

Online Appendix

For “Debtor Rights, Credit Supply and Innovation”

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Appendix Table 1.

Effect of right censoring on forward citation measures.

This table provides year-by-year averages for four measures based on five-year forward citations using data from USPTO, 1995-2005. Forward citations suffer a well-known censoring problem. The data we use from the USPTO is current as of 2012, so the censoring is less of an issue than if we were to rely on NBER patent data as of 2006. The effect of censoring is nevertheless apparent in the latter two to three years for each measure.

Year	Forward Citations	Patent Generality
1995	0.380	0.261
1996	0.696	0.264
1997	1.076	0.265
1998	1.400	0.253
1999	1.641	0.244
2000	1.772	0.227
2001	1.991	0.203
2002	1.895	0.182
2003	1.584	0.149
2004	1.282	0.103
2005	0.887	0.062

Appendix Table 2.

Timing of other laws in state.

Column 1 displays the number of states that amended either their homestead exemption or their personal property exemption (jewelry, motor vehicles, cash, deposits, and “wildcard”).

Year	(1) Number of states that passed exemption laws	(2) of which change corporate income tax	(3) of which change state bank tax	(4) of which change R&D credits	(5) of which change invest tax credits	(6) of which change job tax credit
1995	4	0	1 (CA)	0	0	0
1996	4	0	0	0	0	1(MN)
1997	5	0	0	0	0	0
1998	8	0	0	1(RI)	1(RI)	0
1999	7	0	0	2(MT, UT)	0	0
2000	4	1 (CO)	1 (CO)	0	0	0
2001	9	1 (AZ)	1 (AZ)	1(AZ)	0	0
2002	3	0	0	0	0	0
2003	4	0	0	0	0	0
2004	13	0	0	0	0	0
2005	5	0	0	0	0	0
Totals:	66	2	3	4	1	1

Appendix Table 3

Effect of homestead exemptions on number of patents; robustness to alternative definitions and counterfactuals

	(1)	(2)	(3)	(4)	(5)
Firm Size	Small, One State	Large, One State	Small, One or More States	Large, One or More States	University
Homestead	-0.072** [0.032]	-0.034 [0.057]	-0.047* [0.026]	-0.014 [0.043]	-0.029 [0.039]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Observations	284,621	93,398	336,604	165,159	5,710
Num. State or Assignee	40,811	12,259	46,762	20,023	580
Log likelihood	-107080	-46370	-166625	-248368	-9482

Appendix Table 4

Effect of homestead exemptions on number of patents for firms, different trends

	(1)	(2)	(3)	(4)	(5)	(6)
Firm size	Small			Large		
Homestead	-0.072** [0.032]	-0.060* [0.032]	-0.073* [0.042]	-0.014 [0.043]	0.053 [0.042]	-0.049 [0.061]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	No	No	Yes	No	No
State*Trend	No	Yes	No	No	Yes	No
State*Pretrend	No	No	Yes	No	No	Yes
Observations	284,621	284,621	284,621	165,159	165,159	165,159
Num. Assignee	40,811	40,811	40,811	20,023	20,023	20,023
Log likelihood	-107080	-107209	-107646	-248368	-248202	-254118

Appendix Table 5

Effect of homestead exemptions on patent characteristics for large firms

Dependent Variable	(1) Forward Cites	(2) Generality	(3) Originality	(4) Exploration
Homestead exemptions	-0.009 [0.037]	0.013 [0.025]	0.014 [0.018]	0.005 [0.022]
Time-Varying State Vars	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes
Observations	149,839	129,991	154,334	165,159
Number of assignees	17,428	14,765	18,658	20,023
Log likelihood	-214899	-228263	-41971	-110837

Appendix Table 6

Effect of homestead exemptions on distribution of patent citations for large firms

Dependent Variable:	(1) Standard Deviation	(2) Bottom 10th Pctile	(3) Bottom 25th Pctile	(4) Top 25th Pctile	(5) Top 10th Pctile
Homestead exemptions	-0.060* [0.033]	0.028 [0.039]	0.017 [0.042]	-0.044 [0.038]	-0.062 [0.041]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	85,399	99,225	121,327	87,316	54,472
Number of assignees	9,395	12,028	14,464	9,831	5,985
Log likelihood	-192739	-117992	-113005	-113816	-127373

Appendix Table 7

Effect of homestead exemptions on innovation for large firms with high external financial dependence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	Patents	Forward Cites	Generality	Originality	Exploration	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	-0.055 [0.056]	-0.020 [0.054]	0.008 [0.032]	0.010 [0.023]	-0.004 [0.029]	-0.054 [0.043]	0.001 [0.052]	-0.012 [0.056]	-0.078 [0.050]	-0.094* [0.054]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87,517	80,738	72,165	82,415	87,517	46,085	50,761	62,681	48,720	31,551
Number of assignees	10,843	9,600	8,406	10,181	10,843	5,178	6,298	7,640	5,605	3,544
Log likelihood	-151867	-131549	-132715	-23065	-59360	-118234	-68632	-67090	-69719	-79071

Appendix Table 8

Effect of homestead exemptions on innovation for large firms with low external financial dependence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	Patents	Forward Cites	Generality	Originality	Exploration	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	0.068 [0.054]	0.011 [0.043]	0.031 [0.040]	0.021 [0.028]	0.021 [0.034]	-0.067 [0.047]	0.090 [0.057]	0.076 [0.057]	0.029 [0.051]	0.012 [0.056]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	77,642	69,101	57,826	71,919	77,642	39,314	48,464	58,646	38,596	22,921
Number of assignees	9,180	7,828	6,359	8,477	9,180	4,217	5,730	6,824	4,226	2,441
Log likelihood	-96092	-83280	-95498	-18904	-51468	-74444	-49232	-45801	-43898	-48130

Appendix Table 9

Effect of total exemptions on patent characteristics for small firms

	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Num. Patents	Forward Cites	Generality	Originality	Exploration
Total Exemptions	-0.077** [0.032]	-0.064 [0.050]	-0.047 [0.045]	-0.008 [0.030]	-0.037 [0.029]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	284,621	237,256	181,175	247,028	284,621
Number of assignees	40,811	32,094	23,884	35,495	40,811
Log likelihood	-107079	-351442	-377738	-40997	-89568

Appendix Table 10

Effect of total exemptions on distribution of patent citations for small firms

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Total Exemptions	-0.190*** [0.068]	-0.070* [0.040]	-0.070* [0.037]	-0.097** [0.049]	-0.141** [0.070]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	59,057	115,452	163,773	86,413	38,643
Number of assignees	7,537	17,584	23,384	11,794	5,278
Log likelihood	-299972	-301321	-301271	-278440	-280983

Appendix Table 11

Effect of homestead exemptions dummy on patent characteristics for small firms

	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Num. Patents	Forward Cites	Generality	Originality	Exploration
Homestead dummy	-0.292*** [0.031]	-0.263*** [0.061]	-0.331*** [0.041]	-0.270*** [0.026]	-0.291*** [0.026]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	284,621	237,256	181,175	247,028	284,621
Number of assignees	40,811	32,094	23,884	35,495	40,811
Log likelihood	-106929	-351037	-377042	-40952	-89443

Appendix Table 12

Effect of homestead exemptions dummy on distribution of patent citations for small firms

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead dummy	-0.176** [0.084]	-0.365*** [0.042]	-0.323*** [0.037]	-0.308*** [0.054]	-0.222*** [0.079]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	59,057	115,452	163,773	86,413	38,643
Number of assignees	7,537	17,584	23,384	11,794	5,278
Log likelihood	-300092	-300695	-300761	-278059	-280897

Appendix Table 13

Effect of homestead exemptions on patent characteristics for small firms, no Massachusetts

	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Num. Patents	Forward Cites	Generality	Originality	Exploration
Homestead exemptions	-0.600*** [0.132]	-0.243 [0.222]	-0.434*** [0.144]	-0.290*** [0.088]	-0.367*** [0.083]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Massachusetts?	No	No	No	No	No
Observations	271,955	226,222	172,123	235,730	271,955
Number of assignees	39,017	30,618	22,695	33,886	39,017
Log likelihood	-101978	-338445	-363360	-38961	-85358

Appendix Table 14

Effect of homestead exemptions on distribution of patent citations for small firms, no Massachusetts

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	-0.479* [0.265]	-0.373*** [0.115]	-0.360*** [0.112]	-0.440*** [0.147]	-0.345* [0.206]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Massachusetts?	No	No	No	No	No
Observations	55,655	110,372	156,572	81,498	36,151
Number of assignees	7,098	16,814	22,365	11,134	4,932
Log likelihood	-289127	-292882	-291383	-269031	-271652

Appendix Table 15

Effect of homestead exemptions on patent characteristics for small firms, no Massachusetts for 2000-2005

Dependent Variable	(1) Num. Patents	(2) Forward Cites	(3) Generality	(4) Originality	(5) Exploration
Homestead exemptions	-0.416*** [0.092]	-0.244 [0.222]	-0.434*** [0.144]	-0.289*** [0.088]	-0.367*** [0.083]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Massachusetts 2000-2005?	No	No	No	No	No
Observations	275,037	229,028	174,442	238,384	275,037
Number of assignees	39,814	31,343	23,292	34,576	39,814
Log likelihood	-103542	-340312	-365820	-39516	-86604

Appendix Table 16

Effect of homestead exemptions on distribution of patent citations for small firms, no Massachusetts for 2000-2005

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	-0.480* [0.265]	-0.373*** [0.115]	-0.360*** [0.112]	-0.360*** [0.112]	-0.346* [0.206]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Massachusetts 2000-2005?	No	No	No	No	No
Observations	56,482	111,290	158,160	82,630	36,681
Number of assignees	7,297	17,035	22,753	11,428	5,072
Log likelihood	-290933	-293556	-293104	-270540	-272728

Appendix Table 17

Effect of homestead exemptions on patent characteristics for small firms, no confounding laws

	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Num. Patents	Forward Cites	Generality	Originality	Exploration
Homestead exemptions	-0.071** [0.033]	-0.048 [0.052]	-0.04 [0.047]	0.002 [0.031]	-0.028 [0.030]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	236,442	194,455	147,222	204,958	236,442
Number of assignees	37,439	29,050	21,459	32,541	37,439
Log likelihood	-89488	-300601	-322846	-34084	-74718

Appendix Table 18

Effect of homestead exemptions on distribution of patent citations for small firms, no confounding laws

Dependent Variable:	(1) Standard Deviation	(2) Bottom 10th Pctile	(3) Bottom 25th Pctile	(4) Top 25th Pctile	(5) Top 10th Pctile
Homestead exemptions	-0.194*** [0.072]	-0.065 [0.040]	-0.066* [0.038]	-0.087* [0.049]	-0.138* [0.071]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	47,967	96,591	134,752	69,796	30,892
Number of asscode	6,838	16,310	21,297	10,605	4,718
Log likelihood	-255323	-257566	-257040	-237704	-239608

Appendix Table 19

Effect of homestead exemptions on 5-year forward citations for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.060 [0.047]	-0.058 [0.051]	-0.088 [0.057]	-0.109* [0.059]	-0.130** [0.064]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	237,256	203,196	169,963	138,577	109,635
Number of asscode	32,094	30,394	28,033	25,296	22,309
Log likelihood	-210644	-200446	-184472	-163128	-137778

Appendix Table 20

Effect of homestead exemptions on patent generality for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.038 [0.042]	-0.031 [0.045]	-0.055 [0.048]	-0.074 [0.048]	-0.111** [0.052]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	181,175	156,025	131,203	107,360	85,042
Number of asrcode	23,884	22,842	21,315	19,364	17,154
Log likelihood	-22253	-20942	-19026	-16614	-13896

Appendix Table 21

Effect of homestead exemptions on standard deviation of patent citations for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.182*** [0.038]	-0.087*** [0.028]	-0.238*** [0.045]	-0.166*** [0.031]	-0.179*** [0.031]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	59,057	50,606	42,318	34,346	26,945
Number of asscode	7,537	7,088	6,525	5,852	5,082
Log likelihood	-296946	-244834	-199761	-159682	-124030

Appendix Table 22

Effect of homestead exemptions on number of patent citations in bottom 10th percentile for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.074** [0.034]	-0.094*** [0.036]	-0.137*** [0.049]	-0.201*** [0.037]	-0.218*** [0.031]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	115,452	92,223	72,164	55,368	41,470
Number of asscode	17,584	14,787	12,315	10,091	8,208
Log likelihood	-278532	-232819	-190731	-152962	-119858

Appendix Table 23

Effect of homestead exemptions on number of patent citations in bottom 25th percentile for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.075** [0.031]	-0.094*** [0.036]	-0.127** [0.050]	-0.173*** [0.040]	-0.173*** [0.031]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calendar Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	163,773	135,803	110,789	88,647	68,794
Number of asscode	23,384	20,737	18,365	16,044	13,733
Log likelihood	-277080	-231953	-190592	-153626	-121676

Appendix Table 24

Effect of homestead exemptions on number of patent citations in top 25th percentile for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.080*** [0.028]	-0.061** [0.029]	-0.095*** [0.029]	-0.087** [0.036]	-0.115*** [0.042]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	86,413	72,966	60,181	48,237	37,354
Number of asscode	11,794	10,894	9,900	8,739	7,518
Log likelihood	-261566	-215481	-173952	-137348	-106182

Appendix Table 25

Effect of homestead exemptions on number of patent citations in top 10th percentile for small firms

	(1)	(2)	(3)	(4)	(5)
Year Sample	All	< 2005	< 2004	< 2003	< 2002
Homestead exemptions	-0.114*** [0.027]	-0.099*** [0.021]	-0.190*** [0.027]	-0.214*** [0.046]	-0.214*** [0.058]
Time-Varying State Vars	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes	Yes	Yes
Assignee Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	38,643	32,365	26,442	20,953	16,101
Number of asscode	5,278	4,846	4,346	3,799	3,238
Log likelihood	-267104	-215397	-172414	-135192	-102733

Appendix Table 26

Distribution of patent citations scaled by patent counts

	(1)	(2)	(3)	(4)
Dependent Variable:	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	-0.039*** [0.011]	-0.034*** [0.010]	-0.016 [0.010]	-0.022** [0.010]
Control Variables	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes
Observations	115,452	163,773	86,413	38,643
Number of Firms	17,584	23,384	11,794	5,278
Log likelihood	-202080	-201220	-174186	-167590

Appendix Table 27

Effect of personal bankruptcy exemptions on individual inventors (at the state-technology-year level)

Dependent Variable	(1)	(2)	(3)
	Patents by Individual Inventors		
Sample	Full	High External Financing Dependence	Low External Financing Dependence
Homestead Exemption	-0.039 [0.036]	-0.072*** [0.021]	-0.001 [0.080]
Time-Varying State Specific Variables	Yes	Yes	Yes
Subclass Fixed Effects	Yes	Yes	Yes
Subclass*Trend	Yes	Yes	Yes
Calender Year Effects	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes
Observations (state-subclass-years)	19,800	9,900	9,900
Log Likelihood	-11375	-5071	-6073

Appendix Table 28

Effect of homestead exemptions on innovation at the state-technology-year level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	Patents	Forward Cites	Generality	Originality	Exploration	Standard Deviation	Bottom 10th Pctile	Bottom 25th Pctile	Top 25th Pctile	Top 10th Pctile
Homestead exemptions	-0.050** [0.020]	-0.047*** [0.016]	-0.035* [0.020]	-0.010 [0.020]	-0.028 [0.019]	-0.070*** [0.022]	-0.064** [0.027]	-0.059** [0.026]	-0.046*** [0.018]	-0.057*** [0.019]
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subcategory*Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800	19,800
Number of States	50	50	50	50	50	50	50	50	50	50
Log likelihood	-41647	-133520	-133385	-20364	-34461	-173319	-116372	-105207	-133033	-182226

Appendix Table 29

Distribution of Incumbents and Entrants

Year	Number of small firms	% of Incumbents	% of Entrants
1994	16543	80.96	19.04
1995	19741	83.80	16.20
1996	22994	85.85	14.15
1997	26520	86.70	13.30
1998	29944	88.57	11.43
1999	33694	88.87	11.13
2000	37668	89.45	10.55
2001	41445	90.89	9.11
2002	45252	91.59	8.41
2003	48890	92.56	7.44
2004	52272	93.53	6.47
2005	55352	94.44	5.56
Total	430315	90.25	9.75