

Supplementary Materials:

Booster or Stumbling Block? The Role of Environmental Regulation in the Coupling Path of Regional Innovation under the Porter Hypothesis

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Table S1. Coupling path to enhance regional innovation (Calibration point reduced by 5%)

	Solutions											
	1	2	3	4	5	6	7	8	9	10	11	12
ER	⊗			●	●	●		⊗	●	●	●	●
FDI	●	●	●	●	●	●	●	●	●	●		⊗
GSTE		●	●	●	●	●	●	●			●	●
VATI			●	●	●	●	●	●	●	●	●	●
ML	●	●	●	●	●		●	⊗	●	⊗	⊗	●
HC	⊗	⊗	●	●	●	●	●	●	●	●	●	⊗
IL	⊗	⊗	⊗	●		●		●	⊗	●	●	●
TCT	●	●	●				●		●	●	●	●
PGDP	●	●			●	●	●	⊗	⊗	⊗	⊗	●
Raw coverage	0.092	0.111	0.298	0.409	0.469	0.409	0.545	0.081	0.091	0.102	0.108	0.049
Unique coverage	0.014	0.012	0.003	0.023	0.016	0.023	0.018	0.010	0.007	0.003	0.012	0.008
Consistency	0.956	0.978	0.998	0.994	0.999	0.996	0.999	0.945	0.977	0.982	0.978	0.990
Overall consistency	0.979											
Overall coverage	0.754											

Notes: 1. ● indicates the presence of a core condition; i.e., the higher the strength of this variable, the stronger its contribution to the results. 2. ⊗ indicates that a condition is peripheral, implying that a lower strength of this variable, leads to a stronger contribution to the outcome. 3. ● indicates the presence of a periphery condition, meaning that the higher the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the presence of the core condition (●). 4. ⊗ denotes the absence of the periphery condition, meaning that the lower the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the absence of the core condition (⊗). Blank spaces indicate “irrelevant.”

Table S2. Reducing paths to enhance regional innovation (Calibration point reduced by 5%)

	Solutions										
	1	2	3	4	5	6	7	8	9	10	11
ER		⊗	⊗		⊗	●	⊗	⊗	●	●	●
FDI	⊗	⊗	⊗	⊗	⊗	⊗	⊗	●	●	⊗	●
GSTE	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗
VATI	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗
ML	⊗		⊗	⊗	⊗	⊗	●	⊗	●	●	●
HC	⊗	⊗	⊗	⊗	⊗	⊗	⊗	●	⊗	●	⊗
IL		⊗	⊗	●	●	●	⊗		⊗	●	⊗
TCT	⊗	⊗				⊗		⊗	⊗	⊗	●
PGDP				⊗		●	⊗	⊗	⊗	⊗	●
Raw coverage	0.536	0.296	0.307	0.312	0.285	0.112	0.103	0.086	0.054	0.088	0.052
Unique coverage	0.060	0.019	0.007	0.015	0.011	0.039	0.013	0.015	0.010	0.023	0.018
Consistency	0.999	0.996	0.997	0.987	0.991	0.962	0.983	0.973	0.994	0.983	0.951
Overall consistency						0.979					
Overall coverage						0.769					

Notes: 1. ● indicates the presence of a core condition; i.e., the higher the strength of this variable, the stronger its contribution to the results. 2. ⊗ indicates that a condition is peripheral, implying that a lower strength of this variable, leads to a stronger contribution to the outcome. 3. ● indicates the presence of a periphery condition, meaning that the higher the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the presence of the core condition (●). 4. ⊗ denotes the absence of the periphery condition, meaning that the lower the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the absence of the core condition (⊗). Blank spaces indicate “irrelevant.”

Table S3. Coupling path to enhance regional innovation (Calibration point up 5%)

	Solutions											
	1	2	3	4	5	6	7	8	9	10	11	12
ER			●	●	●		⊗	●	●	●	●	●
FDI	●	●	●	●	●	●	●	●	●		●	⊗
GSTE	●	●	●	●	●	●	●			●	●	●
VATI	●	●	●	●	●	●	●	●	●	●		●
ML	●	●	●	●		●	⊗	●	⊗	⊗	●	●
HC	●		●	●	●	●	●	●	●	●	⊗	⊗
IL	⊗	⊗	●		●		●	⊗	●	●	⊗	●
TCT	●	●				●		●	●	●	●	●
PGDP		●		●	●	●	⊗	●	⊗	⊗	●	●
Raw coverage	0.305	0.323	0.338	0.420	0.337	0.502	0.083	0.092	0.095	0.110	0.084	0.040
Unique coverage	0.005	0.027	0.023	0.020	0.021	0.016	0.014	0.008	0.003	0.016	0.005	0.008
Consistency	0.997	0.998	0.995	0.999	0.997	0.999	0.939	0.977	0.986	0.976	0.971	0.995
Overall consistency						0.982						
Overall coverage						0.733						

Notes: 1. ● indicates the presence of a core condition; i.e., the higher the strength of this variable, the stronger its contribution to the results. 2. ⊗ indicates that a condition is peripheral, implying that a lower strength of this variable, leads to a stronger contribution to the outcome. 3. ● indicates the presence of a periphery condition, meaning that the higher the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the presence of the core condition (●). 4. ⊗ denotes the absence of the periphery condition, meaning that the lower the strength of this variable, the stronger

the contribution to the outcome; however, this contribution is lower than the contribution from the absence of the core condition (⊗). Blank spaces indicate “irrelevant.”

Table S4. Reducing paths to enhance regional innovation (Calibration point up 5%).

	Solutions										
	1	2	3	4	5	6	7	8	9	10	11
ER		⊗	⊗		⊗	●	⊗	⊗	●	●	●
FDI	⊗	⊗	⊗	⊗	⊗	⊗	⊗	●	●	⊗	●
GSTE	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗
VATI	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗
ML	⊗			⊗	⊗	⊗	●	⊗	●	●	●
HC	⊗		⊗	⊗	⊗	⊗	⊗	●	⊗	●	⊗
IL		⊗	⊗	●	●	●	⊗		⊗	●	⊗
TCT	⊗	⊗	⊗			⊗		⊗	⊗	⊗	●
PGDP		⊗		⊗		●	⊗	⊗	⊗	⊗	●
Raw coverage	0.577	0.350	0.357	0.282	0.259	0.092	0.109	0.085	0.058	0.061	0.043
Unique coverage	0.063	0.023	0.007	0.011	0.009	0.030	0.011	0.011	0.011	0.016	0.012
Consistency	0.998	0.995	0.996	0.988	0.989	0.970	0.987	0.961	0.988	0.981	0.939
Overall consistency						0.983					
Overall coverage						0.776					

Notes: 1. ● indicates the presence of a core condition; i.e., the higher the strength of this variable, the stronger its contribution to the results. 2. ⊗ indicates that a condition is peripheral, implying that a lower strength of this variable, leads to a stronger contribution to the outcome. 3. ● indicates the presence of a periphery condition, meaning that the higher the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the presence of the core condition (●). 4. ⊗ denotes the absence of the periphery condition, meaning that the lower the strength of this variable, the stronger the contribution to the outcome; however, this contribution is lower than the contribution from the absence of the core condition (⊗). Blank spaces indicate “irrelevant.”