**APPENDIX Ⅰ**

**Development of Factor Markets**

We quantified the development of factor markets using the average of three NERI indices. They are the marketization of the financial industry and technical achievements and the supply of human capital.

|  |  |
| --- | --- |
| 1. Marketization of the financial industry | 1. Market competition in the financial industry, measured by the proportion of non-state-owned financial assets in a region’s total financial assets.  2. Marketization of the credit allocation, measured by the fraction of loans to non-state-owned regional entities. |
| 2. Supply of human capital | 1. Supply of technicians in a region based on a nationwide survey of firms.  2. Supply of managers in a region based on a nationwide survey of firms.  3. Supply of skilled labor in a region based on a nationwide survey of firms. |
| 3. Marketization of the technical achievements | 1. It is measured by the value of technology transactions in the local market scaled by the number of local technicians. |

**APPENDIX Ⅱ**

**Development of Legal Institutions**

We quantified the legal institution development using the average of two NERI indices: protection of market transactions and protection of IPR. The detailed measures are as follows.

|  |
| --- |
| 1. Protection of market transactions is quantified using managers’ evaluations of law enforcement by the local public security organs, procuratorial organs, and courts in a country-wide survey of firms. |
| 2. Protection of IPR is measured using the number of patents granted to local inventors scaled by the number of local technicians. |

**APPENDIX Ⅲ**

Chart, scatter chart

Description automatically generated**The Relationship Between Patents and ROA**

**APPENDIX Ⅳ**

Chart, scatter chart

Description automatically generated**The Moderating Role of Entertainment Spending on the Relationship Between Patents and ROA**

**APPENDIX Ⅴa**

**The Moderating Role of Entertainment Spending on the Relationship Between Patents and ROA with Well-Developed Factor Markets**

Chart, scatter chart

Description automatically generated

**APPENDIX Ⅴb**

**The Moderating Role of Entertainment Spending on the Relationship Between Patents and ROA with Poorly-Developed Factor Markets**

Chart, scatter chart

Description automatically generated

**APPENDIX Ⅵa**

**The Moderating Role of Entertainment Spending on the Relationship Between Patents and ROA with Well-Developed Legal Institutions**

Chart, scatter chart

Description automatically generated

**APPENDIX Ⅵb**

**The Moderating Role of Entertainment Spending on the Relationship Between Patents and ROA with Weak Legal Institutions**

Chart, scatter chart

Description automatically generated

**APPENDIX Ⅶ**

**Coefficients of Second-Stage Firm Fixed Effects Models Predicting ROA After Adding Market Share and Region Dummies**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A1 | A2 | A3 | A4 |
| Firm size | -0.015\*\*\* | -0.015\*\*\* | -0.016\*\*\* | -0.016\*\*\* |
|  | (0.002) | (0.002) | (0.002) | (0.002) |
| Firm age | -0.038 | -0.041 | -0.050† | -0.044\* |
|  | (0.026) | (0.026) | (0.027) | (0.022) |
| Financial leverage | -0.003 | -0.004 | -0.006 | -0.004 |
|  | (0.008) | (0.008) | (0.008) | (0.007) |
| Financial slack | 0.026\*\*\* | 0.027\*\*\* | 0.028\*\*\* | 0.027\*\*\* |
|  | (0.006) | (0.006) | (0.006) | (0.006) |
| **Market share** | **0.342\*\*\*** | **0.341\*\*\*** | **0.348\*\*\*** | **0.339\*\*\*** |
|  | **(0.068)** | **(0.068)** | **(0.069)** | **(0.068)** |
| CEO duality | 0.000 | 0.000 | 0.000 | 0.000 |
|  | (0.002) | (0.002) | (0.002) | (0.002) |
| Blockholder ownership | 0.070\*\*\* | 0.070\*\*\* | 0.073\*\*\* | 0.072\*\*\* |
|  | (0.012) | (0.012) | (0.012) | (0.011) |
| Internationalization | -0.011 | -0.012 | -0.014 | -0.012 |
|  | (0.009) | (0.009) | (0.009) | (0.008) |
| R&D intensity | -0.103\*\* | -0.107\*\* | -0.106\*\* | -0.102\*\* |
|  | (0.039) | (0.039) | (0.039) | (0.039) |
| State ownership | -0.008† | -0.008† | -0.008† | -0.008† |
|  | (0.004) | (0.004) | (0.005) | (0.005) |
| Development of factor markets | -0.000 | -0.000 | -0.001 | -0.000 |
|  | (0.001) | (0.001) | (0.001) | (0.001) |
| Development of legal institutions | -0.000 | -0.000 | -0.000 | 0.000 |
|  | (0.000) | (0.000) | (0.000) | (0.000) |
| Entertainment spending | 0.770\*\*\* | 0.680\*\*\* | 0.996\*\*\* | 0.775\*\*\* |
|  | (0.188) | (0.191) | (0.272) | (0.221) |
| Firm innovation | 0.015 | 0.018 | 0.023 | 0.020 |
|  | (0.016) | (0.016) | (0.017) | (0.013) |
| **Firm innovation\*Entertainment spending (H1)** |  | **0.584\*\*** | 0.292 | 0.517† |
|  |  | **(0.227)** | (0.424) | (0.267) |
|  |  | **[*p* = 0.010]** |  |  |
| **Firm innovation\*Entertainment spending\*Development of factor markets (H2)** |  |  | **-0.222\*** |  |
|  |  |  | **(0.090)** |  |
|  |  |  | **[*p* = 0.014]** |  |
| Entertainment spending\*Development of factor markets |  |  | 0.120 |  |
|  |  |  | (0.144) |  |
| Firm innovation\*Development of factor markets |  |  | 0.001 |  |
|  |  |  | (0.001) |  |
| **Firm innovation\*Entertainment spending\* Development of legal institutions (H3)** |  |  |  | **-0.077\*** |
|  |  |  |  | **(0.034)** |
|  |  |  |  | **[*p* = 0.025]** |
| Entertainment spending\*Development of legal institutions |  |  |  | 0.006 |
|  |  |  |  | (0.037) |
| Firm innovation\*Development of legal institutions |  |  |  | 0.000 |
|  |  |  |  | (0.000) |
| **Regional dummies** | **Yes** | **Yes** | **Yes** | **Yes** |
| Year dummies | Yes | Yes | Yes | Yes |
| Industry dummies | Yes | Yes | Yes | Yes |
| *R2* | 0.5256 | 0.5262 | 0.5267 | 0.5266 |

*Notes*: *N* = 9,214. Standard errors are reported in parentheses and *p* values in brackets

\* indicates a coefficient significant at the *p* ≤ 0.05 († *p* < 0.1, \*\**p* ≤ 0.01, \*\*\**p* ≤ 0.001) confidence level.

**APPENDIX Ⅷ**

**Coefficients of Models with the World Bank Data After Adding CEO Tenure and Customized Products**

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
|  | Long-term collaboration with clients | Long-term collaboration with suppliers |
| Entertainment spending | 0.112\*\*\* | 0.120\*\*\* |
|  | (0.010) | (0.009) |
| Financial performance | 0.027\*\*\* | 0.021\*\*\* |
|  | (0.001) | (0.001) |
| Firm age | 0.148\*\*\* | 0.157\*\*\* |
|  | (0.012) | (0.012) |
| Firm size | -0.032\* | -0.006 |
|  | (0.014) | (0.014) |
| State ownership | -0.122\* | -0.077 |
|  | (0.056) | (0.056) |
| **CEO tenure** | **0.112\*\*\*** | **0.121\*\*\*** |
|  | **(0.009)**  **[*p* = 0.000]** | **(0.009)**  **[*p* = 0.000]** |
| **CEO tenure2** | **-0.003\*\*\*** | **-0.003\*\*\*** |
|  | **(0.000)**  **[*p* = 0.000]** | **(0.000)**  **[*p* = 0.000]** |
| **Customized products** | **0.001\*\*\*** |  |
|  | **(0.000)**  **[*p* = 0.001]** |  |
| Constant | 2.948\*\*\* | 2.846\*\*\* |
|  | (0.057) | (0.055) |
| *N* | 12384 | 12385 |
| *R2* | 0.165 | 0.165 |
| F | 347.989 | 402.451 |

*Notes*: Standard errors in parentheses and *p* values in brackets. \* *p* **≤** 0.05, \*\*\* *p* **≤** 0.001