# **Tables**

**Table 1**

*Variables Definitions*

| **Variables** | **Meaning** | **Measurements** |
| --- | --- | --- |
| *Total* | Total Digitalization Degree | Ln (1+word frequency), the world frequency includes the blockchain, AI, cloud technology, and big data relevant words; if not disclosed, this study denotes the degree as 0. |
| *ROA* | Profitability | (Total Profit + Financial Expenses) / Total Assets |
| *Solvency* | Solvency Ratio | Total Non-current Liabilities / Total Owners’ Equity |
| *Age* | Firm year | Ln(fiscal calendar year- listed year) |
| *DegreeM* | Proportion of Top managers holding a higher education degree | Ratio of top managers with education above or equal to a master’s degree |
| *SharesM* | The shares owned by the top managers |  |
| *Degreep* | The proportion of Employees with higher education | Ratio of employees with education above or equal to master’s degree |
| *Big* | Big Data Degree | ln (1+word frequency), the world frequency includes the big data relevant words; if it is not disclosed, this study denotes the degree as 0. |
| *Cloud* | Cloud Technology Degree | ln (1+word frequency), the world frequency includes the cloud technology relevant words; if it is not disclosed, this study denotes the degree as 0. |
| *Block* | Blockchain Technology Degree | ln (1+word frequency), the world frequency includes the words relevant to Blockchain technology; if it is not disclosed, this study denotes the degree as 0. |
| *AI* | Artificial Intelligence Degree | ln (1+word frequency), the world frequency includes the words relevant to Artificial Intelligence; if it is not disclosed, this study denotes the degree as 0. |
| *FinBackM* | Financial Background of Top Executives | The proportion of top managers with backgrounds in financial experience, including roles in regulatory bodies, commercial banks, insurance companies, securities companies, fund management companies, securities registration and clearing companies, futures companies, investment banks, trust companies, investment management companies, exchanges, and other relevant financial institutions. |
| *AcademicM* | Academic Background of Top Executives | The proportion of top managers possessing an academic background is categorized into distinct areas: teaching experience in higher education, positions held within research institutions, and involvement in research-focused associations. |
| *Degree* | Higher Education degree of employees | The absolute number of employees with higher education |

**Table 2**

*Descriptive Statistics of the Variables*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | Obs | Mean | Std. Dev. | Min | Max |
| *Degreep* | 24942 | 5.259 | 7.155 | 0.010 | 81.270 |
| *Total* | 24942 | 0.753 | 1.117 | 0.000 | 6.120 |
| *ROA* | 24942 | 0.048 | 0.184 | -3.324 | 22.003 |
| *Solvency* | 24942 | 0.294 | 1.910 | 0.000 | 232.785 |
| *Age* | 24942 | 2.018 | 0.960 | 0.000 | 3.466 |
| *DegreeM* | 24942 | 0.369 | 0.298 | 0.000 | 1.000 |
| *SharesM* | 24942 | 5.294 | 11.463 | 0.000 | 78.960 |
| *FinBackM* | 24942 | 0.086 | 0.191 | 0.000 | 1.000 |
| *AcademicM* | 24942 | 0.098 | 0.151 | 0.000 | 1.000 |

**Table 3**

*Pairwise Correlations*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| *(1) Degreep* | 1 |  |  |  |  |  |  |  |  |
| *(2) Total* | 0.187\* | 1 |  |  |  |  |  |  |  |
| *(3) ROA* | 0.000 | -0.038\* | 1 |  |  |  |  |  |  |
| *(4) Solvency* | -0.027\* | -0.035\* | -0.034\* | 1 |  |  |  |  |  |
| *(5) Age* | -0.026\* | -0.067\* | -0.043\* | 0.080\* | 1 |  |  |  |  |
| *(6) DegreeM* | 0.228\* | 0.139\* | -0.017\* | -0.018\* | -0.035\* | 1 |  |  |  |
| *(7) SharesM* | -0.028\* | 0.092\* | 0.021\* | -0.045\* | -0.392\* | -0.010 | 1 |  |  |
| *(8) FinBackM* | 0.288\* | 0.015\* | -0.034\* | 0.005 | 0.049\* | 0.175\* | -0.064\* | 1 |  |
| *(9) AcademicM* | 0.166\* | 0.099\* | -0.001 | -0.027\* | -0.134\* | 0.235\* | 0.146\* | 0.045\* | 1 |

*Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1*

**Table 4**

*Impact of Digital Technologies on Workforce Education*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| VARIABLES | *Degreep* | *Degreep* | *Degreep* | *Degreep* | *Degreep* | *Degreep* |
| *Total* | 0.7464\*\*\* | 0.2991\*\*\* | 0.3238\*\*\* | 0.8405\*\*\* | 0.9394\*\*\* | 0.5987\*\*\* |
|  | (0.0483) | (0.1083) | (0.0744) | (0.0527) | (0.0519) | (0.0563) |
| *ROA* | 1.9267\*\*\* | 1.9367\*\*\* | 1.9879\*\*\* | 1.9781\*\*\* | 1.8810\*\*\* | 1.8899\*\*\* |
|  | (0.3733) | (0.3731) | (0.3692) | (0.3728) | (0.3725) | (0.3706) |
| *Solvency* | -0.1157\*\* | -0.1160\*\* | -0.1102\*\* | -0.1192\*\* | -0.1108\*\* | -0.1113\*\* |
|  | (0.0507) | (0.0506) | (0.0501) | (0.0506) | (0.0505) | (0.0503) |
| *Age* | -0.0934\* | -0.0949\* | -0.0846\* | -0.1931\*\*\* | -0.0954\* | -0.0295 |
|  | (0.0498) | (0.0498) | (0.0493) | (0.0530) | (0.0497) | (0.0497) |
| *DegreeM* |  |  | 2.3393\*\*\* |  |  |  |
|  |  |  | (0.1757) |  |  |  |
| *DegreeM ´ Total* |  |  | 0.7886\*\*\* |  |  |  |
|  |  |  | (0.1315) |  |  |  |
| *Total´ Total* |  | 0.1347\*\*\* |  |  |  |  |
|  |  | (0.0292) |  |  |  |  |
| *SharesM* |  |  |  | -0.0127\*\* |  |  |
|  |  |  |  | (0.0050) |  |  |
| *SharesM ´ Total* |  |  |  | -0.0133\*\*\* |  |  |
|  |  |  |  | (0.0031) |  |  |
| *FinBackM* |  |  |  |  | 1.2502\*\*\* |  |
|  |  |  |  |  | (0.3903) |  |
| *FinBackM ´ Total* |  |  |  |  | -2.2644\*\*\* |  |
|  |  |  |  |  | (0.2274) |  |
| *AcademicM* |  |  |  |  |  | 3.9561\*\*\* |
|  |  |  |  |  |  | (0.3586) |
| *AcademicM ´ Total* |  |  |  |  |  | 0.8179\*\*\* |
|  |  |  |  |  |  | (0.2349) |
| *Constant* | 4.8288\*\*\* | 4.9184\*\*\* | 4.0121\*\*\* | 5.0943\*\*\* | 4.7362\*\*\* | 4.3449\*\*\* |
|  | (0.1167) | (0.1183) | (0.1320) | (0.1316) | (0.1207) | (0.1241) |
|  |  |  |  |  |  |  |
| *Year* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Industry* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Year ´ Industry* | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 20069 | 20069 | 20069 | 20069 | 20069 | 20069 |
| R-squared | 0.327 | 0.328 | 0.342 | 0.329 | 0.33 | 0.336 |
| Adjusted R-squared | 0.297 | 0.298 | 0.313 | 0.299 | 0.301 | 0.307 |

*Note.* Standard errors in parentheses.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5**

*Impact of Digital Components on Workforce Education*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| VARIABLES | *Degreep* | *Degreep* | *Degreep* | *Degreep* | *Degreep* |
| *Total* | 0.7464\*\*\* |  |  |  |  |
|  | (0.0483) |  |  |  |  |
| *AI* |  | 0.8393\*\*\* |  |  |  |
|  |  | (0.0619) |  |  |  |
| *Big* |  |  | 0.5533\*\*\* |  |  |
|  |  |  | (0.0727) |  |  |
| *Cloud* |  |  |  | 0.9159\*\*\* |  |
|  |  |  |  | (0.0665) |  |
| *Block* |  |  |  |  | -0.7260\* |
|  |  |  |  |  | (0.4398) |
| *ROA* | 1.9267\*\*\* | 1.9005\*\*\* | 1.9439\*\*\* | 1.9334\*\*\* | 1.9352\*\*\* |
|  | (0.3733) | (0.3738) | (0.3750) | (0.3737) | (0.3755) |
| *Solvency* | -0.1157\*\* | -0.1153\*\* | -0.1237\*\* | -0.1182\*\* | -0.1240\*\* |
|  | (0.0507) | (0.0507) | (0.0509) | (0.0507) | (0.0510) |
| *Age* | -0.0934\* | -0.0709 | -0.0960\* | -0.1007\*\* | -0.0794 |
|  | (0.0498) | (0.0499) | (0.0501) | (0.0499) | (0.0501) |
| *Constant* | 4.8288\*\*\* | 5.0480\*\*\* | 5.2120\*\*\* | 5.0721\*\*\* | 5.3712\*\*\* |
|  | (0.1167) | (0.1140) | (0.1137) | (0.1136) | (0.1123) |
|  |  |  |  |  |  |
| *Year* | Yes | Yes | Yes | Yes | Yes |
| *Industry* | Yes | Yes | Yes | Yes | Yes |
| *Year ´ Industry* | Yes | Yes | Yes | Yes | Yes |
| Observations | 20069 | 20069 | 20069 | 20069 | 20069 |
| R-squared | 0.327 | 0.325 | 0.321 | 0.325 | 0.319 |
| Adjusted R-squared | 0.289 | 0.289 | 0.289 | 0.289 | 0.289 |

*Note.* Standard errors in parentheses.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6**

*Robust Test*

|  |  |  |  |
| --- | --- | --- | --- |
|  | (1) | (2) | (3) |
| VARIABLES | *Degreep* | *Degree* | *Degree* |
| *Total* | 0.7464\*\*\* | 81.5616\*\*\* |  |
|  | (0.0483) | (10.7431) |  |
| *LTotal* |  |  | 0.7515\*\*\* |
|  |  |  | (0.0526) |
| *ROAA* | 1.9267\*\*\* | 126.6120\*\* | 4.3274\*\*\* |
|  | (0.3733) | (53.0379) | (0.5377) |
| *Solvency* | -0.1157\*\* | -0.4665 | -0.0836 |
|  | (0.0507) | (5.1229) | (0.0552) |
| *AgeF* | -0.0934\* | 162.0389\*\*\* | 0.0921 |
|  | (0.0498) | (10.7670) | (0.0665) |
| *Constant* | 4.8288\*\*\* | -62.6662\*\* | 4.3285\*\*\* |
|  | (0.1167) | (25.0094) | (0.1608) |
|  |  |  |  |
| *Year* | Yes | Yes | Yes |
| *Industry* | Yes | Yes | Yes |
| *Year ´ Industry* | Yes | Yes | Yes |
| Observations | 20069 | 24803 | 16274 |
| R-squared | 0.327 | 0.294 | 0.338 |
| Adjusted R-squared | 0.309 | 0.266 | 0.309 |

*Note.* Standard errors in parentheses.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7**

*Two Stages Least Square with Instrumental Variable*

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
| VARIABLES | *Total* | *Degreep* |
| *IVTotal* | 0.9777\*\*\* |  |
|  | (0.0092) |  |
| *Total* |  | 2.1289\*\*\* |
|  |  | (0.0744) |
| *ROAA* | -0.029 | 1.0924\*\*\* |
|  | (0.0306) | (0.2423) |
| *Solvency* | -0.0054\* | -0.0165 |
|  | (0.0029) | (0.0233) |
| *AgeF* | 0.0313\*\*\* | -0.0788\* |
|  | (0.0060) | (0.0470) |
| Constant | -0.0848\*\*\* | 3.8714\*\*\* |
|  | (0.0300) | (0.2372) |
|  |  |  |
| Cragg-Donald Wald F statistic | 11340.09 | |
| Anderson-Rubin Wald Test (*F, Chi*) | (818.44, 819.00)\*\*\* | |
| Observations | 24942 | 24942 |
| R-squared | 0.377 | 0.046 |
| Adjusted R-squared | 0.376 | 0.045 |

*Note.* Standard errors in parentheses.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8**

*Additional Results from Firms’ Structure*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
| *Type* | *Whole* | *I* | *II* | *III* |
| VARIABLES | *Degreep* | *Degreep* | *Degreep* | *Degreep* |
| *Total* | 0.7464\*\*\* | 0.1573 | 0.2308\*\*\* | 0.2259\* |
|  | (0.0483) | (0.1132) | (0.0433) | (0.1283) |
| *ROA* | 1.9267\*\*\* | 4.2274\*\*\* | 0.2174 | 11.0484\*\*\* |
|  | (0.3733) | (0.9464) | (0.2528) | (1.7235) |
| *Solvency* | -0.1157\*\* | -0.186 | -0.0319 | -1.0528\*\* |
|  | (0.0507) | (0.1279) | (0.0328) | (0.4669) |
| *Age* | -0.0934\* | -0.1729\* | 0.1645\*\*\* | -0.1687 |
|  | (0.0498) | (0.1039) | (0.0388) | (0.1680) |
| *Constant* | 4.8288\*\*\* | 6.8688\*\*\* | 2.3994\*\*\* | 9.5143\*\*\* |
|  | (0.1167) | (0.2564) | (0.0893) | (0.3988) |
|  |  |  |  |  |
| *Year* | Yes | Yes | Yes | Yes |
| *Industry* | Yes | Yes | Yes | Yes |
| *Year ´ Industry* | Yes | Yes | Yes | Yes |
| Observations | 20,069 | 5,094 | 10,681 | 3,899 |
| R-squared | 0.327 | 0.55 | 0.188 | 0.162 |
| Adjusted R-squared | 0.297 | 0.498 | 0.137 | 0.1 |

*Note.* Standard errors in parentheses.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 9**

*Type and Digitalization*

|  |  |  |  |
| --- | --- | --- | --- |
| *Type  Digitalization* | **I** | **II** | **III** |
| *Artificial Intelligence* | **+\*\*** | **+\*\*\*** | **+\*\*\*** |
| *Big Data* | **+** | **+\*\*\*** | **-\*\*\*** |
| *Blockchain* | **-** | **-** | **-\*** |
| *Cloud Technology* | **-** | **+\*\*\*** | **+\*\*** |

*Note.* + /- represents the Positive/Negative effect.   
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1