The University-Business Cooperation Ecosystem: An Evidence-based Approach for the Management of European University-Business Cooperation

Galán-Muros, V.E.

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ADDENDUM TO PhD THESIS:

"The University-Business Cooperation Ecosystem: an Evidence-Based Approach for the Management of European University-Business Cooperation"

This addendum to the PhD thesis, includes the following output tables of the 7 regressions that were undertaken using the GLM function in SPSS v20:

- 7 tables of Omnibus Test,
- 7 tables of Tests of Model Effects and
- 7 tables of Parameter Estimates

From these tables, the data that was relevant to answer the 28 hypotheses was used to build table 12 in page 102 of the PhD thesis.

1. Dependent variable – Joint Curriculum design and delivery (CDD)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
291,637	12	,000

Dependent Variable: curriculum development and delivery
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	36,982	1	,000
HEItype	10,197	3	,004
Region	13,517	3	,000
sizeHEI	2,807	2	,124
TOPmgt	12,557	1	,001
Communic	8,971	1	,024
Incent	14,162	1	,000
Struct_office	4,483	1	,035

Dependent Variable: curriculum development and delivery
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	2,243	,4246	1,575	2,839	10,982	1	,000
[HEItype=1,00]	-,548	,2517	-,942	-,155	4,746	1	,029
[HEItype=2,00]	-,737	,2595	-1,145	-,372	7,020	1	,002
[HEItype=3,00]	-,799	,2407	-1,167	-,396	7,094	1	,001
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	,544	,2329	,388	,801	5,465	1	,019
[Region=2,00]	,788	,2349	,528	,968	8,581	1	,000
[Region=3,00]	,752	,2660	,309	1,194	7,754	1	,001
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	,323	,2669	,200	,446	1,464	1	,226
[sizeHEI=2]	,382	,2316	,257	,487	1,681	1	,084
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,195	,0520	,097	,301	12,557	1	,001
Communic	,143	,0543	,071	,203	8,971	1	,024
Incent	,276	,0512	,174	,354	14,162	1	,000
Struct_office	,100	,0508	,008	,203	4,483	1	,035
(Scale)	4,434[b]	,2486	3,973	4,949			

Dependent Variable: curriculum development and delivery
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

2. Dependent variable – Lifelong learning (LLL)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
246,750	12	,000

Dependent Variable: lifelong learning
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	51,874	1	,000
HEItype	,818	3	,720
Region	12,853	3	,000
sizeHEI	,814	2	,704
TOPmgt	23,185	1	,000
Communic	40,140	1	,000
Incent	1,996	1	,184
Struct_office	,016	1	,919

Dependent Variable: lifelong learning
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1,569	,4291	,732	2,314	10,236	1	,000
[HEItype=1,00]	,066	,2553	-,435	,576	,076	1	,797
[HEItype=2,00]	,115	,2635	-,401	,632	,192	1	,661
[HEItype=3,00]	,107	,3453	-,570	,783	,095	1	,757
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	,814	,2377	,348	1,180	11,169	1	,002
[Region=2,00]	,889	,2369	,365	1,254	11,492	1	,000
[Region=3,00]	,868	,2694	,340	1,296	11,339	1	,000
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	,111	,2692	-,466	,679	,171	1	,679
[sizeHEI=2]	,114	,2340	-,414	,613	,182	1	,608
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,252	,0335	,117	,337	23,185	1	,000
Communic	,328	,0251	,225	,450	40,140	1	,000
Incent	,079	,0226	,013	,132	1,996	1	,184
Struct_office	,005	,0320	-,095	,108	,016	1	,919
(Scale)	4,534[b]	,2547	4,062	5,062			

Dependent Variable: lifelong learning
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

3. Dependent variable – Student Mobility (SM)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
251,662	12	,000

Dependent Variable: mobility of students
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	74,120	1	,000
HEItype	8,370	3	,016
Region	9,244	3	,012
sizeHEI	2,902	2	,111
TOPmgt	3,052	1	,047
Communic	30,888	1	,000
Incent	1,752	1	,295
Struct_office	5,978	1	,017

Dependent Variable: mobility of students
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1,785	,4254	1,451	3,119	34,123	1	,000
[HEItype=1,00]	-,752	,2525	-1,257	-,287	8,071	1	,003
[HEItype=2,00]	-,711	,2603	-1,191	-,229	7,807	1	,006
[HEItype=3,00]	-,342	,3427	-1,014	,329	,997	1	,318
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	-,616	,2346	-1,176	-,194	6,004	1	,047
[Region=2,00]	-,743	,2341	-1,248	-,270	8,145	1	,005
[Region=3,00]	-,789	,2672	-1,280	-,267	9,026	1	,001
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	,412	,2679	-,113	,873	2,363	1	,124
[sizeHEI=2]	,329	,2317	-,095	,683	2,013	1	,156
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,117	,0529	,086	,172	3,052	1	,047
Communic	,334	,0641	,284	,435	30,888	1	,000
Incent	,063	,0620	-,001	,142	1,752	1	,295
Struct_office	,116	,0510	,055	,165	5,978	1	,017
(Scale)	4,473[b]	,2502	4,008	4,991			

Dependent Variable: mobility of students
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

4. Dependent variable – Professional Mobility (PM)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
215,787	12	,000

Dependent Variable: mobility of academics
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	34,630	1	,000
HEItype	2,109	3	,130
Region	8,884	3	,027
sizeHEI	,611	2	,770
TOPmgt	15,598	1	,000
Communic	4,124	1	,176
Incent	29,696	1	,000
Struct_office	2,124	1	,600

Dependent Variable: mobility of academics
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1,212	,4276	,260	1,936	16,599	1	,000
[HEItype=1,00]	,088	,2533	-,309	,584	,120	1	,729
[HEItype=2,00]	,073	,2622	-,341	,587	,078	1	,780
[HEItype=3,00]	-,351	,3421	-,921	,320	1,052	1	,305
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	,607	,1381	,240	1,073	3,684	1	,146
[Region=2,00]	,598	,1338	,142	1,057	5,243	1	,102
[Region=3,00]	1,146	,2679	,621	1,671	8,289	1	,000
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	-,098	,2681	-,324	,227	,539	1	,466
[sizeHEI=2]	-,075	,2326	-,330	,261	,293	1	,701
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,218	,0531	,152	,260	15,598	1	,000
Communic	,083	,0443	,020	,172	4,124	1	,176
Incent	,267	,0422	,207	,331	29,696	1	,000
Struct_office	,025	,0316	,016	,040	2,124	1	,600
(Scale)	4,488[b]	,2519	4,020	5,009			

Dependent Variable: mobility of academics
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

5. Dependent variable – Joint R&D (R&D)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
451,765	12	,000

Dependent Variable: collaboration in research and development
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	66,329	1	,000
HEItype	3,925	3	,030
Region	26,182	3	,000
sizeHEI	7,622	2	,154
TOPmgt	23,205	1	,000
Communic	6,499	1	,045
Incent	12,437	1	,026
Struct_office	15,327	1	,000

Dependent Variable: collaboration in research and development
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	2,553	,3923	2,388	3,925	44,740	1	,000
[HEItype=1,00]	,278	,2320	-,177	,732	1,432	1	,231
[HEItype=2,00]	,171	,2400	-,299	,642	,509	1	,475
[HEItype=3,00]	,774	,3118	,337	1,085	2,439	1	,030
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	-1,414	,2152	-1,835	-,992	23,149	1	,000
[Region=2,00]	-,385	,2164	-,709	,139	3,169	1	,035
[Region=3,00]	-,983	,2455	-1,464	-,402	16,035	1	,000
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	-,697	,2448	-1,177	-,317	7,109	1	,004
[sizeHEI=2]	-,119	,2134	-,537	,299	,311	1	,577
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,291	,4921	,171	,403	23,205	1	,000
Communic	,116	,0479	,008	,180	6,449	1	,045
Incent	,120	,0367	,068	,181	12,437	1	,026
Struct_office	,164	,0470	,092	,276	15,327	1	,000
(Scale)	3,787[b]	,2117	3,394	4,225			

Dependent Variable: collaboration in research and development
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

6. Dependent variable – Entrepreneurship (ENT)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
508,652	12	,000

Dependent Variable: entrepreneurship
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	9,620	1	,004
HEItype	17,370	3	,000
Region	3,555	3	,374
sizeHEI	1,903	2	,497
TOPmgt	18,831	1	,000
Communic	18,695	1	,000
Incent	8,742	1	,001
Struct_office	20,703	1	,000

Dependent Variable: entrepreneurship
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1,200	,3743	,151	1,619	5,590	1	,004
[HEItype=1,00]	-,704	,2217	-1,139	-,270	10,326	1	,000
[HEItype=2,00]	-,609	,2290	-1,058	-,160	7,077	1	,008
[HEItype=3,00]	-,715	,2965	-1,296	-,166	10,959	1	,000
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	,146	,2050	-,256	,548	,508	1	,476
[Region=2,00]	,171	,2065	-,234	,576	,687	1	,407
[Region=3,00]	,468	,2339	,010	,927	3,010	1	,045
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	-,108	,2343	-,567	,351	,212	1	,645
[sizeHEI=2]	,228	,2036	-,171	,627	1,254	1	,263
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,240	,0457	,192	,302	18,831	1	,000
Communic	,235	,0565	,183	,294	18,695	1	,000
Incent	,177	,0539	,097	,238	8,742	1	,001
Struct_office	,199	,0447	,140	,261	20,703	1	,000
(Scale)	3,451[b]	,1928	3,094	3,851			

Dependent Variable: entrepreneurship
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office
a. Set to zero because this parameter is redundant.
b. Maximum likelihood estimate.

7. Dependent variable – Commercialisation of R&D Results (COM)

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
459,133	12	,000

Dependent Variable: commercialisation of research and development results
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	15,378	1	,000
HEItype	,697	3	,720
Region	11,999	3	,001
sizeHEI	1,463	2	,550
TOPmgt	29,686	1	,000
Communic	2,123	1	,513
Incent	33,323	1	,000
Struct_office	40,220	1	,000

Dependent Variable: commercialisation of research and development results
Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1,588	,3863	,549	2,063	11,429	1	,000
[HEItype=1,00]	,028	,2278	-,419	,475	,015	1	,902
[HEItype=2,00]	-,075	,2351	-,536	,386	,102	1	,750
[HEItype=3,00]	,138	,3064	-,462	,639	,204	1	,652
[HEItype=4,00]	0[a]	.	.	.	.	.	.
[Region=1,00]	-,906	,2134	-1,324	-,588	11,028	1	,000
[Region=2,00]	-,861	,2323	-1,295	-,477	10,511	1	,000
[Region=3,00]	-,293	,2414	-,766	,280	1,472	1	,125
[Region=4,00]	0[a]	.	.	.	.	.	.
[sizeHEI=1]	-,162	,2421	-,437	,287	,787	1	,620
[sizeHEI=2]	-,265	,2106	-,518	,148	1,581	1	,209
[sizeHEI=3]	0[a]	.	.	.	.	.	.
TOPmgt	,188	,0278	,109	,236	29,686	1	,000
Communic	,038	,0377	-,050	,097	2,123	1	,513
Incent	,198	,0359	,123	,273	33,323	1	,000
Struct_office	,339	,0463	,234	,405	40,220	1	,000
(Scale)	3,612[b]	,2034	3,235	4,034			

Dependent Variable: commercialisation of research and development results

Model: (Intercept), HEItype, Region, sizeHEI, TOPmgt, Communic, Incent, Struct_office

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.