combination	N
<u>Overall</u>						
Compustat matched patents	0.734	0.091	0.060	0.069	0.058	363,308
Omitted observations	0.699	0.083	0.091	0.061	0.065	602,706
Difference	[0.035]*	[0.008]*	[-0.032]*	[0.007]*	[-0.018]*	
<u>Chemicals</u>						
Compustat matched patents	0.657	0.074	0.097	0.103	0.071	74,600
Omitted observations	0.627	0.078	0.110	0.099	0.085	108,330
Difference	[0.029]*	[-0.005]*	[-0.014]*	[0.004]	[-0.015]*	
<u>Drugs & Medicine</u>						
Compustat matched patents	0.558	0.118	0.116	0.087	0.121	31,176
Omitted observations	0.531	0.112	0.144	0.071	0.143	89,098
Difference	[0.028]*	[0.006]*	[-0.028]*	[0.016]*	[-0.022]*	
<u>Electrical & Electronics</u>						
Compustat matched patents	0.775	0.085	0.035	0.072	0.033	78,121
Omitted observations	0.774	0.070	0.070	0.050	0.037	101,607
Difference	[0.001]	[0.015]*	[-0.035]*	[0.023]*	[-0.004]	
<u>Computers & Communication</u>						
Compustat matched patents	0.790	0.121	0.033	0.033	0.023	92,534
Omitted observations	0.754	0.106	0.067	0.033	0.041	90,445
Difference	[0.036]*	[0.014]*	[-0.033]	[0.000]	[-0.018]*	
<u>Mechanical</u>						
Compustat matched patents	0.776	0.066	0.050	0.072	0.036	49,252
Omitted observations	0.752	0.069	0.072	0.063	0.044	101,565
Difference	[0.025]*	[-0.003]	[-0.023]*	[0.009]*	[-0.008]*	
<u>Others</u>						
Compustat matched patents	0.758	0.071	0.069	0.062	0.040	37,591
Omitted observations	0.743	0.070	0.088	0.049	0.049	111,599
Difference	[0.015]*	[0.000]	[-0.019]*	[0.012]*	[-0.008]*	

Table A1 Notes: The table reports differences between Compustat-matched patents that we use in our analysis and all other patents assigned to U.S. businesses in their propensity to file continuations.

* indicates a statistically significant difference ($p < 0.001$) from means of “ordinary” patents.

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TABLE A2.1: MULTINOMIAL LOGIT ESTIMATES OF CONTINUATIONS DECISIONS FOR CHEMICAL PATENTS (PRIORITY YEARS 1981-2000, ISSUE YEARS 1981-2004)

Dependent variable: continuation type			
Explanatory variables	<i>CAP</i> (<i>j=1</i>)	<i>CIP</i> (<i>j=2</i>)	<i>Div</i> (<i>j=3</i>)
lnRDINT*lnPATINT	0.066 [0.019]**	0.098 [0.017]**	-0.062 [0.016]**
lnCAPINT*lnPATINT	-0.042 [0.023]	-0.151 [0.021]**	0.181 [0.021]**
FCITES	-0.017 [0.006]**	0.047 [0.004]**	-0.181 [0.008]**
lnPATINT	-0.034 [0.107]	0.589 [0.099]**	-0.544 [0.098]**
lnRDINT	0.124 [0.028]**	0.135 [0.026]**	0.301 [0.026]**
lnCAPINT	-0.058 [0.038]	-0.075 [0.035]*	-0.143 [0.035]**
TECHSHARE	0.239 [0.103]*	0.916 [0.092]**	0.283 [0.095]**
TECHTIME	-0.055 [0.009]**	-0.033 [0.009]**	-0.064 [0.007]**
ln employment	-0.071 [0.016]**	0.042 [0.015]**	0.011 [0.015]
ln AGE	0.012 [0.023]	0.002 [0.021]	0.102 [0.021]**
Constant	-1.503 [0.316]**	-2.602 [0.307]**	-1.249 [0.291]**
Total Observations	73520		
Model chi-square	6847.281		
Standard errors in brackets; * significant at 5%; ** significant at 1%			
Base class: no continuation (<i>j=0</i>); Combinations (<i>j=4</i>) included, but not reported			
Industry (SIC)-, Tech (Patent subclass)- & Vintage- effects included			

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TABLE A2.2: MULTINOMIAL LOGIT ESTIMATES OF CONTINUATIONS DECISIONS FOR DRUGS & MEDICINE PATENTS (PRIORITY YEARS 1981-2000, ISSUE YEARS 1981-2004)

Dependent variable: continuation type			
Explanatory variables	<i>CAP</i> (<i>j=1</i>)	<i>CIP</i> (<i>j=2</i>)	<i>Div</i> (<i>j=3</i>)
lnRDINT*lnPATINT	0.047 [0.021]*	0.037 [0.021]	-0.024 [0.024]
lnCAPINT*lnPATINT	-0.113 [0.026]**	0.011 [0.029]	0.061 [0.033]
FCITES	-0.026 [0.005]**	0.02 [0.004]**	-0.066 [0.008]**
lnPATINT	0.467 [0.106]**	0.005 [0.120]	0.068 [0.142]
lnRDINT	0.073 [0.037]*	0.111 [0.038]**	0.278 [0.045]**
lnCAPINT	0.021 [0.048]	-0.088 [0.050]	-0.063 [0.059]
TECHSHARE	-0.145 [0.103]	-0.097 [0.102]	0.279 [0.114]*
TECHTIME	0.01 [0.011]	-0.063 [0.011]**	-0.017 [0.012]
ln employment	-0.088 [0.023]**	0.005 [0.023]	0.109 [0.026]**
ln AGE	-0.069 [0.030]*	-0.019 [0.031]	-0.12 [0.031]**
Constant	-2.575 [1.067]*	-1.341 [0.571]*	-3.926 [1.080]**
Total Observations	31082		
Model chi-square	4885.301		

Standard errors in brackets; * significant at 5%; ** significant at 1%
 Base class: no continuation (*j=0*); Combinations (*j=4*) included, but not reported
 Industry (SIC)-, Tech (Patent subclass)- & Vintage- effects included

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TABLE A2.3: MULTINOMIAL LOGIT ESTIMATES OF CONTINUATIONS DECISIONS FOR ELECTRICAL & ELECTRONICS PATENTS (PRIORITY YEARS 1981-2000, ISSUE YEARS 1981-2004)

Explanatory variables	<i>CAP</i> (<i>j=1</i>)	<i>CIP</i> (<i>j=2</i>)	<i>Div</i> (<i>j=3</i>)
lnRDINT*lnPATINT	-0.114 [0.020]**	0.055 [0.025]*	-0.103 [0.027]**
lnCAPINT*lnPATINT	0.393 [0.027]**	-0.101 [0.035]**	0.35 [0.034]**
FCITES	-0.057 [0.004]**	0.031 [0.004]**	-0.079 [0.004]**
lnPATINT	-1.269 [0.096]**	0.289 [0.132]*	-1.143 [0.127]**
lnRDINT	0.104 [0.025]**	-0.125 [0.033]**	0.08 [0.033]*
lnCAPINT	0.226 [0.034]**	0.041 [0.047]	0.217 [0.039]**
TECHSHARE	0.385 [0.089]**	0.204 [0.120]	-0.373 [0.124]**
TECHTIME	-0.07 [0.006]**	-0.013 [0.008]	-0.054 [0.007]**
ln employment	0.062 [0.015]**	-0.207 [0.021]**	0.059 [0.020]**
lnAGE	-0.135 [0.027]**	-0.056 [0.035]	0.017 [0.034]
Constant	-3.643 [0.325]**	-0.953 [0.414]*	-3.524 [0.453]**
Total Observations	77484		
Model chi-square	12712.61		
Standard errors in brackets; * significant at 5%; ** significant at 1%			
Base class: no continuation (j=0); Combinations (j=4) included, but not reported			
Industry (SIC)-, Tech (Patent subclass)- & Vintage- effects included			

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TABLE A2.4: MULTINOMIAL LOGIT ESTIMATES OF CONTINUATIONS DECISIONS FOR COMPUTERS & COMMUNICATIONS PATENTS (PRIORITY YEARS 1981-2000, ISSUE YEARS 1981-2004)

Explanatory variables	<i>CAP</i> (<i>j=1</i>)	<i>CIP</i> (<i>j=2</i>)	<i>Div</i> (<i>j=3</i>)
lnRDINT*lnPATINT	-0.105 [0.017]**	0.017 [0.022]	-0.068 [0.031]*
lnCAPINT*lnPATINT	0.357 [0.021]**	-0.093 [0.030]**	0.359 [0.035]**
FCITES	-0.021 [0.002]**	0.022 [0.003]**	-0.069 [0.005]**
lnPATINT	-1.159 [0.079]**	0.35 [0.119]**	-1.316 [0.140]**
lnRDINT	0.201 [0.025]**	-0.032 [0.034]	0.128 [0.043]**
lnCAPINT	0.361 [0.026]**	0.08 [0.041]	0.208 [0.046]**
TECHSHARE	0.829 [0.074]**	0.494 [0.113]**	0.358 [0.129]**
TECHTIME	-0.062 [0.006]**	-0.005 [0.009]	-0.048 [0.010]**
ln employment	0.066 [0.013]**	-0.191 [0.020]**	-0.058 [0.023]*
lnAGE	-0.106 [0.026]**	0.051 [0.039]	0.034 [0.047]
Constant	-4.727 [0.509]**	-0.747 [0.477]	-2.32 [0.506]**
Total Observations	92268		
Model chi-square	13299.47		

Standard errors in brackets; * significant at 5%; ** significant at 1%
Base class: no continuation (j=0); Combinations (j=4) included, but not reported
Industry (SIC)-, Tech (Patent subclass)- & Vintage- effects included

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TABLE A2.5: MULTINOMIAL LOGIT ESTIMATES OF CONTINUATIONS DECISIONS FOR MECHANICAL PATENTS (PRIORITY YEARS 1981-2000, ISSUE YEARS 1981-2004)

Explanatory variables	<i>CAP</i> (<i>j=1</i>)	<i>CIP</i> (<i>j=2</i>)	<i>Div</i> (<i>j=3</i>)
lnRDINT*lnPATINT	0.08 [0.025]**	0.038 [0.024]	0.018 [0.024]
lnCAPINT*lnPATINT	0.037 [0.036]	-0.086 [0.039]*	0.142 [0.035]**
FCITES	-0.009 [0.007]	0.049 [0.006]**	-0.086 [0.008]**
lnPATINT	-0.106 [0.142]	0.426 [0.158]**	-0.453 [0.142]**
lnRDINT	0.221 [0.033]**	0.101 [0.037]**	0.251 [0.034]**
lnCAPINT	-0.172 [0.049]**	-0.1 [0.055]	-0.066 [0.047]
TECHSHARE	0.525 [0.128]**	0.61 [0.134]**	0.212 [0.142]
TECHTIME	-0.036 [0.009]**	-0.024 [0.009]*	-0.051 [0.008]**
ln employment	-0.027 [0.022]	-0.143 [0.025]**	-0.031 [0.023]
ln AGE	0.031 [0.031]	0.078 [0.035]*	0.095 [0.032]**
Constant	-2.054 [0.382]**	-1.65 [0.429]**	-3.201 [0.379]**
Total Observations	47703		
Model chi-square	6214.794		

Standard errors in brackets; * significant at 5%; ** significant at 1%
Base class: no continuation (j=0); Combinations (j=4) included, but not reported
Industry (SIC)-, Tech (Patent subclass)- & Vintage- effects included