

The Changing Role of Social Capital During the Venture Creation Process: A Multilevel study

- *Supplementary Results Appendix* -

Johannes Kleinhempel*

Sjoerd Beugelsdijk[†]

Mariko J. Klasing[‡]

* University of Manchester, Alliance Manchester Business School, Booth St West, M15 6PB Manchester. E-Mail Address: johannes.kleinhempel@manchester.ac.uk.

[†] University of Groningen, Faculty of Economics & Business, PO Box 800, 9700 AV Groningen, The Netherlands. E-Mail Address: s.beugelsdijk@rug.nl.

[‡] University of Groningen, Faculty of Economics & Business, PO Box 800, 9700 AV Groningen, The Netherlands. E-Mail Address: m.j.klasing@rug.nl.

Table 1: Sequential logit model: Replication of the main estimations

	Sequential logit model					
	Comparison 1: Never thought about it vs. further		Comparison 2: Pre-establishment vs. further		Comparison 3: Young vs. established entrepreneur	
<i>Individual-level controls</i>						
Age	1.036*** (.000)	1.037*** (.000)	1.305*** (.000)	1.305*** (.000)	1.272*** (.000)	1.269*** (.000)
Age squared	0.999*** (.000)	0.999*** (.000)	0.998*** (.000)	0.998*** (.000)	0.998*** (.000)	0.998*** (.000)
Gender (Male)	2.448*** (.000)	2.453*** (.000)	1.841*** (.000)	1.834*** (.000)	1.200** (.035)	1.199** (.035)
Educational attainment	1.318*** (.000)	1.309*** (.000)	1.034 (.538)	1.041 (.458)	0.884** (.027)	0.886** (.030)
Parental self-employment	1.714*** (.000)	1.709*** (.000)	1.657*** (.000)	1.649*** (.000)	1.176** (.014)	1.185*** (.010)
<i>Regional-level controls</i>						
ln GDP per capita		0.988 (.911)		1.023 (.903)		0.425*** (.007)
Human capital		0.928 (.128)		0.907 (.243)		1.322* (.077)
Share of employment in R&D		1.018 (.695)		1.111* (.070)		1.233** (.036)
Unemployment rate		0.992 (.291)		0.992 (.498)		1.022 (.264)
Share of employment in industry		0.203*** (.000)		0.612 (.305)		6.230** (.036)
Population density		1.000** (.012)		1.000*** (.005)		1.000* (.057)
Share of population aged 18 - 35		1.072 (.950)		0.287 (.487)		0.003** (.032)
<i>Regional-level predictor</i>						
Regional social capital	1.014 (.820)	1.080 (.169)	1.416*** (.000)	1.384*** (.001)	1.149 (.217)	1.140 (.275)
Country Fixed Effects				YES		
Year Fixed Effects				YES		
Observations				22,878		
Number of regions				110		
Number of Countries				22		

Table 2: Sequential logit model: Connected and isolated regional social capital

	Sequential logit model		
	Comparison 1: Never thought about it vs. further	Comparison 2: Pre-establishment vs. further	Comparison 3: Young vs. established entrepreneur
<i>Individual-level controls</i>			
Age	1.037*** (.000)	1.304*** (.000)	1.269*** (.000)
Age squared	0.999*** (.000)	0.998*** (.000)	0.998*** (.000)
Gender (Male)	2.453*** (.000)	1.836*** (.000)	1.200** (.035)
Educational attainment	1.309*** (.000)	1.041 (.462)	0.887** (.031)
Parental self-employment	1.709*** (.000)	1.650*** (.000)	1.186*** (.010)
<i>Regional-level controls</i>			
ln GDP per capita	0.971 (.788)	0.993 (.968)	0.411*** (.006)
Human capital	0.923 (.123)	0.881 (.131)	1.312* (.081)
Share of employment in R&D	1.018 (.697)	1.110* (.076)	1.240** (.035)
Unemployment rate	0.991 (.249)	0.990 (.369)	1.020 (.305)
Share of employment in industry	0.186*** (.000)	0.427 (.105)	5.848* (.053)
Population density	1.000*** (.008)	1.000*** (.005)	1.000* (.060)
Share of population aged 18 - 35	0.932 (.950)	0.200 (.370)	0.002** (.024)
<i>Regional-level predictor</i>			
Connected regional social capital	1.096 (.131)	1.350*** (.001)	1.140 (.334)
Isolated regional social capital	0.988 (.743)	1.030 (.621)	0.961 (.739)
Country Fixed Effects		YES	
Year Fixed Effects		YES	
Observations		22,878	
Number of regions		110	
Number of Countries		22	

Table 3: Robustness checks sequential logit regression

Model	Further analysis	Variable of interest	Comparison 1: Never thought about it vs. further	Comparison 2: Pre-establishment vs. further	Comparison 3: Young vs. established entrepreneur
1	Additional control variable: Individual-level social capital	Individual-level social capital	2.632*** (.000)	1.417*** (.000)	0.412*** (.000)
		Regional social capital	1.069 (.252)	1.425*** (.001)	1.215 (.126)
2	Alternative functional form: Potential non-linear effect	Regional social capital	1.080 (.157)	1.383*** (.001)	1.138 (.276)
		Regional social capital - squared	0.965 (.447)	0.948 (.424)	1.028 (.777)
3	Alternative sub-sample estimation: Excluding the financial crisis (2010 survey)	Regional social capital	0.989 (.896)	1.554*** (.000)	1.274** (.041)
4	Additional control variable: Regional differences in access to finance	Regional social capital	1.067 (.269)	1.380*** (.008)	1.181 (.213)
5	Alternative estimation method: 3-level multi-level model with country-level control variables	Regional social capital	1.016 (.879)	1.367** (.063)	1.142 (.322)
6	Alternative estimation method: Single-level logit model with cluster robust standard errors clustered at the regional level	Regional social capital		not relevant	
7	Alternative process assessment: Using pairwise comparisons	Regional social capital		not relevant	
8	Alternative process assessment: Sequential logit model with cluster robust standard errors clustered at the regional level	Regional social capital		not relevant	
9	Alternative operationalization of regional social capital: Considering only voluntary work in associations ("active engagement")	Regional "active" social capital	1.053* (.072)	1.141*** (.004)	1.059 (.462)

Note: Exact p-values presented in parentheses. *** p<0.01, ** p<0.05, * p<0.1. All models are estimated using the same control variables as in the main model but are not reported for brevity. Sample and group sizes are the same as in the main specification unless reported otherwise.

Note on model 2: Regional social capital and regional social capital-squared are highly correlated (.94). To generate a measure of the squared term that is uncorrelated with regional social capital, we regress regional social capital squared on regional social capital and predict the residuals. We then enter these residuals as a substitute for regional social capital-squared into the model. We also directly regressed both the linear and the squared term of regional social capital on the three dependent variables, which also did not indicate the presence of an inverse U-shape for any comparison. This is further supported by likelihood-ratio tests comparing the presented model –including squared term- to our main specification –without squared term- which give no indication of a significant improvement of model fit.

Note on model 3: Number of observations nested in 94 regions and 22 countries: Comparison 1: 14825; comparison 2: 4,986, and comparison 3: 2,602. Alternatively, we also re-ran our baseline model with country, year, and country-year fixed effects to capture time-varying cross-country differences. This check also confirmed that our results are not driven by the occurrence of the financial crisis.

Note on model 4: The regional aggregation level changed as a result of the higher aggregation used in the REDI data. Number of observations nested in 83 regions and 22 countries: Comparison 1: 20,688 comparison 2: 6,643 and comparison 3: 3,540.