# Electronic Supplementary Material: A procedural perspective on academic spin-off creation: The changing relative importance of the academic and the commercial sphere

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# 1 Non-response analysis and representativeness

**Table S1** Non-response analysis

| Variable | Approached (%) | Sample (%) | Sample - Approached |
|---|---|---|---|
| Professor (=1) | 16.49 | 18.28 | 1.79 |
| Female (=1) | 37.56 | 36.73 | -0.83 |
| Basic | 16.06 | 15.23 | -0.83 |
| Between basic and applied | 63.85 | 63.97 | 0.12 |
| Applied | 20.09 | 20.80 | 0.71 |
| Computer Science & Mathematics | 10.11 | 10.53 | 0.42 |
| Engineering | 14.04 | 16.36 | 2.32** |
| Humanities | 12.78 | 9.66 | -3.12*** |
| Life Science | 13.50 | 14.97 | 1.47 |
| Medicine | 15.65 | 9.75 | -5.9*** |
| Physics & Chemistry | 18.87 | 19.67 | 0.8 |
| Social Sciences | 15.05 | 19.06 | 4.01*** |
| N | 7,785 | 1,149 | |

*Note:* Group comparison based on Wilcoxon rank-sum tests as non-parametric alternative to two-sided *t*-test; Significance at $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

**Table S2** Representativeness

| Variable | Germany (Universities) (%) | Sample (Universities) (%) |
|---|---|---|
| Professor (=1) | 18.63 | 20.99 |
| Female (=1) | 40.20 | 37.27 |

*Note:* The comparison is only between the respondents affiliated to universities and universities of applied science, not to research organizations;
Data for the overall population of scientists at universities in Germany is taken from Statistisches Bundesamt (2020)

## 2 Process schemes

**Table S3** Overview of process schemes on academic entrepreneurship

| | Research | **T1** | Opportunity framing | **T2** | Pre-Spin-off | **T3** | Spin-off |
|---|---|---|---|---|---|---|---|
| Roberts and Malonet (1996) | Research & Development | | | | Invention | | New venture creation & Product development |
| Ndonzuau et al. (2002) | | | Generating business ideas | | Finalizing new venture projects | | Launch |
| Vohora et al. (2004) | Research | | Opportunity framing | | Pre-organization | | |
| Clarysse and Moray (2004) | | | Idea | | Pre-start-up | | Start-up |
| Vanaelst et al. (2006) | | | Opportunity screening | | Gestation | | Spin-off's proof of viability |
| Mustar et al. (2008) | | | Pre-seed | | Seed & Pre-start-up | | Post-creation |
| Rasmussen (2011) | Research | | Opportunity framing | | Proof of viability | | |
| Fernández-Alles et al. (2015) | | | | | Creation and initial development | | Consolidation |

*Note:* T: Transition; Source: Own elaboration

# 3 Variables

## 3.1 Variable specifications

**Table S4** List of approached organizations and their research focus

| Number | Organization | Organizational focus |
|---|---|---|
| *Universities and universities of applied sciences* | | |
| 1 | Bauhaus-Universität Weimar | between basic and applied |
| 2 | Duale Hochschule Gera-Eisenach | applied |
| 3 | Ernst-Abbe-Hochschule Jena | applied |
| 4 | Fachhochschule Erfurt | applied |
| 5 | Friedrich-Schiller-Universität Jena | between basic and applied |
| 6 | Hochschule für Musik FRANZ LISZT Weimar | applied |
| 7 | Hochschule Nordhausen | applied |
| 8 | Hochschule Schmalkalden | applied |
| 9 | SRH Hochschule für Gesundheit | applied |
| 10 | Technische Universität Ilmenau | between basic and applied |
| 11 | Universität Erfurt | between basic and applied |
| *Research institutes* | | |
| 12 | Forschungsinstitut für Mikrosensorik | applied |
| 13 | Forschungszentrum für Medizintechnik und Biotechnologie | applied |
| 14 | Fraunhofer-Institut für Angewandte Optik und Feinmechanik | applied |
| 15 | Fraunhofer-Institut für Digitale Medientechnologie | applied |
| 16 | Fraunhofer-Institut für Keramische Technologien und Systeme | applied |
| 17 | Fraunhofer-Institut für Optronik, Systemtechnik und Bildauswertung Institutsteil Angewandte Systemtechnik | applied |
| 18 | Friedrich-Loeffler-Institut für bakterielle Infektionen und Zoonosen | applied |
| 19 | Friedrich-Loeffler-Institut für molekulare Pathogenese | applied |
| 20 | Gesellschaft für Fertigungstechnik und Entwicklung | applied |
| 21 | Günter-Köhler-Institut für Fügetechnik und Werkstoffprüfung | applied |
| 22 | Helmholtz-Institut Jena | basic |
| 23 | Innovent | applied |
| 24 | Institut für Angewandte Bauforschung | applied |
| 25 | Institut für Bioprozess- und Analysenmesstechnik Heiligenstadt | applied |
| 26 | Institut für Datenwissenschaften | applied |
| 27 | Institut für Mikroelektronik- und Mechatronik-Systeme | applied |
| 28 | Leibniz-Institut für Alternsforschung - Fritz-Lipmann-Institut e.V. | basic |
| 29 | Leibniz-Institut für Naturstoff-Forschung und Infektionsbiologie Hans-Knöll-Institut | basic |
| 30 | Leibniz-Institut für Photonische Technologien | basic |
| 31 | Materialforschungs- und -prüfanstalt | applied |
| 32 | Max-Planck-Institut für Biogeochemie | basic |
| 33 | Max-Planck-Institut für chemische Ökologie | basic |
| 34 | Max-Planck-Institut für Menschheitsgeschichte | basic |
| 35 | Textilforschungsinstitut Thüringen-Vogtland | applied |
| 36 | Thüringer Landessternwarte Tautenburg | basic |
| 37 | Thüringisches Institut für Textil- u. Kunststoff-Forschung | applied |

## 3.2 Correlation tables

**Table S5** Pearson correlation coefficients between the variables of transition 1 (n=1,149)

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Dependent variable* | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Transition 1 (=1) | | | | | | | | | | | | | | | | | | | | | | |
| | *Academic sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Professor (=1) | 0.08*** | | | | | | | | | | | | | | | | | | | | | |
| 3 | Time devoted to research | -0.05* | -0.35*** | | | | | | | | | | | | | | | | | | | | |
| 4 | Number of publications | 0.07** | 0.32*** | -0.06** | | | | | | | | | | | | | | | | | | | |
| 5 | Average impact factor | -0.04 | 0.07** | 0.14*** | 0.28*** | | | | | | | | | | | | | | | | | | |
| 6 | Basic research | 0.15*** | 0.11*** | 0.20*** | 0.15*** | 0.14*** | | | | | | | | | | | | | | | | | |
| 7 | Applied research | 0.22*** | 0.05* | -0.07** | -0.04 | -0.15*** | 0.15*** | | | | | | | | | | | | | | | | |
| | *Commercial sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Share of publications with industry | 0.08*** | 0.00 | 0.01 | 0.01 | 0.06** | -0.03 | 0.13*** | | | | | | | | | | | | | | | |
| 9 | Time devoted to KTT | 0.15*** | 0.02 | -0.25*** | -0.03 | -0.03 | 0.09*** | 0.31*** | 0.07** | | | | | | | | | | | | | | |
| 10 | Disclosed IP | 0.19*** | 0.13*** | -0.05* | 0.18*** | 0.04 | 0.12*** | 0.19*** | 0.09*** | 0.20*** | | | | | | | | | | | | | |
| 11 | Work experience outside academia | 0.13*** | 0.20*** | -0.25*** | -0.05* | -0.22*** | -0.01 | 0.23*** | 0.05* | 0.12*** | 0.04 | | | | | | | | | | | | |
| | *Control variables* | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Female (=1) | -0.10*** | -0.12*** | 0.03 | -0.12*** | -0.07** | -0.03 | -0.03 | -0.07** | 0.00 | -0.07** | -0.11*** | | | | | | | | | | | |
| 13 | Risk willingness | 0.14*** | 0.10*** | 0.02 | 0.06** | 0.00 | 0.23*** | 0.13*** | 0.03 | 0.04 | 0.07** | 0.19*** | -0.04 | | | | | | | | | | |
| 14 | Organizational focus: between basic and applied | -0.05* | -0.04 | -0.03 | 0.00 | -0.05* | -0.03 | -0.12*** | -0.10*** | -0.14*** | -0.12*** | -0.11*** | 0.03 | -0.04 | | | | | | | | | |
| 15 | Organizational focus: basic | -0.05 | -0.14*** | 0.27*** | 0.12*** | 0.26*** | 0.14*** | -0.15*** | -0.01 | -0.01 | -0.03 | -0.16*** | 0.01 | 0.04 | -0.56*** | | | | | | | | |
| 16 | Organizational focus: applied | 0.11*** | 0.18*** | -0.20*** | -0.11*** | -0.17*** | -0.08*** | 0.28*** | 0.13*** | 0.18*** | 0.17*** | 0.26*** | -0.04 | 0.01 | -0.68*** | -0.22*** | | | | | | | |
| 17 | Discipline: Computer Science and Mathematics | 0.07** | -0.01 | 0.01 | -0.04 | -0.02 | 0.02 | 0.10*** | 0.06** | -0.01 | 0.00 | 0.00 | -0.14*** | 0.00 | 0.16*** | -0.15*** | -0.06* | | | | | | |
| 18 | Discipline: Engineering | 0.07** | 0.03 | -0.09*** | -0.11*** | -0.15*** | -0.03 | 0.24*** | 0.17*** | 0.15*** | 0.18*** | 0.14*** | -0.08*** | 0.03 | -0.17*** | -0.19*** | 0.37*** | -0.15*** | | | | | |
| 19 | Discipline: Humanities | -0.03 | 0.01 | -0.04 | -0.10*** | -0.13*** | 0.09*** | -0.08** | -0.05* | 0.03 | -0.05* | 0.12*** | 0.10*** | 0.04 | -0.04 | 0.05* | 0.00 | -0.11*** | -0.14*** | | | | |
| 20 | Discipline: Life Sciences | -0.03 | -0.07** | 0.15*** | 0.04 | 0.15*** | 0.01 | -0.13*** | -0.01 | -0.05* | -0.06** | -0.13*** | 0.06** | -0.01 | -0.19*** | 0.34*** | -0.08*** | -0.14*** | -0.19*** | -0.14*** | | | |
| 21 | Discipline: Medicine | -0.03 | 0.00 | -0.04 | 0.17*** | 0.12*** | -0.06** | 0.00 | -0.03 | -0.05* | -0.04 | -0.01 | 0.11*** | -0.01 | 0.18*** | -0.14*** | -0.09*** | -0.11*** | -0.15*** | -0.11*** | -0.14*** | | |
| 22 | Discipline: Physics and Chemistry | 0.03 | -0.09*** | 0.18*** | 0.16*** | 0.16*** | 0.07** | -0.08*** | -0.05* | 0.03 | 0.07** | -0.17*** | -0.07** | 0.00 | -0.12*** | 0.25*** | -0.08*** | -0.17*** | -0.22*** | -0.16*** | -0.21*** | -0.16*** | |
| 23 | Discipline: Social Sciences | -0.08*** | 0.13*** | -0.17*** | -0.12*** | -0.13*** | -0.09*** | -0.06* | -0.07** | -0.09*** | -0.12*** | 0.07** | 0.04 | -0.04 | 0.22*** | -0.21*** | -0.08*** | -0.17*** | -0.21*** | -0.16*** | -0.20*** | -0.16*** | -0.24*** |

*Note:* Significance at *p<0.1; **p<0.05; ***p<0.01

**Table S6** Pearson correlation coefficients between the variables of transition 2 (n=249)

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Dependent variable* | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Transition 2 (=1) | | | | | | | | | | | | | | | | | | | | | | |
| | *Academic sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Professor (=1) | 0.17*** | | | | | | | | | | | | | | | | | | | | | |
| 3 | Time devoted to research | -0.18*** | -0.39*** | | | | | | | | | | | | | | | | | | | | |
| 4 | Number of publications | -0.06 | 0.30*** | -0.03 | | | | | | | | | | | | | | | | | | | |
| 5 | Average impact factor | -0.16** | 0.15** | 0.07 | 0.28*** | | | | | | | | | | | | | | | | | | |
| 6 | Basic research | 0.05 | 0.09 | 0.10 | 0.10 | 0.13** | | | | | | | | | | | | | | | | | |
| 7 | Applied research | 0.24*** | 0.10* | -0.09 | -0.10 | -0.13** | 0.10 | | | | | | | | | | | | | | | | |
| | *Commercial sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Share of publications with industry | 0.07 | -0.01 | 0.02 | -0.03 | 0.14** | -0.08 | 0.06 | | | | | | | | | | | | | | | |
| 9 | Time devoted to KTT | 0.27*** | 0.03 | -0.36*** | 0.00 | 0.00 | 0.13** | 0.31*** | 0.01 | | | | | | | | | | | | | | |
| 10 | Disclosed IP | 0.21*** | 0.19*** | -0.13** | 0.12* | 0.07 | 0.15** | 0.20*** | 0.09 | 0.28*** | | | | | | | | | | | | | |
| 11 | Work experience outside academia | 0.28*** | 0.21*** | -0.25*** | 0.04 | -0.31*** | 0.01 | 0.26*** | 0.05 | 0.12* | -0.03 | | | | | | | | | | | | |
| | *Control variables* | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Female (=1) | -0.03 | -0.05 | 0.00 | -0.03 | -0.07 | 0.06 | -0.01 | -0.10 | -0.04 | -0.03 | -0.04 | | | | | | | | | | | |
| 13 | Risk willingness | 0.15** | 0.12* | 0.04 | 0.03 | -0.04 | 0.16*** | 0.11* | 0.03 | 0.02 | 0.03 | 0.19*** | -0.02 | | | | | | | | | | |
| 14 | Organizational focus: between basic and applied | -0.11* | -0.10 | 0.07 | 0.04 | -0.08 | 0.09 | -0.14** | -0.13** | -0.16*** | -0.11* | -0.08 | -0.04 | 0.05 | | | | | | | | | |
| 15 | Organizational focus: basic | -0.09 | -0.15** | 0.22*** | 0.12* | 0.25*** | 0.06 | -0.22*** | 0.08 | -0.06 | -0.07 | -0.18*** | 0.08 | 0.01 | -0.44*** | | | | | | | | |
| 16 | Organizational focus: applied | 0.18*** | 0.22*** | -0.23*** | -0.13** | -0.09 | -0.13** | 0.31*** | 0.08 | 0.22*** | 0.17*** | 0.22*** | -0.01 | -0.06 | -0.77*** | -0.24*** | | | | | | | |
| 17 | Discipline: Computer Science and Mathematics | 0.02 | 0.04 | 0.09 | -0.06 | -0.01 | 0.05 | 0.17*** | -0.03 | -0.02 | -0.02 | 0.01 | -0.12* | 0.01 | 0.16** | -0.15** | -0.06 | | | | | | |
| 18 | Discipline: Engineering | 0.08 | -0.09 | -0.06 | -0.13** | -0.11* | -0.05 | 0.20*** | 0.09 | 0.12* | 0.21*** | 0.07 | -0.08 | -0.03 | -0.11* | -0.19*** | 0.25*** | -0.21*** | | | | | |
| 19 | Discipline: Humanities | -0.02 | -0.06 | 0.01 | -0.08 | -0.02 | 0.14** | -0.12** | 0.00 | 0.00 | -0.03 | 0.06 | 0.18*** | 0.02 | -0.08 | 0.21*** | -0.06 | -0.12* | -0.15** | | | | |
| 20 | Discipline: Life Sciences | -0.14** | 0.04 | 0.10 | 0.03 | 0.14** | -0.03 | -0.12* | 0.11* | -0.12* | -0.12* | -0.08 | 0.09 | 0.05 | -0.22*** | 0.34*** | -0.01 | -0.16** | -0.20*** | -0.11* | | | |
| 21 | Discipline: Medicine | -0.05 | 0.11* | -0.11* | 0.24*** | 0.07 | -0.06 | -0.10* | -0.06 | -0.11* | -0.02 | -0.01 | 0.05 | -0.01 | 0.13** | -0.11* | -0.06 | -0.12* | -0.15** | -0.09 | -0.11* | | |
| 22 | Discipline: Physics and Chemistry | 0.00 | -0.05 | 0.07 | 0.14** | 0.15** | 0.06 | -0.05 | -0.07 | 0.10 | 0.07 | -0.13** | -0.09 | -0.01 | -0.03 | 0.10 | -0.04 | -0.22*** | -0.28*** | -0.16** | -0.20*** | -0.16** | |
| 23 | Discipline: Social Sciences | 0.07 | 0.06 | -0.12* | -0.11* | -0.22*** | -0.09 | -0.04 | -0.05 | -0.04 | -0.14** | 0.11* | 0.05 | -0.02 | 0.18*** | -0.14** | -0.09 | -0.16** | -0.20*** | -0.12* | -0.15** | -0.12* | -0.21*** |

*Note:* Significance at *p<0.1; **p<0.05; ***p<0.01

**Table S7** Pearson correlation coefficients between the variables of transition 3 (n=145)

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Dependent variable* | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Transition 3 (=1) | | | | | | | | | | | | | | | | | | | | | | |
| | *Academic sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Professor (=1) | 0.05 | | | | | | | | | | | | | | | | | | | | | |
| 3 | Time devoted to research | -0.03 | -0.37*** | | | | | | | | | | | | | | | | | | | | |
| 4 | Number of publications | -0.14* | 0.26*** | -0.06 | | | | | | | | | | | | | | | | | | | |
| 5 | Average impact factor | -0.02 | 0.17** | 0.02 | 0.30*** | | | | | | | | | | | | | | | | | | |
| 6 | Basic research | 0.04 | 0.20** | 0.08 | 0.14* | 0.16* | | | | | | | | | | | | | | | | | |
| 7 | Applied research | 0.03 | 0.08 | -0.06 | -0.08 | -0.07 | 0.19** | | | | | | | | | | | | | | | | |
| | *Commercial sphere* | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Share of publications with industry | -0.08 | 0.00 | -0.03 | -0.03 | 0.18** | -0.14* | 0.07 | | | | | | | | | | | | | | | |
| 9 | Time devoted to KTT | 0.12 | -0.04 | -0.37*** | 0.01 | 0.03 | 0.18** | 0.26*** | -0.02 | | | | | | | | | | | | | | |
| 10 | Disclosed IP | -0.05 | 0.19** | -0.12 | 0.17** | 0.17** | 0.19** | 0.13 | 0.08 | 0.24*** | | | | | | | | | | | | | |
| 11 | Work experience outside academia | 0.02 | 0.17** | -0.22*** | 0.02 | -0.30*** | 0.00 | 0.23*** | 0.11 | 0.06 | -0.10 | | | | | | | | | | | | |
| | *Control variables* | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Female (=1) | -0.12 | -0.12 | 0.08 | -0.01 | -0.22*** | 0.09 | -0.02 | -0.16* | -0.05 | -0.01 | -0.06 | | | | | | | | | | | |
| 13 | Risk willingness | 0.18** | 0.14* | 0.21** | 0.03 | 0.11 | 0.14* | 0.13 | 0.03 | -0.01 | 0.00 | 0.08 | -0.01 | | | | | | | | | | |
| 14 | Organizational focus: between basic and applied | 0.09 | -0.15* | 0.11 | 0.04 | 0.03 | 0.20** | -0.12 | -0.13 | -0.20** | -0.13 | -0.11 | -0.09 | 0.02 | | | | | | | | | |
| 15 | Organizational focus: basic | 0.09 | -0.16** | 0.19** | 0.11 | 0.04 | -0.06 | -0.13 | 0.03 | -0.01 | -0.01 | -0.13 | 0.12 | 0.19** | -0.36*** | | | | | | | | |
| 16 | Organizational focus: applied | -0.14* | 0.26*** | -0.23*** | -0.11 | -0.06 | -0.17** | 0.20** | 0.12 | 0.21** | 0.14* | 0.20** | 0.01 | -0.14* | -0.82*** | -0.24*** | | | | | | | |
| 17 | Discipline: Computer Science and Mathematics | 0.05 | 0.01 | 0.13 | -0.08 | -0.07 | 0.08 | 0.15* | -0.02 | -0.08 | -0.04 | -0.04 | -0.08 | 0.00 | 0.15* | -0.14* | -0.08 | | | | | | |
| 18 | Discipline: Engineering | -0.14* | -0.09 | -0.01 | -0.11 | 0.00 | -0.07 | 0.19** | 0.10 | 0.13 | 0.17** | 0.05 | -0.12 | -0.11 | -0.16** | -0.18** | 0.28*** | -0.24*** | | | | | |
| 19 | Discipline: Humanities | 0.06 | -0.08 | 0.03 | -0.07 | -0.13 | 0.02 | -0.03 | -0.01 | 0.00 | 0.01 | 0.04 | 0.30*** | 0.07 | -0.05 | 0.17** | -0.05 | -0.12 | -0.16* | | | | |
| 20 | Discipline: Life Sciences | 0.06 | 0.06 | 0.11 | -0.07 | 0.00 | -0.07 | -0.12 | 0.16* | -0.07 | -0.10 | -0.02 | -0.02 | 0.12 | -0.05 | 0.31*** | -0.13 | -0.13 | -0.18** | -0.09 | | | |
| 21 | Discipline: Medicine | -0.08 | 0.18** | -0.08 | 0.30*** | 0.13 | -0.03 | -0.15* | -0.04 | -0.18** | -0.03 | -0.11 | 0.02 | 0.03 | 0.08 | -0.09 | -0.03 | -0.12 | -0.15* | -0.08 | -0.09 | | |
| 22 | Discipline: Physics and Chemistry | -0.07 | -0.10 | 0.04 | 0.15* | 0.19** | 0.14* | -0.06 | -0.13 | 0.17** | 0.08 | -0.09 | -0.05 | 0.01 | -0.08 | 0.16** | -0.02 | -0.23*** | -0.30*** | -0.15* | -0.17** | -0.14* | |
| 23 | Discipline: Social Sciences | 0.17** | 0.10 | -0.21** | -0.07 | -0.15* | -0.08 | -0.08 | -0.03 | -0.08 | -0.16** | 0.14 | 0.05 | -0.05 | 0.15* | -0.14* | -0.08 | -0.18** | -0.24*** | -0.12 | -0.13 | -0.12 | -0.23*** |

*Note:* Significance at *p<0.1; **p<0.05; ***p<0.01

# 4 Additional estimations

**Table S8** Logit regression results and dominance analysis for Transition 2 and Transition 3 without number of publications

| | (2a) Transition 2 *Opportunity framing* to *Pre-spin-off* | (3a) Transition 3 *Pre-spin-off* to *Spin-off* |
|---|---|---|
| *Academic sphere* | | |
| Professor (=1) | 0.860* (0.456) | 0.202 (0.543) |
| Time devoted to research | 0.002 (0.008) | 0.002 (0.011) |
| Average impact factor | −0.528** (0.228) | −0.065 (0.346) |
| Basic research | 0.059 (0.221) | −0.043 (0.300) |
| Applied research | 0.100 (0.223) | 0.061 (0.298) |
| ***Joint*** $R^2_A$ | **0.051 (27.6%)** | **0.003 (2.4%)** |
| *Commercial sphere* | | |
| Share of publications with industry | 1.223 (1.147) | −1.788 (1.548) |
| Time devoted to KTT | 0.051** (0.020) | 0.027* (0.015) |
| Disclosed IP | 0.610** (0.283) | 0.040 (0.298) |
| Work experience outside academia | 0.226* (0.118) | −0.036 (0.142) |
| ***Joint*** $R^2_C$ | **0.095 (51.5%)** | **0.021 (17.7%)** |
| *Control variables* | | |
| Female (=1) | 0.068 (0.342) | −0.955** (0.485) |
| Risk willingness | 0.112 (0.077) | 0.158 (0.103) |
| Organizational focus: basic | 0.680 (0.478) | 0.462 (0.726) |
| Organizational focus: applied | 0.394 (0.403) | −0.453 (0.478) |
| Discipline: Engineering | −0.067 (0.531) | −0.731 (0.621) |
| Discipline: Humanities | −0.452 (0.675) | 0.482 (0.846) |
| Discipline: Life Sciences | −0.830 (0.625) | −0.003 (0.806) |
| Discipline: Medicine | −0.206 (0.661) | −0.642 (0.895) |
| Discipline: Physics and Chemistry | −0.115 (0.523) | −0.781 (0.620) |
| Discipline: Social Sciences | 0.284 (0.596) | 0.856 (0.738) |
| ***Joint*** $R^2_Z$ | **0.038 (20.9%)** | **0.096 (79.9%)** |
| Constant | −1.977* (1.033) | −1.290 (1.484) |
| *N* | 249 | 145 |
| Log Likelihood | −138.055 | −87.579 |
| Akaike Inf. Crit. | 316.110 | 215.159 |
| McFadden $R^2$ | 0.184 | 0.12 |

*Note:* A: Academic sphere, C: Commercial sphere, Z: Controls;
Significance at *p<0.1; **p<0.05; ***p<0.01; Robust standard errors in parentheses

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