

**Man Versus Machine? Self-Reports Versus Algorithmic Measurement of Publications**

**Appendix: Robustness Checks – Replications Using SDR 2008 and 1995**

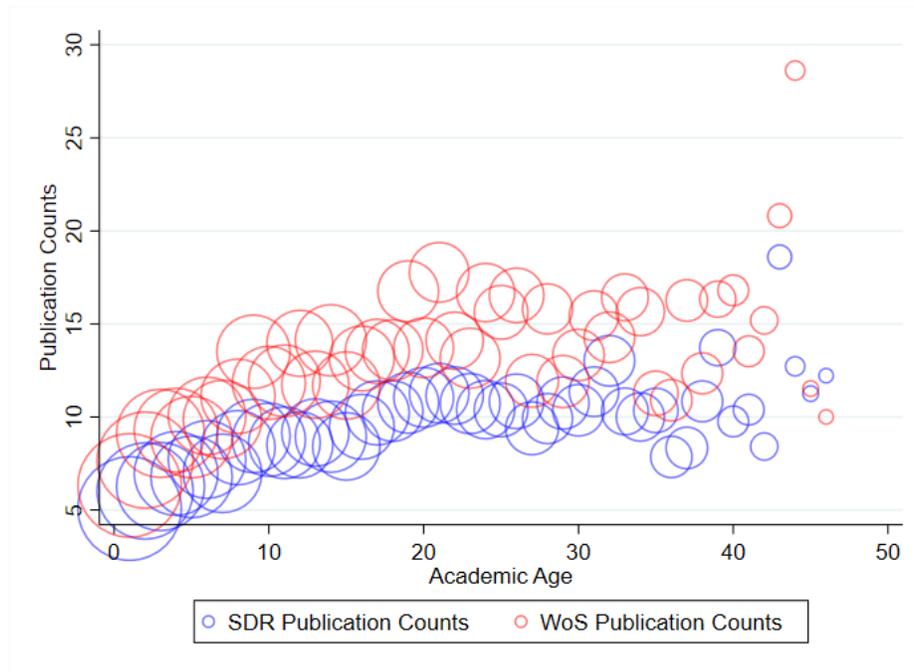
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**Figure A1: SDR v.s. WoS Publication Counts between 2003—2008 across Academic Age**  
 Notes: This figure shows the average publication counts by academic age from the two sources: SDR and WoS in the period of 2003--2008. The size of each bubble represents the size of the academic age group. Survey weights are used in creating this figure.



**Figure A2: SDR v.s. WoS Publication Counts between 1990—1995 across Academic Age**  
 Notes: This figure shows the average publication counts by academic age from the two sources: SDR and WoS in the period of 1990--1995. The size of each bubble represents the size of the academic age group. Survey weights are used in creating this figure.

Table A1. Summary Statistics

| Variable   | 2008 Sample |           |           |           | 1995 Sample |          |          |           |
|--|-------------|-----------|-----------|-----------|-------------|----------|----------|-----------|
|  | Obs         | Weight    | Mean      | Std. Dev. | Obs         | Weight   | Mean     | Std. Dev. |
| SDR_Pub  | 10,626      | 257275.97 | 8.82      | 12.90     | 10,656      | 157465.7 | 8.91558  | 10.49091  |
| WoS_Pub  | 10,626      | 257275.97 | 12.18     | 20.86     | 10,656      | 157465.7 | 11.9531  | 15.85755  |
| Salary   | 10,626      | 257275.97 | 89680.40  | 54891.18  | 10,656      | 157465.7 | 58471.63 | 29804.09  |
| Federal Research Funding by Institution                  | 6,202       | 148304.92 | 204751.80 | 216110.10 | 6,611       | 98084.71 | 216519.4 | 215385.4  |
| Academic Age   | 10,624      | 257214.35 | 15.78     | 11.46     | 10,404      | 154207.7 | 14.27619 | 9.359089  |
| Correlation Coefficient                                  | 0.6527      |           |           |           |             |          |          |           |
| <b>Male</b>  |             |           |           |           |             |          |          |           |
| SDR_Pub  | 6,543       | 170344.01 | 9.91      | 14.22     | 7,885       | 123261.8 | 9.634432 | 11.07897  |
| WoS_Pub  | 6,543       | 170344.01 | 14.02     | 23.01     | 7,885       | 123261.8 | 13.02157 | 16.84184  |
| <b>Female</b>  |             |           |           |           |             |          |          |           |
| SDR_Pub  | 4,083       | 86931.96  | 6.67      | 9.45      | 2,771       | 34203.94 | 6.325034 | 7.470169  |
| WoS_Pub  | 4,083       | 86931.96  | 8.57      | 15.18     | 2,771       | 34203.94 | 8.102633 | 10.79801  |
| <b>Race = Asian</b>                                      |             |           |           |           |             |          |          |           |
| SDR_Pub  | 796         | 8973.76   | 8.54      | 12.70     | 996         | 11721.36 | 10.94785 | 11.98639  |
| WoS_Pub  | 796         | 8973.76   | 9.78      | 16.96     | 996         | 11721.36 | 13.41069 | 20.2521   |
| <b>Race = Black</b>                                      |             |           |           |           |             |          |          |           |
| SDR_Pub  | 690         | 8484.41   | 5.04      | 7.67      | 409         | 3119.637 | 5.785795 | 6.986518  |
| WoS_Pub  | 690         | 8484.41   | 6.34      | 12.09     | 409         | 3119.637 | 6.91191  | 10.96827  |
| <b>Race = Hispanic</b>                                   |             |           |           |           |             |          |          |           |
| SDR_Pub  | 1,639       | 38373.75  | 9.40      | 12.28     | 477         | 3889.851 | 7.5852   | 8.840668  |
| WoS_Pub  | 1,639       | 38373.75  | 13.62     | 20.26     | 477         | 3889.851 | 9.031883 | 12.36387  |
| <b>Race = Others</b>                                     |             |           |           |           |             |          |          |           |
| SDR_Pub  | 7,268       | 198002.91 | 8.85      | 13.11     | 74          | 585.2098 | 6.460829 | 5.810418  |
| WoS_Pub  | 7,268       | 198002.91 | 12.20     | 21.09     | 74          | 585.2098 | 8.785622 | 11.86373  |
| <b>Race = White</b>                                      |             |           |           |           |             |          |          |           |
| SDR_Pub  | 233         | 3441.15   | 10.80     | 15.92     | 8,700       | 138149.6 | 8.861685 | 10.44912  |
| WoS_Pub  | 233         | 3441.15   | 15.50     | 33.56     | 8,700       | 138149.6 | 12.03894 | 15.59553  |
| <b>Facultyrank_ordered = "Other Faculty and Postdoc"</b> |             |           |           |           |             |          |          |           |
| SDR_Pub  | 2,370       | 55404.13  | 5.22      | 7.62      | 2,325       | 31686.84 | 6.100305 | 7.604855  |
| WoS_Pub  | 2,370       | 55404.13  | 7.38      | 11.27     | 2,325       | 31686.84 | 9.479188 | 13.45579  |
| <b>Facultyrank_ordered = "Assistant Professor"</b>       |             |           |           |           |             |          |          |           |
| SDR_Pub  | 2,256       | 49496.24  | 7.01      | 8.02      | 2,353       | 30898.96 | 7.119255 | 6.92745   |
| WoS_Pub  | 2,256       | 49496.24  | 9.61      | 14.07     | 2,353       | 30898.96 | 9.422478 | 10.93478  |
| <b>Facultyrank_ordered = "Associate Professor"</b>       |             |           |           |           |             |          |          |           |
| SDR_Pub  | 2,214       | 53177.65  | 8.37      | 10.50     | 2,452       | 35574.37 | 9.075619 | 9.463626  |
| WoS_Pub  | 2,214       | 53177.65  | 11.39     | 16.48     | 2,452       | 35574.37 | 11.72445 | 14.46929  |
| <b>Facultyrank_ordered = "Professor"</b>                 |             |           |           |           |             |          |          |           |
| SDR_Pub  | 3,259       | 86366.39  | 13.06     | 17.70     | 3,310       | 55583.76 | 11.64023 | 13.29248  |
| WoS_Pub  | 3,259       | 86366.39  | 18.06     | 29.31     | 3,310       | 55583.76 | 15.20349 | 19.5692   |

Notes: This table shows summary statistics of the key variables, respondent's SDR and WoS publication counts, from the 2008 SDR (publication between 2003—2008) and 1995 SDR (publication between 1990—1995).

Table A2. Horse Race Test: Salary

|                    | 2008 Sample              |                          |                          | 1995 Sample             |                         |                         |
|--------------------|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
|                    | (1)                      | (2)                      | (3)                      | (4)                     | (5)                     | (6)                     |
| SDR_Pub            | 0.0076***<br>(0.00062)   |                          |                          | (0.0005)                |                         |                         |
| WoS_Pub            | 0.00345***<br>(0.00042)  |                          |                          | (0.0003)                |                         |                         |
| ln_SDR_Pub1        |                          | 0.09624***<br>(0.00732)  |                          |                         | 0.08296***<br>(0.0064)  |                         |
| ln_WoS_Pub1        |                          | 0.07630***<br>(0.00625)  |                          |                         | 0.06188***<br>(0.0058)  |                         |
| ln_SDR_Pub         |                          |                          | 0.08091***<br>(0.00828)  |                         |                         | 0.07217***<br>(0.0065)  |
| ln_WoS_Pub         |                          |                          | 0.07076***<br>(0.00656)  |                         |                         | 0.04850***<br>(0.0055)  |
| Zero_SDR_Pub=1     |                          |                          | -0.02018<br>(0.02196)    |                         |                         | -0.0285<br>(0.0215)     |
| Female             | -0.08922***<br>(0.01359) | -0.07414***<br>(0.01256) | -0.07446***<br>(0.01265) | -0.12234***<br>(0.0125) | -0.11177***<br>(0.0127) | -0.11248***<br>(0.0127) |
| Marital status     | 0.0048<br>(0.00481)      | 0.00533<br>(0.00448)     | 0.00553<br>(0.00456)     | 0.0006<br>(0.0137)      | -0.0006<br>(0.0138)     | -0.0006<br>(0.0138)     |
| Asian              | 0.03222<br>(0.0356)      | 0.04085<br>(0.03429)     | 0.04331<br>(0.03416)     | -0.0243<br>(0.0162)     | -0.0208<br>(0.0168)     | -0.0211<br>(0.0168)     |
| Black              | 0.07444<br>(0.04591)     | 0.09965**<br>(0.04609)   | 0.10283**<br>(0.04597)   | 0.04399**<br>(0.0190)   | 0.06339***<br>(0.0188)  | 0.06306***<br>(0.0188)  |
| Hispanic           | 0.07282<br>(0.04371)     | 0.06417<br>(0.04255)     | 0.06658<br>(0.04235)     | 0.0058<br>(0.0176)      | 0.0128<br>(0.0174)      | 0.0126<br>(0.0175)      |
| Others             | 0.03624<br>(0.04015)     | 0.03573<br>(0.03923)     | 0.03846<br>(0.03889)     | -0.0206<br>(0.0387)     | -0.0207<br>(0.0391)     | -0.0215<br>(0.0393)     |
| Observations       | 9984                     | 9984                     | 9984                     | 9947                    | 9947                    | 9947                    |
| R-squared          | 0.287779                 | 0.313339                 | 0.312647                 | 0.3310                  | 0.3373                  | 0.3359                  |
| Adjusted R-squared | 0.277722                 | 0.303643                 | 0.302729                 | 0.3224                  | 0.3288                  | 0.3273                  |

Notes: The dependent variable in this table is the natural log of the self-reported salary in 2008 (column 1-3) and in 1995 (column 4-6). The OLS specification in the three columns of each sample correspond to the OLS specification in column (5), (6), and (7) of Table 2. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

Table A3. Horse Race Test: Federal Research Funding

|                    | 2008 Sample             |                        |                        | 1995 Sample             |                        |                        |
|--------------------|-------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
|                    | (5)                     | (6)                    | (7)                    | (5)                     | (6)                    | (7)                    |
| SDR_Pub            | 0.02726***<br>(0.0027)  |                        |                        | 0.02510***<br>(0.0031)  |                        |                        |
| WoS_Pub            | 0.00877***<br>(0.0019)  |                        |                        | 0.01640***<br>(0.0021)  |                        |                        |
| ln_SDR_Pub1        |                         | 0.29082***<br>(0.0387) |                        |                         | 0.32665***<br>(0.0404) |                        |
| ln_WoS_Pub1        |                         | 0.32449***<br>(0.0385) |                        |                         | 0.40673***<br>(0.0309) |                        |
| ln_SDR_Pub         |                         |                        | 0.37885***<br>(0.0377) |                         |                        | 0.29698***<br>(0.0404) |
| ln_WoS_Pub         |                         |                        | 0.24593***<br>(0.0333) |                         |                        | 0.33298***<br>(0.0255) |
| Zero_SDR_Pub=1     |                         |                        | 0.41975***<br>(0.1434) |                         |                        | -0.0653<br>(0.1309)    |
| Female             | 0.18033***<br>(0.0657)  | 0.24363***<br>(0.0681) | 0.0988<br>(0.0600)     | 0.0333<br>(0.0594)      | 0.0977<br>(0.0600)     | 0.0988<br>(0.0600)     |
| Marital status     | -0.0137<br>(0.0384)     | -0.0084<br>(0.0379)    | 0.0650<br>(0.0730)     | 0.0724<br>(0.0753)      | 0.0651<br>(0.0734)     | 0.0650<br>(0.0730)     |
| Asian              | -0.1902<br>(0.1861)     | -0.1305<br>(0.1875)    | -0.1272<br>(0.1859)    | 0.22258***<br>(0.0703)  | 0.25241***<br>(0.0727) | 0.25264***<br>(0.0733) |
| Black              | -0.76053***<br>(0.2268) | -0.6141***<br>(0.2261) | -0.60482**<br>(0.2263) | -0.53029***<br>(0.1459) | -0.38438**<br>(0.1500) | -0.37783**<br>(0.1515) |
| Hispanic           | 0.2360<br>(0.2114)      | 0.2374<br>(0.2032)     | 0.2408<br>(0.2034)     | -0.0932<br>(0.1234)     | -0.0489<br>(0.1182)    | -0.0519<br>(0.1172)    |
| Others             | -0.0112<br>(0.2071)     | -0.0035<br>(0.2031)    | 0.0025<br>(0.2015)     | 0.0579<br>(0.2411)      | 0.0869<br>(0.2294)     | 0.0747<br>(0.2239)     |
| Observations       | 5858                    | 5858                   | 5858                   | 6163                    | 6163                   | 6163                   |
| R-squared          | 0.1491                  | 0.1757                 | 0.1806                 | 0.1445                  | 0.1757                 | 0.1765                 |
| Adjusted R-squared | 0.1287                  | 0.1560                 | 0.1605                 | 0.1266                  | 0.1584                 | 0.1591                 |

Notes: The dependent variable in this table is the natural log of federal research funding received by the employing institution in 2008 (column 1-3) and in 1995 (column 4-6). The OLS specification in the three columns of each sample correspond to the OLS specification in column (5), (6), and (7) of Table 3. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

Table A4. Horse Race Test: Tenure Status

|                    | 2008 Sample             |                         |                         | 1995 Sample             |                         |                         |
|--------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                    | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     | (6)                     |
| SDR_Pub            | 0.00394***<br>(0.0005)  |                         |                         | 0.00458***<br>(0.0006)  |                         |                         |
| WoS_Pub            | 0.00105***<br>(0.0003)  |                         |                         | 0.00082**<br>(0.0003)   |                         |                         |
| ln_SDR_Pub1        |                         | 0.05339***<br>(0.0053)  |                         |                         | 0.06074***<br>(0.0086)  |                         |
| ln_WoS_Pub1        |                         | 0.02440***<br>(0.0053)  |                         |                         | 0.01290**<br>(0.0063)   |                         |
| ln_SDR_Pub         |                         |                         | 0.03768***<br>(0.0062)  |                         |                         | 0.04867***<br>(0.0075)  |
| ln_WoS_Pub         |                         |                         | 0.02193***<br>(0.0065)  |                         |                         | 0.01081*<br>(0.0055)    |
| Zero_SDR_Pub=1     |                         |                         | -0.04232**<br>(0.0165)  |                         |                         | -0.03637*<br>(0.0206)   |
| Female             | -0.04320***<br>(0.0098) | -0.03640***<br>(0.0093) | -0.03674***<br>(0.0093) | -0.04539***<br>(0.0144) | -0.03958***<br>(0.0138) | -0.04002***<br>(0.0139) |
| Marital status     | 0.0068<br>(0.0055)      | 0.0069<br>(0.0055)      | 0.0070<br>(0.0055)      | -0.02021**<br>(0.0099)  | -0.02045**<br>(0.0099)  | -0.02043**<br>(0.0099)  |
| Asian              | 0.06928**<br>(0.0271)   | 0.07380***<br>(0.0263)  | 0.07516***<br>(0.0263)  | 0.0051<br>(0.0122)      | 0.0051<br>(0.0114)      | 0.0055<br>(0.0113)      |
| Black              | 0.09036***<br>(0.0267)  | 0.10313***<br>(0.0274)  | 0.10397***<br>(0.0273)  | 0.04652**<br>(0.0178)   | 0.05565***<br>(0.0177)  | 0.05546***<br>(0.0178)  |
| Hispanic           | 0.04390*<br>(0.0243)    | 0.04172*<br>(0.0237)    | 0.04310*<br>(0.0236)    | 0.02839*<br>(0.0165)    | 0.03135*<br>(0.0168)    | 0.03131*<br>(0.0168)    |
| Others             | 0.05855**<br>(0.0230)   | 0.06008**<br>(0.0234)   | 0.06163**<br>(0.0233)   | -0.0132<br>(0.0464)     | -0.0137<br>(0.0449)     | -0.0141<br>(0.0448)     |
| Observations       | 9502                    | 9502                    | 9502                    | 9759                    | 9759                    | 9759                    |
| R-squared          | 0.4830                  | 0.4904                  | 0.4902                  | 0.5012                  | 0.5049                  | 0.5044                  |
| Adjusted R-squared | 0.4753                  | 0.4829                  | 0.4824                  | 0.4947                  | 0.4985                  | 0.4979                  |

Notes: The dependent variable in this table is an indicator of tenure status in 2008 (column 1-3) and in 1995 (column 4-6). Each column is a separate regression, with different set of control variables. Column (1) include level of SDR publication counts and level of WoS publication count. Column (2) add in demographic controls including, an indicator of female, an indicator of marital status, a linear trend of academic age, a square term of academic age, and race indicators. Column (3) add in field of study fixed effects by a coarse definition of fields of study (7 fields). Column (4) replace the field of study fixed effects from the one by the coarse definition to a fine definition (83 fields). Column (5) replace the linear and squared terms of academic age to a full set of academic age fixed effects. Column (5) is our preferred specification. Column (6) has the same specification as column (5) but replace level SDR and WoS publication counts with  $\log(\text{SDR}+1)$  and  $\log(\text{WoS} +1)$ . Column (7) replace them with  $\log(\text{SDR})$ ,  $\log(\text{WoS})$ , and an indicator for zero SDR. The standard errors are clustered at academic age level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Table A5. Horse Race: by Quintiles of Academic Age

| <b>2008 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.00464*<br>(0.00245)   | 0.00619***<br>(0.00234) | 0.00921***<br>(0.00197) | 0.00758***<br>(0.00177) | 0.01052***<br>(0.00179) |
| WoS_Pub                   | 0.00227<br>(0.00148)    | 0.00279***<br>(0.00091) | 0.00318**<br>(0.00129)  | 0.00303***<br>(0.001)   | 0.00354***<br>(0.00117) |
| Observations              | 2047                    | 2175                    | 1916                    | 1986                    | 1977                    |
| R-squared                 | 0.133883                | 0.169215                | 0.123533                | 0.201415                | 0.151448                |
| Adjusted R-squared        | 0.091709                | 0.126632                | 0.070635                | 0.150487                | 0.093655                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.02242*<br>(0.01136)   | 0.03414**<br>(0.01544)  | 0.04596***<br>(0.00902) | 0.02865***<br>(0.00555) | 0.02405***<br>(0.00503) |
| WoS_Pub                   | 0.00398<br>(0.00677)    | 0.01846<br>(0.01313)    | 0.01081<br>(0.00666)    | 0.01099**<br>(0.00536)  | 0.01378***<br>(0.00348) |
| Observations              | 1294                    | 1159                    | 1206                    | 1210                    | 1190                    |
| R-squared                 | 0.200916                | 0.18674                 | 0.223501                | 0.189167                | 0.226101                |
| Adjusted R-squared        | 0.143981                | 0.122316                | 0.159316                | 0.123169                | 0.159666                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | -0.00073<br>(0.00128)   | 0.00556***<br>(0.00148) | 0.00760***<br>(0.00175) | 0.00471***<br>(0.00108) | 0.00369***<br>(0.00051) |
| WoS_Pub                   | -0.00002<br>(0.00065)   | -0.00088<br>(0.00071)   | 0.00132<br>(0.00114)    | 0.00066<br>(0.00057)    | 0.00026<br>(0.00041)    |
| Observations              | 2025                    | 1953                    | 1992                    | 1910                    | 1898                    |
| R-squared                 | 0.104062                | 0.238973                | 0.205691                | 0.127491                | 0.084093                |
| Adjusted R-squared        | 0.063337                | 0.202617                | 0.166771                | 0.083313                | 0.035807                |
| <b>1995 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.00621***<br>(0.00146) | 0.00617***<br>(0.00144) | 0.00635***<br>(0.00117) | 0.00651***<br>(0.00123) | 0.00545***<br>(0.00123) |
| WoS_Pub                   | 0.00291***<br>(0.00061) | 0.00251**<br>(0.00101)  | 0.00430***<br>(0.00105) | 0.00363***<br>(0.00094) | 0.00430***<br>(0.00117) |
| Observations              | 2354                    | 1687                    | 2174                    | 2064                    | 1668                    |
| R-squared                 | 0.294568                | 0.308986                | 0.294345                | 0.198937                | 0.17537                 |
| Adjusted R-squared        | 0.264237                | 0.266341                | 0.257799                | 0.152517                | 0.113695                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.02220**<br>(0.0094)   | 0.02621***<br>(0.00858) | 0.03359***<br>(0.005)   | 0.03930***<br>(0.00557) | 0.01205**<br>(0.00466)  |
| WoS_Pub                   | 0.02023**<br>(0.00803)  | 0.01779***<br>(0.00534) | 0.01916***<br>(0.00498) | 0.01300***<br>(0.0043)  | 0.01881***<br>(0.00393) |
| Observations              | 1229                    | 1405                    | 1205                    | 1135                    | 1189                    |
| R-squared                 | 0.146249                | 0.200644                | 0.210035                | 0.237855                | 0.171539                |
| Adjusted R-squared        | 0.081956                | 0.147191                | 0.147744                | 0.177666                | 0.108503                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.00166<br>(0.0019)     | 0.00660***<br>(0.00153) | 0.00755***<br>(0.00184) | 0.00247**<br>(0.00108)  | 0.00259***<br>(0.0006)  |
| WoS_Pub                   | -0.00077<br>(0.00073)   | 0.00001<br>(0.00091)    | 0.00360***<br>(0.00102) | 0.00191***<br>(0.00066) | -0.00012<br>(0.00062)   |
| Observations              | 1897                    | 2233                    | 1924                    | 1799                    | 1906                    |
| R-squared                 | 0.11828                 | 0.258134                | 0.220825                | 0.108362                | 0.101488                |
| Adjusted R-squared        | 0.074852                | 0.227324                | 0.183013                | 0.064664                | 0.05849                 |

Note: The top three panels are results from the 2008 sample. The ranges of each quintile of the academic age are: [1, 4], [5, 9], [10, 16], [17, 25], [26, 50]. The bottom three panels are results from the 1995 sample. The ranges of each quintile of the academic age probability are: [1, 4], [5, 9], [10, 16], [17, 25], [26, 45].

Table A6. Horse Race: by Quintiles of Match Probability

| <b>2008 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.01132***<br>(0.00262) | 0.00831***<br>(0.00162) | 0.00338*<br>(0.00177)   | 0.00575***<br>(0.00183) | 0.00262<br>(0.00165)    |
| WoS_Pub                   | 0.00210*<br>(0.00123)   | 0.00155*<br>(0.00093)   | 0.00419***<br>(0.00134) | 0.00361***<br>(0.00124) | 0.00594***<br>(0.00139) |
| Observations              | 1668                    | 1674                    | 1665                    | 1674                    | 1678                    |
| R-squared                 | 0.159493                | 0.241056                | 0.222262                | 0.229861                | 0.248865                |
| Adjusted R-squared        | 0.088403                | 0.178179                | 0.158546                | 0.167134                | 0.186796                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.05155***<br>(0.01753) | 0.01756**<br>(0.00868)  | 0.02433***<br>(0.00544) | 0.01554**<br>(0.00718)  | 0.01768***<br>(0.00621) |
| WoS_Pub                   | 0.00373<br>(0.0095)     | 0.01282**<br>(0.00485)  | 0.00341<br>(0.00276)    | 0.01709***<br>(0.00344) | 0.02011***<br>(0.00331) |
| Observations              | 928                     | 972                     | 1055                    | 1077                    | 1096                    |
| R-squared                 | 0.243907                | 0.195302                | 0.19187                 | 0.261325                | 0.229858                |
| Adjusted R-squared        | 0.123877                | 0.076405                | 0.083134                | 0.165111                | 0.130613                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.00694***<br>(0.00105) | 0.00381**<br>(0.00148)  | 0.00284***<br>(0.00092) | 0.00457***<br>(0.00093) | 0.00131<br>(0.00088)    |
| WoS_Pub                   | -0.00058<br>(0.00067)   | -0.00014<br>(0.00073)   | 0.00102*<br>(0.00053)   | 0.00013<br>(0.00073)    | 0.00171***<br>(0.00054) |
| Observations              | 1574                    | 1617                    | 1633                    | 1648                    | 1657                    |
| R-squared                 | 0.464462                | 0.55502                 | 0.528846                | 0.54065                 | 0.567874                |
| Adjusted R-squared        | 0.416215                | 0.516742                | 0.489427                | 0.502597                | 0.531981                |
| <b>1995 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.01273***<br>(0.002)   | 0.00775***<br>(0.00166) | 0.00656***<br>(0.00104) | 0.00143<br>(0.00116)    | 0.00414***<br>(0.00097) |
| WoS_Pub                   | 0.00071<br>(0.00098)    | 0.00323***<br>(0.00087) | 0.00285***<br>(0.00084) | 0.00583***<br>(0.00077) | 0.00621***<br>(0.00149) |
| Observations              | 1975                    | 1973                    | 1991                    | 2004                    | 2004                    |
| R-squared                 | 0.266303                | 0.400595                | 0.352099                | 0.423911                | 0.412231                |
| Adjusted R-squared        | 0.218393                | 0.361067                | 0.310153                | 0.387848                | 0.375437                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.05605***<br>(0.0094)  | 0.03114***<br>(0.00879) | 0.02062***<br>(0.00648) | 0.00652<br>(0.00553)    | 0.01807**<br>(0.00818)  |
| WoS_Pub                   | 0.01367**<br>(0.00558)  | 0.01324***<br>(0.00473) | 0.01396***<br>(0.00505) | 0.01966***<br>(0.00436) | 0.02419***<br>(0.00505) |
| Observations              | 1157                    | 1234                    | 1226                    | 1247                    | 1299                    |
| R-squared                 | 0.223747                | 0.199698                | 0.214365                | 0.173139                | 0.228735                |
| Adjusted R-squared        | 0.133833                | 0.112615                | 0.130621                | 0.088257                | 0.152327                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.00707***<br>(0.0012)  | 0.00409***<br>(0.00111) | 0.00499***<br>(0.00119) | 0.00389***<br>(0.00116) | 0.00193<br>(0.00116)    |
| WoS_Pub                   | -0.0003<br>(0.00112)    | 0.00201***<br>(0.00047) | -0.00095<br>(0.00116)   | 0.00116<br>(0.00094)    | 0.00207***<br>(0.00075) |
| Observations              | 1901                    | 1937                    | 1962                    | 1985                    | 1974                    |
| R-squared                 | 0.470923                | 0.507496                | 0.549927                | 0.546342                | 0.569893                |
| Adjusted R-squared        | 0.434937                | 0.474373                | 0.52033                 | 0.517654                | 0.542534                |

Notes: The top three panels are results from the 2008 sample. The bottom three panels are results from the 1995 sample. Math probability quintile 1—5 corresponds to match quality from low to high.

Table A7. Horse Race: by Match Rounds

| <b>2008 Sample</b>        | (1)                     | (2)                     | (3)                     | 4)                      |
|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Dep. Var = Salary</b>  | <b>Quartile 1</b>       | <b>Quartile 2</b>       | <b>Quartile 3</b>       | <b>Quartile 4</b>       |
| SDR_Pub                   | 0.00660***<br>(0.0011)  | 0.00576***<br>(0.00158) | 0.00588**<br>(0.00223)  | 0.00601***<br>(0.00217) |
| WoS_Pub                   | 0.00656***<br>(0.001)   | 0.00168<br>(0.00103)    | 0.00234**<br>(0.0011)   | 0.00129<br>(0.0011)     |
| Observations              | 3859                    | 1165                    | 1665                    | 1670                    |
| R-squared                 | 0.184256                | 0.376459                | 0.232442                | 0.165848                |
| Adjusted R-squared        | 0.155584                | 0.300094                | 0.167395                | 0.095974                |
| <b>Dep. Var = Funding</b> | b/se                    | b/se                    | b/se                    | b/se                    |
| SDR_Pub                   | 0.02977***<br>(0.00608) | 0.00792<br>(0.00657)    | 0.02116***<br>(0.00603) | 0.03476***<br>(0.00802) |
| WoS_Pub                   | 0.01784***<br>(0.00467) | 0.00568<br>(0.00458)    | 0.01282***<br>(0.00479) | 0.00233<br>(0.00567)    |
| Observations              | 2394                    | 709                     | 1006                    | 1019                    |
| R-squared                 | 0.168647                | 0.250621                | 0.235426                | 0.228306                |
| Adjusted R-squared        | 0.121278                | 0.093059                | 0.125829                | 0.120286                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |
| SDR_Pub                   | 0.00357***<br>(0.0007)  | 0.00357***<br>(0.001)   | 0.00548***<br>(0.00126) | 0.00262***<br>(0.00095) |
| WoS_Pub                   | 0.00117***<br>(0.00036) | 0.00001<br>(0.00066)    | 0.00062<br>(0.00076)    | 0.00022<br>(0.00038)    |
| Observations              | 3773                    | 1142                    | 1607                    | 1607                    |
| R-squared                 | 0.516813                | 0.580369                | 0.531406                | 0.500633                |
| Adjusted R-squared        | 0.499429                | 0.527811                | 0.490479                | 0.457019                |
| <b>1995 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     |
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     |
| SDR_Pub                   | 0.00530***<br>(0.00155) | 0.00358***<br>(0.00107) | 0.00634***<br>(0.00141) | 0.00839***<br>(0.0011)  |
| WoS_Pub                   | 0.00646***<br>(0.002)   | 0.00494***<br>(0.00107) | 0.00315***<br>(0.00093) | 0.0006<br>(0.00075)     |
| Observations              | 4329                    | 1632                    | 1998                    | 1988                    |
| R-squared                 | 0.314126                | 0.493668                | 0.331056                | 0.339965                |
| Adjusted R-squared        | 0.294064                | 0.455618                | 0.289425                | 0.296411                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |
| SDR_Pub                   | 0.02996***<br>(0.00754) | 0.0068<br>(0.00542)     | 0.02332***<br>(0.00557) | 0.03173***<br>(0.00768) |
| WoS_Pub                   | 0.03155***<br>(0.00767) | 0.01362***<br>(0.00434) | 0.01879***<br>(0.00365) | 0.00513<br>(0.00377)    |
| Observations              | 2638                    | 1039                    | 1245                    | 1241                    |
| R-squared                 | 0.163942                | 0.207006                | 0.179612                | 0.238408                |
| Adjusted R-squared        | 0.124082                | 0.112052                | 0.095246                | 0.156808                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |
| SDR_Pub                   | 0.00596***<br>(0.00097) | 0.00171**<br>(0.00076)  | 0.00396***<br>(0.00079) | 0.00513***<br>(0.00106) |
| WoS_Pub                   | 0.00154<br>(0.00105)    | 0.00151*<br>(0.00086)   | 0.00095*<br>(0.00049)   | 0.00038<br>(0.00086)    |
| Observations              | 4238                    | 1615                    | 1964                    | 1942                    |
| R-squared                 | 0.507263                | 0.525984                | 0.523961                | 0.531148                |
| Adjusted R-squared        | 0.492531                | 0.490298                | 0.493789                | 0.499427                |

Notes: The top three panels are results from the 2008 sample. The bottom three panels are results from the 1995 sample. Math rounds quintile 1—4 corresponds to match quality from high to low.

Table A8. Horse Race: by Quintiles of Name Frequency

| <b>2008 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.01004**<br>(0.00457)  | 0.01045***<br>(0.00335) | 0.00705***<br>(0.00169) | 0.00611***<br>(0.00179) | 0.00712***<br>(0.00141) |
| WoS_Pub                   | 0.02006***<br>(0.00639) | 0.00546<br>(0.00367)    | 0.00687***<br>(0.00162) | 0.00297***<br>(0.00057) | 0.00251**<br>(0.00104)  |
| Observations              | 1985                    | 1918                    | 1920                    | 1949                    | 1940                    |
| R-squared                 | 0.181616                | 0.191477                | 0.223103                | 0.211081                | 0.218619                |
| Adjusted R-squared        | 0.123286                | 0.133144                | 0.168044                | 0.154202                | 0.162929                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.05406***<br>(0.01584) | 0.04056***<br>(0.0135)  | 0.01390***<br>(0.00471) | 0.01906***<br>(0.00494) | 0.02747***<br>(0.0062)  |
| WoS_Pub                   | 0.07160**<br>(0.0338)   | 0.04271***<br>(0.01365) | 0.02879***<br>(0.00402) | 0.00768***<br>(0.00249) | 0.0051<br>(0.00568)     |
| Observations              | 1134                    | 1184                    | 1177                    | 1182                    | 1171                    |
| R-squared                 | 0.200691                | 0.239645                | 0.266244                | 0.220955                | 0.241076                |
| Adjusted R-squared        | 0.097991                | 0.147394                | 0.178976                | 0.127085                | 0.149482                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.00830***<br>(0.00205) | 0.00634***<br>(0.00158) | 0.00533***<br>(0.00086) | 0.00313***<br>(0.00065) | 0.00333**<br>(0.00133)  |
| WoS_Pub                   | 0.00432<br>(0.00437)    | 0.00043<br>(0.00161)    | 0.00091<br>(0.00079)    | 0.0005<br>(0.00032)     | 0.00056<br>(0.00063)    |
| Observations              | 1902                    | 864                     | 1870                    | 1900                    | 1881                    |
| R-squared                 | 0.452809                | 0.488341                | 0.516449                | 0.522224                | 0.527515                |
| Adjusted R-squared        | 0.411978                | 0.450276                | 0.481196                | 0.486823                | 0.492706                |
| <b>1995 Sample</b>        | (1)                     | (2)                     | (3)                     | (4)                     | (5)                     |
| <b>Dep. Var = Salary</b>  | <b>Quintile = 1</b>     | <b>Quintile = 2</b>     | <b>Quintile = 3</b>     | <b>Quintile = 4</b>     | <b>Quintile = 5</b>     |
| SDR_Pub                   | 0.00516<br>(0.0036)     | 0.00489**<br>(0.00203)  | 0.00446***<br>(0.00145) | 0.00483***<br>(0.0011)  | 0.00765***<br>(0.00127) |
| WoS_Pub                   | 0.00062<br>(0.00463)    | 0.00833***<br>(0.00184) | 0.00541***<br>(0.00125) | 0.00349***<br>(0.00081) | 0.00152**<br>(0.00068)  |
| Observations              | 1952                    | 1847                    | 1916                    | 1919                    | 1920                    |
| R-squared                 | 0.328217                | 0.302342                | 0.41763                 | 0.408469                | 0.385504                |
| Adjusted R-squared        | 0.284189                | 0.253837                | 0.379388                | 0.36899                 | 0.344515                |
| <b>Dep. Var = Funding</b> |                         |                         |                         |                         |                         |
| SDR_Pub                   | -0.00449<br>(0.01181)   | 0.02105**<br>(0.00953)  | 0.01339**<br>(0.00516)  | 0.01958**<br>(0.00752)  | 0.02388***<br>(0.00811) |
| WoS_Pub                   | 0.08556***<br>(0.0226)  | 0.03661***<br>(0.01026) | 0.02452***<br>(0.00488) | 0.01124**<br>(0.00445)  | 0.00762**<br>(0.00323)  |
| Observations              | 1167                    | 1169                    | 1223                    | 1191                    | 1178                    |
| R-squared                 | 0.173014                | 0.225206                | 0.188645                | 0.207824                | 0.209081                |
| Adjusted R-squared        | 0.07902                 | 0.137312                | 0.104358                | 0.121445                | 0.121782                |
| <b>Dep. Var = Tenure</b>  |                         |                         |                         |                         |                         |
| SDR_Pub                   | 0.00737**<br>(0.0028)   | 0.00632***<br>(0.00126) | 0.00227**<br>(0.00111)  | 0.00419***<br>(0.001)   | 0.00414***<br>(0.00105) |
| WoS_Pub                   | -0.00127<br>(0.00315)   | 0.00173<br>(0.00153)    | 0.00257***<br>(0.00083) | 0.00042<br>(0.00087)    | 0.00071<br>(0.00045)    |
| Observations              | 1897                    | 1819                    | 1893                    | 1890                    | 1879                    |
| R-squared                 | 0.520269                | 0.527583                | 0.55085                 | 0.53498                 | 0.514937                |
| Adjusted R-squared        | 0.487855                | 0.494197                | 0.520974                | 0.503436                | 0.481827                |

Notes: The top three panels are results from the 2008 sample. The bottom three panels are results from the 1995 sample. Name frequency quintile 1—5 corresponds to potential match quality from high to low.

Table A9: Instrumental Variable Analysis

| <b>2008 Sample</b>               |                        |                         |                        |                        |                          |                          |
|----------------------------------|------------------------|-------------------------|------------------------|------------------------|--------------------------|--------------------------|
|                                  | (1)                    | (2)                     | (3)                    | (4)                    | (5)                      | (6)                      |
| <b>Second Stage</b>              | <b>Salary</b>          | <b>Salary</b>           | <b>Funding</b>         | <b>Funding</b>         | <b>Tenure</b>            | <b>Tenure</b>            |
| SDR_Pub                          | 0.0163***<br>(0.00181) |                         | 0.0583***<br>(0.00476) |                        | 0.00594***<br>(0.000746) |                          |
| WoS_Pub                          |                        | 0.0113***<br>(0.00130)  |                        | 0.0419***<br>(0.00410) |                          | 0.00506***<br>(0.000602) |
| N                                | 10101                  | 10101                   | 6059                   | 6059                   | 9778                     | 9778                     |
| R-sq                             | 0.157                  | 0.146                   | 0.147                  | 0.129                  | 0.476                    | 0.463                    |
| adj. R-sq                        | 0.146                  | 0.134                   | 0.128                  | 0.109                  | 0.468                    | 0.455                    |
| <b>First Stage</b>               |                        |                         |                        |                        |                          |                          |
|                                  | <b>SDR_Pub</b>         | <b>WoS_Pub</b>          | <b>SDR_Pub</b>         | <b>WoS_Pub</b>         | <b>SDR_Pub</b>           | <b>WoS_Pub</b>           |
| SDR_Pub                          |                        | 1.0481<br>(0.0469)      |                        | 1.0270<br>(0.0612)     |                          | 1.0494<br>(0.0471)       |
| WoS_Pub                          | 0.4165<br>(0.0193)     |                         | 0.4228<br>(0.0246)     |                        | 0.4178<br>(0.0198)       |                          |
| <b>F-stat of the First Stage</b> | 807.32                 | 1762.56                 | 36.35                  | 938.95                 | 863.08                   | 1715.97                  |
| <b>1995 Sample</b>               |                        |                         |                        |                        |                          |                          |
|                                  | (1)                    | (2)                     | (3)                    | (4)                    | (5)                      | (6)                      |
| <b>Second Stage</b>              | <b>Salary</b>          | <b>Salary</b>           | <b>Funding</b>         | <b>Funding</b>         | <b>Tenure</b>            | <b>Tenure</b>            |
| SDR_Pub                          | 0.0153***<br>(0.00141) |                         | 0.0653***<br>(0.00560) |                        | 0.00654***<br>(0.00101)  |                          |
| WoS_Pub                          |                        | 0.0106***<br>(0.000859) |                        | 0.0439***<br>(0.00474) |                          | 0.00562***<br>(0.000648) |
| N                                | 9947                   | 9947                    | 6163                   | 6163                   | 9759                     | 9759                     |
| R-sq                             | 0.316                  | 0.310                   | 0.122                  | 0.121                  | 0.500                    | 0.489                    |
| adj. R-sq                        | 0.307                  | 0.302                   | 0.103                  | 0.102                  | 0.494                    | 0.482                    |
| <b>First Stage</b>               |                        |                         |                        |                        |                          |                          |
|                                  | <b>SDR_Pub</b>         | <b>WoS_Pub</b>          | <b>SDR_Pub</b>         | <b>WoS_Pub</b>         | <b>SDR_Pub</b>           | <b>WoS_Pub</b>           |
| SDR_Pub                          |                        | 0.9525<br>(0.0549)      |                        | 0.9132<br>(0.0584)     |                          | 0.9549<br>(0.0550)       |
| WoS_Pub                          | 0.4213<br>(0.0178)     |                         | 0.4080<br>(0.0240)     |                        | 0.4212<br>(0.0179)       |                          |
| <b>F-stat of the First Stage</b> | 40.49                  | 29.86                   | 431.14                 | 79.90                  | 40.06                    | 29.87                    |

Notes: This table shows the estimates of instrument variable analysis from the 2008 sample and the 1995 sample. Inside each subpanel, the upper panel shows the estimates from the second stage and the lower panel shows the estimates from the first stage. Each column is a separate model, where column (1) and (2)'s outcome variable is ln(Salary), column (3) and (4)'s outcome variable is ln(Funding) and column (5) and (6)'s outcome variable is tenure status. Models in column (1), (3) and (5) are using WoS's publication counts to instrument SDR's and models in column (2), (4) and (6) are using SDR's publication counts to instrument WoS's.