

Table A1: Summary of prefecture share of population and patent data<sup>1</sup>

<i>Percentage of Japan</i>	Prefecture share of Total population (%)	Prefecture share of Total patents (%)	Patents per 100 population	<i>Percentage of Regions outside of major metros</i>	Patents per 100 population
Tokyo	10.38	50.6	1.687	Osaka	0.858
Osaka	7.00	17.9	0.885	Aichi	0.344
Kyoto	2.1	4.0	0.660	Ehime	0.255
Aichi	5.8	6.7	0.394	Yamaguchi	0.233
Kanagawa	7.1	6.1	0.298	Nagano	0.115
Nagasaki	0.1	0.1	0.195	Tochigi	0.102
Ehime	1.1	0.6	0.183	Ibaraki	0.092
Mie	1.5	0.7	0.175	Saitama	0.090
Yamaguchi	1.1	0.6	0.168	Kanagawa	0.089
Hyogo	4.4	2.0	0.158	Hiroshima	0.081
Shizuoka	3.0	1.1	0.128	Shizuoka	0.081
Shiga	1.1	0.4	0.125	Tokushima	0.080
Ibaraki	2.3	0.8	0.118	Gifu	0.080
Okayama	1.5	0.5	0.117	Kyoto	0.078
Nagano	1.7	0.5	0.103	Ishikawa	0.075
Saitama	5.7	1.6	0.096	Shiga	0.069
Tokushima	0.6	0.2	0.095	Toyama	0.067
Tochigi	1.6	0.4	0.084	Saga	0.059
Miyage	1.9	0.4	0.077	Gunma	0.056
Hiroshima	2.3	0.5	0.076	Kagawa	0.050
Ishikawa	0.9	0.2	0.073	Yamanashi	0.049
Gifu	1.6	0.3	0.071	Yamagata	0.048
Toyama	0.9	0.2	0.070	Chiba	0.039
Fukui	0.6	0.1	0.070	Hyogo	0.039
Gunma	1.6	0.3	0.069	Fukui	0.038
Fukuoka	4.0	0.7	0.063	Fukuoka	0.038
Yamanashi	0.7	0.1	0.062	Nara	0.034
Kagawa	0.9	0.1	0.062	Okayama	0.033
Niigata	1.9	0.3	0.056	Miyazaki	0.027
Saga	0.7	0.1	0.055	Mie	0.018
Yamagata	0.9	0.1	0.048	Niigata	0.015
Wakayama	0.8	0.1	0.048	Wakayama	0.015
Chiba	4.9	0.6	0.046	Fukushima	0.015
Tottori	0.5	0.1	0.042	Kumamoto	0.015
Miyazaki	0.9	0.1	0.034	Oita	0.014
Nara	1.1	0.1	0.031	Nagasaki	0.013
Fukushima	1.6	0.1	0.030	Okinawa	0.012
Kumamoto	1.4	0.1	0.025	Kochi	0.012
Kochi	0.6	0.04	0.024	Tottori	0.011
Kagoshima	1.3	0.1	0.020	Iwate	0.010
Hokkaido	4.3	0.2	0.019	Miyage	0.009
Akita	0.9	0.04	0.015	Shimane	0.009
Iwate	1.0	0.04	0.015	Kagoshima	0.006
Okinawa	1.1	0.04	0.013	Hokkaido	0.006
Shimane	0.6	0.02	0.013	Akita	0.004
Oita	0.9	0.04	0.013	Aomori	0.004
Aomori	1.1	0.02	0.008	Tokyo	n/a
Total outside large metro <sup>2</sup>	45.1	13.2			0.101
Total Japan	100%	100%	0.035		

<sup>1</sup> Darker colour indicates greater amount of patent activity.<sup>2</sup> Excluding Tokyo-to.

Table A2: Regression variable summary statistics for regions with under 50,000 persons (566 regions)

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
X <sub>1</sub> OUTLAB	3,837	3,290	3,069	9	18,091
X <sub>2</sub> INLAB	4,962	4,246	3,957	0	26,788
X <sub>3</sub> OUTREG	35	27	28	0	240
X <sub>4</sub> INREG	33	25	26	0	240
X <sub>5</sub> INPREF	4,261	3,595	3,310	0	15,898
X <sub>6</sub> OUTPREF	417	102	826	0	7,925
X <sub>7</sub> POP	27,697	29,598	13,453	418	49,955
X <sub>8</sub> POPPREF (‘000’s)	2,967	1,945	5,639	589	128,057
X <sub>9</sub> MAN	2,434	2,074	1,836	13	9,757
X <sub>10</sub> MIN	19	6	122	0	2,844
X <sub>11</sub> AG	1,631	1,360	1,286	22	7,658
X <sub>12</sub> AMUS	477	471	274	6	1,399
X <sub>13</sub> MED	1,489	1,547	778	18	4,608
X <sub>14</sub> ED	528	514	297	22	1,755
X <sub>15</sub> ICT	95	65	106	0	812
X <sub>16</sub> SCI	247	213	218	0	2,481
X <sub>17</sub> COREPREF	0.39	0	0.49	0	1
X <sub>18</sub> MIDPREF	0.31	0	0.46	0	1
Y PER	8.99	1	28	0	361

Table A3: Regression variable summary statistics for regions with 50,000 to 70,000 persons (178 regions)

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
X <sub>1</sub> OUTLAB	9,072	8,399	4,704	72	33,220
X <sub>2</sub> INLAB	11,272	11,302	5,344	19	29,170
X <sub>3</sub> OUTREG	46	37	41	9	311
X <sub>4</sub> INREG	44	37	34	10	234
X <sub>5</sub> INPREF	9,921	9,906	4,592	14	21,951
X <sub>6</sub> OUTPREF	1,676	516	2,677	8	13,303
X <sub>7</sub> POP	58,985	58,460	5,917	50,015	69,990
X <sub>8</sub> POPPREF (‘000’s)	3,323	2,081	2,520	589	9,048
X <sub>9</sub> MAN	5,433	5,084	2,324	215	13,521
X <sub>10</sub> MIN	42	8	353	0	4,708
X <sub>11</sub> AG	2,102	1,570	1,991	2	11,511
X <sub>12</sub> AMUS	1,041	1,016	216	364	2,437
X <sub>13</sub> MED	2,992	2,969	669	0	4,419
X <sub>14</sub> ED	1,184	1,166	300	691	3,124
X <sub>15</sub> ICT	359	255	313	44	1,919
X <sub>16</sub> SCI	649	580	308	213	2,766
X <sub>17</sub> COREPREF	0.59	1	0.49	0	1
X <sub>18</sub> MIDPREF	0.21	0	0.41	0	1
Y PER	29	7	86	0	919

Table A4: Regression variable summary statistics for regions with 70,000 to 180,000 persons (267 regions)

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
X <sub>1</sub> OUTLAB	15,440	13,318	9,103	1,060	65,447
X <sub>2</sub> INLAB	17,956	17,572	9,591	779	57,766
X <sub>3</sub> OUTREG	50	40	45	12	403
X <sub>4</sub> INREG	50	41	43	15	410
X <sub>5</sub> INPREF	15,603	15,339	8,258	723	44,316
X <sub>6</sub> OUTPREF	4,304	1,095	6,932	10	42,480
X <sub>7</sub> POP	108,031	100,509	29,583	70,210	178,691
X <sub>8</sub> POPPREF (‘000’s)	3,987	2,861	2,683	589	9,048
X <sub>9</sub> MAN	10,258	9,142	5,291	1,153	32,881
X <sub>10</sub> MIN	21	12	28	0	195
X <sub>11</sub> AG	2,251	1,644	1,980	47	9,780
X <sub>12</sub> AMUS	1,904	1,797	608	903	5,107
X <sub>13</sub> MED	5,233	4,999	1,666	2,499	11,474
X <sub>14</sub> ED	2,168	2,056	715	774	4,797
X <sub>15</sub> ICT	871	589	908	106	7,697
X <sub>16</sub> SCI	1,352	1,144	695	400	5,302
X <sub>17</sub> COREPREF	0.67	1	0.47	0	1
X <sub>18</sub> MIDPREF	0.16	0	0.37	0	1
Y PER	189	22	1093	0	16,073