**Online Appendix**

*Table A1. Number of patents granted in France by technology class (1791-1844)*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Description** | **1791- 1815** | | **1816 - 1830** | | **1831 - 1843** | |
| **n** | **%** | **n** | **%** | **n** | **%** |
| 1 | Agriculture | 39 | 4.2 | 126 | 4.4 | 500 | 5.7 |
| 2 | Hydraulic | 20 | 2.2 | 93 | 3.3 | 286 | 3.2 |
| 3 | Steam engines and engines | 19 | 2.1 | 101 | 3.5 | 517 | 5.9 |
| 4 | Textile machines and fabrics | 161 | 17.5 | 503 | 17.6 | 1,234 | 14 |
| 5 | Other machines, devices and tools | 8 | 0.9 | 63 | 2.2 | 150 | 1.7 |
| 6 | Navigation | 29 | 3.1 | 139 | 4.9 | 233 | 2.6 |
| 7 | Construction | 30 | 3.3 | 105 | 3.7 | 540 | 6.1 |
| 8 | Metallurgy | 41 | 4.4 | 108 | 3.8 | 336 | 3.8 |
| 9 | Hardware (lock and cutlery) | 31 | 3.4 | 137 | 4.8 | 364 | 4.1 |
| 10 | Bodywork, saddlery, ropes and brushwork | 26 | 2.8 | 114 | 4.0 | 294 | 3.3 |
| 11 | Weapons | 11 | 1.2 | 64 | 2.2 | 171 | 1.9 |
| 12 | Precision and surgical instruments | 49 | 5.3 | 111 | 3.9 | 445 | 5.1 |
| 13 | Mineral substances and ceramic | 29 | 3.1 | 84 | 2.9 | 225 | 2.6 |
| 14 | Chemical products, food and cosmetics | 143 | 15.5 | 334 | 11.7 | 1,041 | 11.8 |
| 15 | Lighting, heating and fuels | 95 | 10.3 | 216 | 7.6 | 805 | 9.1 |
| 16 | Clothing and shoes | 44 | 4.8 | 152 | 5.3 | 524 | 6.0 |
| 17 | Fine arts and musical instruments | 55 | 6.0 | 168 | 5.9 | 435 | 4.9 |
| 18 | Stationery | 39 | 4.2 | 108 | 3.8 | 353 | 4.0 |
| 19 | Leather | 14 | 1.5 | 25 | 0.9 | 93 | 1.1 |
| 20 | Miscellaneous products | 39 | 4.2 | 101 | 3.5 | 255 | 2.9 |

*Notes: Patents have been classified according to the 1853 technological classification.*

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Empotz and Marchal (2002) for technological classes.

*Table A2. Most representative occupations by HISCO category*

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Category label** | **Most represented professions** | **English translation** |
| 0\_1 | Small proprietor | *Négociant* | Trader/Storekeeper |
| *Parfumeur* | Perfumer |
| *Bijoutier* | Jeweller |
| 0\_2 | Large proprietor | *Propriétaire* | Owner |
| *Fabricant* | Manufacturer/Producer |
| *Manufacturier* | Manufacturer/Producer |
| *Rentier* | Rentier |
| 1 | Higher manager | *Banquier* | Banker |
| *Chef des ateliers [...]* | Factory manager |
| *Colonel* | Colonel |
| 2 | Higher professionals | *Ingénieur mécanicien* | Mechanical engineer |
| *Ingénieur civil* | Civil engineer |
| *Ingénieur* | Engineer |
| *Docteur en médecine* | Doctor (medical) |
| *Architecte* | Architect |
| 3 | Lower manager | *Pharmacien* | Pharmacist |
| *Dessinateur* | Draftsman |
| *Capitaine d'artillerie* | Artillery captain |
| *Capitaine au long cours* | Long-haul captain |
| 4 | Lower professionals, and clerical and sales personnel | *Chimiste* | Chemist |
| *Distillateur* | Spirit maker |
| *Géomètre* | Surveyor |
| 5 | Lower clerical and sales personnel | *Employé* | Clerk |
| *Commis négociant* | Shop assistant |
| 6 | Foremen (artisans) | *Horloger* | Clock maker |
| *Horloger mécanicien* | Mechanic clock maker |
| *Menuisier* | Carpenter |
| *Maître de forges* | Smith |
| *Facteur de pianos* | Piano maker |
| 7 | Medium skilled workers | *Mécanicien* | Mechanic |
| *Serrurier mécanicien* | Mechanic locksmith |
| *Serrurier* | Locksmith |
| *Filateur* | Spinner |
| 8 | Farmers and fishermen | *Cultivateur* | Farmer |
| 9 | Lower skilled workers | *Arquebusier* | Armed soldier |
| *Lampiste* | Lamp attendant |
| 10 | Lower skilled farm workers | *Hacheur de bois* | Woodcutter |
| *Jardinier* | Gardener |
| *Marinier* | Sailor |
| 11 | Unskilled workers | *Emballeur* | Packer |

*Notes:* The Table reportsthe patentees’ occupations with the highest frequency for each HISCO category.

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Van Leeuwen, Maas and Miles (2002) for HISCO occupations.

*Table A3. Distribution of patents by total patentee career by countries (1791-1842)*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Period** | **1 Patent** | | **2 Patents** | | **3 Patents** | | **4+ Patents** | |
| **n** | **row %** | **n** | **row %** | **n** | **row %** | **n** | **row %** |
| **1791-1804** |  |  |  |  |  |  |  |  |
| France | 196 | 57.5 | 83 | 24.3 | 18 | 5.3 | 44 | 12.9 |
| England | 576 | 49.4 | 213 | 18.3 | 106 | 9.1 | 272 | 23.3 |
| USA | 77 | 46.1 | 35 | 21.0 | 12 | 7.2 | 43 | 25.7 |
| **1805-1811** |  |  |  |  |  |  |  |  |
| France | 276 | 57.1 | 95 | 19.7 | 38 | 7.9 | 74 | 15.3 |
| England | 338 | 43.7 | 123 | 15.9 | 98 | 12.7 | 214 | 27.7 |
| USA | 186 | 53.3 | 63 | 18.1 | 50 | 14.3 | 50 | 14.3 |
| **1812-1822** |  |  |  |  |  |  |  |  |
| France | 735 | 54.7 | 300 | 22.3 | 107 | 8.0 | 201 | 15.0 |
| England | 579 | 43.0 | 201 | 14.9 | 138 | 10.3 | 427 | 31.7 |
| USA | 388 | 56.8 | 117 | 17.1 | 50 | 7.3 | 128 | 18.7 |
| **1823-1829** |  |  |  |  |  |  |  |  |
| France | 1,128 | 56.1 | 370 | 18.4 | 176 | 8.8 | 337 | 16.8 |
| England | 547 | 42.9 | 228 | 17.9 | 115 | 9.0 | 385 | 30.2 |
| USA | 435 | 58.2 | 132 | 17.6 | 52 | 7.0 | 129 | 17.2 |
| **1830-1836** |  |  |  |  |  |  |  |  |
| France | 1,747 | 53.1 | 693 | 21.0 | 314 | 9.5 | 539 | 16.4 |
| England | 728 | 39.3 | 275 | 14.8 | 213 | 11.5 | 638 | 34.4 |
| USA | 686 | 57.4 | 190 | 15.9 | 95 | 7.9 | 225 | 18.8 |
| **1837-1842** |  |  |  |  |  |  |  |  |
| France | 4,692 | 62.0 | 1,385 | 18.3 | 547 | 7.2 | 941 | 12.4 |
| England | 1,486 | 45.2 | 590 | 18.0 | 335 | 10.2 | 873 | 26.6 |
| USA | 416 | 57.4 | 127 | 17.5 | 61 | 8.4 | 121 | 16.7 |

*Notes*: data for France and England consist of the total number of patents granted in the period 1791-1844. Instead, data for the United States consist of patents granted from 1790 to 1846.

Source: our own elaboration of the INPI dataset for France and on Woodcroft (1854) for England. Sokoloff and Khan (1990, Table 1) for the United States.

*Table A4. Summary statistics*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Mean** | **Median** | **Standard Deviation** | **Minimum** | **Maximum** |
| **Dependent Variables** |  |  |  |  |  |
| Quality class (5; 10; 15 years) | 1.69 | 1 | 0.79 | 1 | 3 |
| Quality class (300; 800; 1500 Francs) | 685.01 | 300 | 467.69 | 300 | 1,500 |
| Patent duration in days | 2,699.38 | 1,826 | 1,555.34 | 18 | 5,479 |
| **Independent Variables** |  |  |  |  |  |
| British origins (BO) | 0.09 | 0 | 0.28 | 0 | 1 |
| British connection (BC) | 0.03 | 0 | 0.18 | 0 | 1 |
| Famous inventor\* | 0.02 | 0 | 0.19 | 0 | 4 |
| Engineer/Scientist | 0.08 | 0 | 0.27 | 0 | 1 |
| Skilled worker | 0.09 | 0 | 0.29 | 0 | 1 |
| Award | 0.01 | 0 | 0.1 | 0 | 1 |
| Number of patentees per patent | 1.2 | 1 | 0.49 | 1 | 6 |
| Maximum experience in the applying group (based on name and location) | 0.69 | 0 | 3 | 0 | 63 |
| Maximum number of Encyclopédie subscriptions in the applying group | 430.23 | 487 | 229.9 | 1 | 1,078 |
| Rouen-Geneva line | 0.72 | 1 | 0.45 | 0 | 1 |

*Sources*: *Institut National de la Propriété Industrielle* (INPI) dataset for patents and Murray (2003), Schich et al. (2014), Gergaud,Louenan and Wasmer (2016) and Yu et al. (2016) for famous inventors and *Annuarie de la Société d’encouragement pour l’Industrie Nationale* (1852) for awards.

*Table A5. Determinants of patent quality in France (Dependent variable: duration in days)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** |
| British origins (BO) |  | 1,144\*\*\* |  | 1,031\*\*\* |
|  | (52.37) |  | (46.88) |
| British origins (BO) British address | 1,199\*\*\* |  | 1,044\*\*\* |  |
| (56.71) |  | (50.35) |  |
| British origins (BO) no British address | 932.4\*\*\* |  | 975.4\*\*\* |  |
| (114.6) |  | (103.8) |  |
| British connection (BC) | 381.6\*\*\* |  | 536.9\*\*\* |  |
| (85.87) |  | (88.03) |  |
| British connection (BC) patent agent |  | 353.4\*\*\* |  | 511.1\*\*\* |
|  | (90.31) |  | (93.12) |
| British connection (BC) no patent agent |  | 597.2\*\* |  | 718.0\*\*\* |
|  | (265.5) |  | (259.3) |
| Number of patentees | 10.94 | 8.012 | 49.86\* | 48.90 |
| (28.23) | (28.16) | (29.87) | (29.78) |
| Experience | 6.966\* | 7.450\* | 6.154\* | 6.271\* |
| (4.067) | (4.028) | (3.446) | (3.427) |
| Famous inventor | 351.8\*\*\* | 324.9\*\*\* | 326.9\*\*\* | 319.7\*\*\* |
| (79.68) | (78.61) | (73.15) | (71.43) |
| Engineer/Scientist | 263.1\*\*\* | 262.2\*\*\* | 425.1\*\*\* | 424.1\*\*\* |
| (54.91) | (54.95) | (55.77) | (55.82) |
| Skilled worker | -108.9\*\* | -113.3\*\*\* | -104.8\*\* | -105.8\*\* |
| (43.96) | (43.94) | (48.51) | (48.45) |
| Period (1791-1815) | 541.5\*\*\* | 538.2\*\*\* | 28.59 | 26.66 |
| (51.42) | (51.41) | (52.78) | (52.77) |
| Period (1816-1829) | 283.9\*\*\* | 281.6\*\*\* | -59.32\* | -61.00\* |
| (34.23) | (34.22) | (35.97) | (35.97) |
| Technological classes | YES | YES | YES | YES |
| Constant | 2,559\*\*\* | 2,564\*\*\* | 2,985\*\*\* | 2,987\*\*\* |
| (67.22) | (67.16) | (71.97) | (71.88) |
| Observations | 12,573 | 12,573 | 9,698 | 9,698 |
| R-squared | 0.097 | 0.097 | 0.113 | 0.113 |

Note: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

*Table A6. Determinants of patent quality in France*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| Foreign inventor (non- British) | 415.4\*\*\* | 415.1\*\*\* | 392.4\*\*\* | 410.3\*\*\* | 259.5\*\*\* |
| (88.97) | (88.45) | (89.87) | (86.82) | (88.88) |
| Number of patentees |  | -23.84 | -21.38 | 16.57 | 46.28 |
|  | (28.61) | (28.68) | (30.19) | (30.24) |
| Experience |  | 32.53\*\*\* | 31.31\*\*\* | 29.45\*\*\* | 23.20\*\*\* |
|  | (4.229) | (4.219) | (3.731) | (3.523) |
| Famous inventor |  | 492.3\*\*\* | 484.9\*\*\* | 473.4\*\*\* | 433.2\*\*\* |
|  | (80.21) | (81.13) | (74.59) | (74.82) |
| Engineer/Scientist |  | 279.1\*\*\* | 271.6\*\*\* | 456.2\*\*\* | 425.6\*\*\* |
|  | (56.34) | (56.75) | (56.57) | (56.57) |
| Skilled worker |  | -177.8\*\*\* | -175.6\*\*\* | -177.4\*\*\* | -149.6\*\*\* |
|  | (44.02) | (43.82) | (48.72) | (48.65) |
| Period (1791-1815) | 423.6\*\*\* | 424.2\*\*\* | 415.0\*\*\* | -96.97\* | -144.9\*\*\* |
| (52.36) | (51.67) | (51.97) | (52.96) | (53.59) |
| Period (1816-1829) | 260.9\*\*\* | 274.5\*\*\* | 272.0\*\*\* | -81.39\*\* | -108.5\*\*\* |
| (35.01) | (34.88) | (35.11) | (36.72) | (36.72) |
| Technological classes | YES | YES | YES | YES | YES |
| Department FE | NO | NO | YES | YES | YES |
| Constant | 2,638\*\*\* | 2,638\*\*\* | 2,654\*\*\* | 3,070\*\*\* | 3,264\*\*\* |
| (58.79) | (67.49) | (70.31) | (71.95) | (74.47) |
| Observations | 12,573 | 12,573 | 12,573 | 9,698 | 9,698 |
| R-squared | 0.047 | 0.059 | 0.070 | 0.074 | 0.098 |

*Notes*: Dependent variable is “real” patent duration in days. OLS regressions with robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Models (4) and (5) do not include withdrawn patents.  
*Source: Institut National de la Propriété Industrielle* (INPI) dataset.

*Table A7. Determinants of patent quality in France (only domestic patents, excluding the Seine Department (Paris))*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** |
| British origins (BO) | 1,196\*\*\* | 1,165\*\*\* | 1,173\*\*\* | 1,179\*\*\* | 860.5\*\*\* | 837.5\*\*\* | 819.3\*\*\* | 778.6\*\*\* |
| (55.46) | (59.07) | (58.65) | (52.80) | (96.61) | (98.01) | (98.28) | (93.12) |
| British connection (BC) | 666.3\*\*\* | 651.1\*\*\* | 657.4\*\*\* | 823.7\*\*\* | 663.8\*\*\* | 654.1\*\*\* | 645.6\*\*\* | 809.5\*\*\* |
| (147.7) | (146.9) | (146.5) | (137.7) | (149.4) | (148.7) | (148.8) | (137.7) |
| Number of patentees |  | 31.28 | 34.77 | 27.58 |  | 36.47 | 42.06 | 16.43 |
|  | (39.11) | (39.39) | (39.96) |  | (39.86) | (40.07) | (40.71) |
| Experience |  | -0.127 | 0.0106 | -4.642 |  | -1.038 | -0.935 | -5.762\*\* |
|  | (3.922) | (3.759) | (2.854) |  | (3.925) | (3.760) | (2.856) |
| Famous inventor |  | 352.0\*\* | 379.0\*\*\* | 385.4\*\*\* |  | 328.0\*\* | 350.8\*\*\* | 352.0\*\*\* |
|  | (146.0) | (142.4) | (110.4) |  | (137.8) | (133.2) | (103.7) |
| Engineer/Scientist |  | 302.3\*\*\* | 356.6\*\*\* | 403.0\*\*\* |  | 296.1\*\*\* | 333.5\*\*\* | 401.3\*\*\* |
|  | (78.44) | (77.64) | (75.53) |  | (79.52) | (78.70) | (76.33) |
| Skilled worker |  | -68.82 | -83.86 | -103.3 |  | -56.23 | -75.47 | -94.99 |
|  | (63.92) | (63.73) | (66.83) |  | (63.16) | (62.78) | (66.52) |
| Period (1791-1815) | 524.8\*\*\* | 523.9\*\*\* | 539.4\*\*\* | 179.1\*\* | 450.2\*\*\* | 451.1\*\*\* | 464.6\*\*\* | 84.91 |
| (79.38) | (79.07) | (79.71) | (81.41) | (81.19) | (80.98) | (81.35) | (83.35) |
| Period (1816-1829) | 222.3\*\*\* | 219.4\*\*\* | 211.6\*\*\* | -16.02 | 227.1\*\*\* | 224.1\*\*\* | 220.1\*\*\* | -6.124 |
| (49.74) | (49.72) | (49.77) | (50.14) | (50.14) | (50.11) | (50.07) | (50.29) |
| High-tech sectors |  |  | 189.9\*\*\* |  |  |  | 224.9\*\*\* |  |
|  |  | (39.27) |  |  |  | (41.06) |  |
| Technological classes | YES | YES | NO | YES | YES | YES | NO | YES |
| Department FE | NO | NO | NO | NO | YES | YES | YES | YES |
| Constant | 2,564\*\*\* | 2,519\*\*\* | 2,482\*\*\* | 2,863\*\*\* | 2,453\*\*\* | 2,441\*\*\* | 2,345\*\*\* | 2,531\*\*\* |
| (69.46) | (82.63) | (53.73) | (86.85) | (196.0) | (198.2) | (187.7) | (199.4) |
| Observations | 6,083 | 6,083 | 6,083 | 5,151 | 6,083 | 6,083 | 6,083 | 5,151 |
| R-squared | 0.107 | 0.112 | 0.097 | 0.144 | 0.134 | 0.138 | 0.125 | 0.174 |

*Notes*: Dependent variable is “real” patent duration in days. OLS regressions with robust standard errors in parentheses for domestic patents, excluding the Seine Department, only. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Models (4) and (8) do not include withdrawn patents.  
*Source: Institut National de la Propriété Industrielle* (INPI) dataset.

*Table A8. Determinants of patent quality in France (alternative indicators of patent quality)*

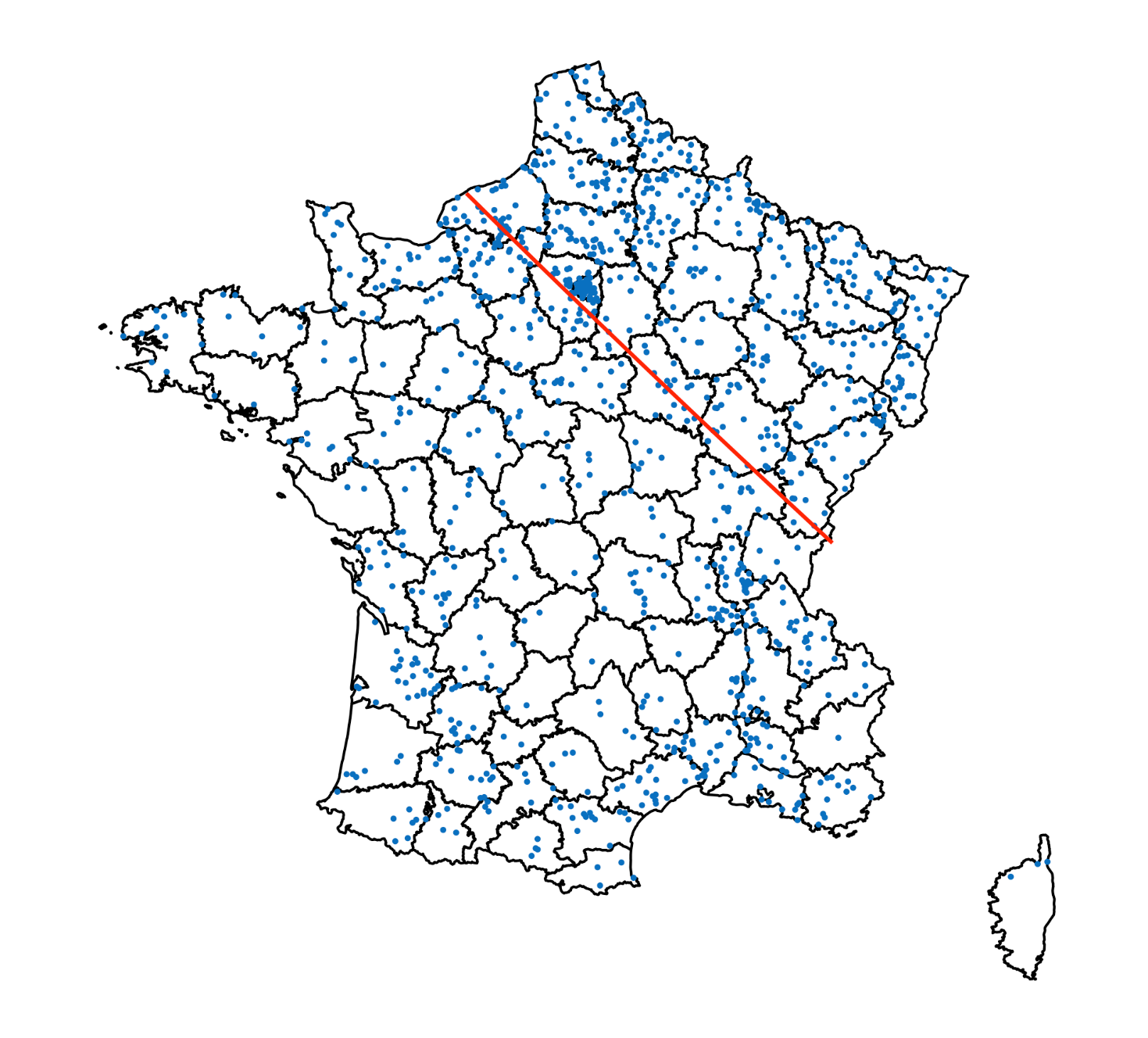
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** |
| **Dependent variables** | **Cost in French francs without additions** | **Cost in French francs with additions** | **Duration by class** | **Duration by class without withdrawn patents** | **Cost in French francs without additions** | **Cost in French francs with additions** | **Duration by class** | **Duration by class without withdrawn patents** |
| British origins (BO) | 327.4\*\*\* | 323.1\*\*\* | 1.313\*\*\* | 1.300\*\*\* | 234.8\*\*\* | 235.3\*\*\* | 0.927\*\*\* | 0.944\*\*\* |
| (14.84) | (15.00) | (0.0562) | (0.0611) | (22.37) | (22.68) | (0.0871) | (0.0975) |
| British connection (BC) | 145.0\*\*\* | 146.9\*\*\* | 0.631\*\*\* | 0.727\*\*\* | 141.8\*\*\* | 143.8\*\*\* | 0.633\*\*\* | 0.718\*\*\* |
| (23.97) | (24.44) | (0.0978) | (0.116) | (24.08) | (24.58) | (0.0996) | (0.118) |
| Number of patentees | 15.21\* | 14.20\* | 0.0812\*\* | 0.0731\* | 19.21\*\* | 18.44\*\* | 0.0993\*\*\* | 0.101\*\* |
| (8.457) | (8.571) | (0.0354) | (0.0402) | (8.452) | (8.573) | (0.0358) | (0.0407) |
| Experience | 1.651 | 1.807 | 0.00754\* | 0.00480 | 1.172 | 1.314 | 0.00591 | 0.00240 |
| (1.118) | (1.146) | (0.00395) | (0.00395) | (1.122) | (1.148) | (0.00399) | (0.00389) |
| Famous inventor | 112.9\*\*\* | 112.6\*\*\* | 0.474\*\*\* | 0.475\*\*\* | 116.8\*\*\* | 115.8\*\*\* | 0.497\*\*\* | 0.486\*\*\* |
| (22.98) | (23.12) | (0.121) | (0.133) | (23.08) | (23.24) | (0.122) | (0.134) |
| Engineer/Scientist | 126.4\*\*\* | 130.5\*\*\* | 0.524\*\*\* | 0.575\*\*\* | 123.9\*\*\* | 127.8\*\*\* | 0.518\*\*\* | 0.560\*\*\* |
| (15.98) | (16.34) | (0.0646) | (0.0742) | (16.07) | (16.43) | (0.0656) | (0.0756) |
| Skilled worker | -40.71\*\*\* | -41.80\*\*\* | -0.189\*\*\* | -0.148\*\* | -34.85\*\*\* | -35.97\*\*\* | -0.170\*\*\* | -0.127\* |
| (13.02) | (13.22) | (0.0633) | (0.0717) | (13.02) | (13.22) | (0.0640) | (0.0725) |
| Period (1791-1815) | 61.08\*\*\* | 55.94\*\*\* | 0.215\*\*\* | 0.00735 | 48.19\*\*\* | 43.07\*\* | 0.161\*\* | -0.0710 |
| (16.60) | (16.74) | (0.0730) | (0.0765) | (16.72) | (16.86) | (0.0742) | (0.0782) |
| Period (1816-1829) | 19.30\* | 16.93 | 0.0817\* | -0.0926\* | 19.11\* | 16.37 | 0.0855\* | -0.105\*\* |
| (10.60) | (10.73) | (0.0472) | (0.0519) | (10.63) | (10.76) | (0.0479) | (0.0529) |
| Technological classes | YES | YES | YES | YES | YES | YES | YES | YES |
| Department FE | NO | NO | NO | NO | YES | YES | YES | YES |
| cut1 |  |  | 0.276\*\*\* | 0.165\* |  |  | 0.207\*\* | 0.0326 |
|  |  | (0.0855) | (0.0976) |  |  | (0.0906) | (0.104) |
| cut2 |  |  | 1.657\*\*\* | 1.581\*\*\* |  |  | 1.605\*\*\* | 1.471\*\*\* |
|  |  | (0.0871) | (0.0993) |  |  | (0.0923) | (0.106) |
| Constant | 630.0\*\*\* | 690.1\*\*\* |  |  | 650.2\*\*\* | 711.8\*\*\* |  |  |
| (20.22) | (20.51) |  |  | (21.08) | (21.38) |  |  |
| Observations | 12,573 | 12,573 | 12,573 | 9,698 | 12,573 | 12,573 | 12,573 | 9,698 |
| R-squared | 0.109 | 0.106 |  |  | 0.123 | 0.120 |  |  |

*Notes*: Dependent variables are indicated in the column headings. Models (1)-(2) and (5)-(6) are OLS, models (3)-(4) and (7)-(8) are Ordered logistic regressions. Models (4) and (8) do not include withdrawn patents. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.   
*Source: Institut National de la Propriété Industrielle* (INPI) dataset.

*Figure A1. Number of patents granted in France by year (1791-1844)*

*Source: Institut National de la Propriété Industrielle* (INPI) dataset.

*Figure A2. Geography of French patents (1791-1844)*

**

*Notes:* Each dot indicates a municipality with at least one patent. The map also reports the Rouen-Geneva line.

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and <http://www.datavis.ca/gallery/guerry/maps.html> for the map of France Department boundaries of 1830.

*Figure A3. Number of patents granted in France by technology class and patentees’ residence (1791-1844)*

*Notes*: the technology classes are: 1 = agriculture; 2 = hydraulic; 3 = steam engines and engines; 4 = textile machines and fabrics; 5 = other machines, devices and tools; 6 = navigation; 7 = construction; 8 = metallurgy; 9 = hardware (lock and cutlery); 10 = bodywork, saddlery, ropes and brushwork; 11 = weapons; 12 = precision and surgical instruments; 13 = mineral substances and ceramic; 14 = chemical products, food and cosmetics; 15 = lighting, heating and fuels; 16 = clothing and shoes; 17 = fine arts and musical instruments; 18 = stationery; 19 = leather; 20 = miscellaneous products.  
*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Empotz and Marchal (2002) for technological classes.

*Figure A4. Number of patents granted in France by technology class (1791-1844)*

*Notes*: the technology classes are: 1 = agriculture; 2 = hydraulic; 3 = steam engines and engines; 4 = textile machines and fabrics; 5 = other machines, devices and tools; 6 = navigation; 7 = construction; 8 = metallurgy; 9 = hardware (lock and cutlery); 10 = bodywork, saddlery, ropes and brushwork; 11 = weapons; 12 = precision and surgical instruments; 13 = mineral substances and ceramic; 14 = chemical products, food and cosmetics; 15 = lighting, heating and fuels; 16 = clothing and shoes; 17 = fine arts and musical instruments; 18 = stationery; 19 = leather; 20 = miscellaneous products.  
*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Empotz and Marchal (2002) for technological classes.

*Figure A5. Distribution of real duration (days) and withdrawn patents by patentees’ social class*

*Notes*: ‘high social class’ patentees are defined as those belonging to 0\_1-5 of the HISCO classification: 0\_1 = small proprietor; 0\_2 = large proprietor; 1 = higher manager; 2 = higher professionals; 3 = lower manager; 4 = lower professionals, and clerical and sales personnel; 5 = lower clerical and sales personnel.

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Van Leeuwen, Maas and Miles (2002) for HISCO occupations.

*Figure A6. Distribution of real duration (days) and withdrawn patents by patentees’ social class (high social class excluding ‘small proprietors’)*

*Notes*: ‘high social class’ patentees are defined as those belonging to 0\_2-5 of the HISCO classification: 0\_2 = large proprietor; 1 = higher manager; 2 = higher professionals; 3 = lower manager; 4 = lower professionals, and clerical and sales personnel; 5 = lower clerical and sales personnel.

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Van Leeuwen, Maas and Miles (2002) for HISCO occupations.

*Figure A7. Distribution of real duration (days) and withdrawn patents by patentees’ social class (high social class excluding ‘small proprietors’ and low levels of non-manual workers)*

*Notes*: ‘high social class’ patentees are defined as those belonging to the following classes of the HISCO classification: 0\_2 = large proprietor; 1 = higher manager; 2 = higher professionals.

*Sources: Institut National de la Propriété Industrielle* (INPI) dataset for patents and Van Leeuwen, Maas and Miles (2002) for HISCO occupations.