

# Appendix A

Figure A1 Local inventor network

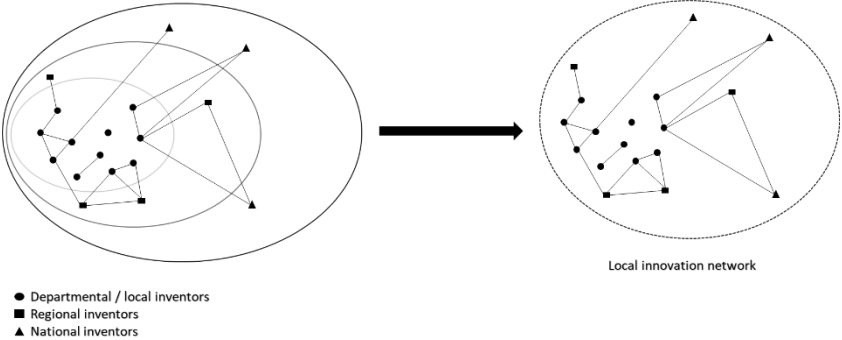
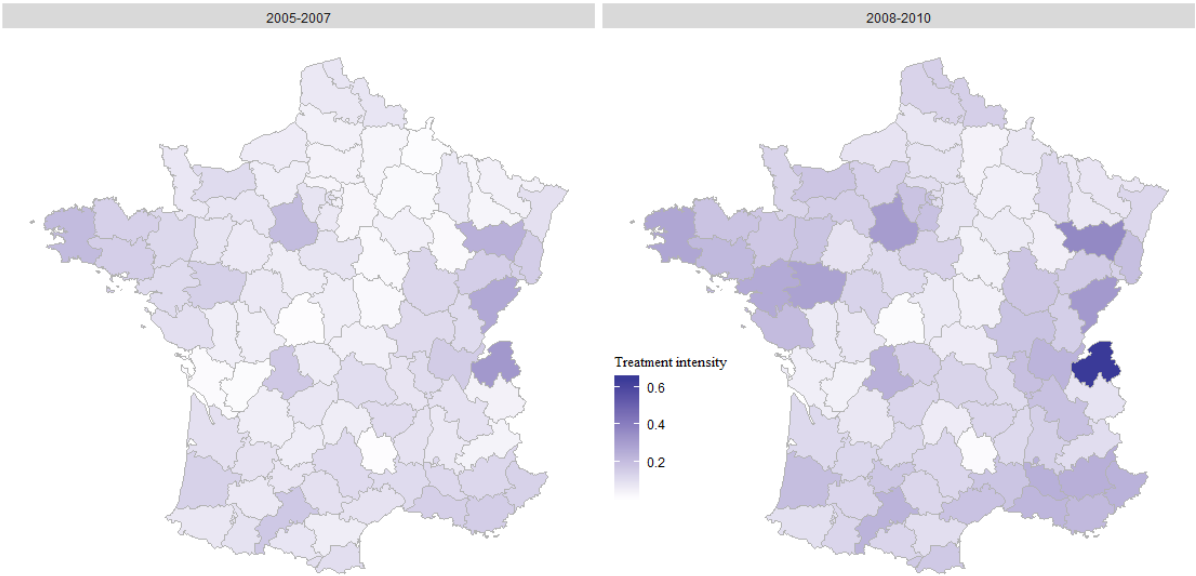


Figure A2 Treatment intensity (during the post-treatment periods)



Some departments have a share of cluster participants – treatment intensity – well above the averages; this is particularly the case for departments from the western (*e.g.* Finistère, Maine-et-Loire, Loire-Atlantique), southern (*e.g.* Alpes-Maritimes, Haute-Garonne), and eastern (*e.g.* Haute-Savoie, Doubs, Vosges) parts of the country. Three of them stand out for being in the top 3 on both periods: Haute-Savoie, Doubs and Vosges. These regions are known to be medium-sized departments with a high industrial specialisation. Haute-Savoie hosts the Arve Valley whose expertise in precision machining

has been developed from the region's clock and watch making industry during the 19<sup>th</sup> century. The Arve Valley's expertise is nowadays recognised throughout the world and precision machining in the Haute-Savoie department accounts for 30% of its GDP and 70% of total French sales for this sector. Regarding the Doubs department, since the 17<sup>th</sup> century it has been shaped by the watchmaking industry thanks to an internationally recognised know-how in the various stages of watch manufacture. Following the watchmaking crisis of the 1970s and 1980s, the department has gradually diversified its industrial base towards microtechnology and is now considered as one of the leading French territories in the field of microengineering. Finally, the Vosges, often referred to as the "Wood Valley" is the leading French department for the volume of wood production (over 1 million m<sup>3</sup> per year). The wood industry has always occupied an important place in the local economy and the department is home to a complete wood-based industry, ranging from timber harvesting to primary and secondary manufacturing (construction and high-end furnishings). To date, the department hosts more than 1,000 establishments and 13,000 jobs in the wood industry as well as the only public engineering school in France specialising in technologies related to wood and natural fibres.

Most of the other departments having a high treatment intensity are also characterised by a certain level of industrial specialisation, although in smaller extent than those already mentioned. This descriptive analysis confirms the close link between the treatment intensity and territorial specialisation.

Figure A3

Spatial distribution of the outcome variables (averaged over the pre-treatment periods)

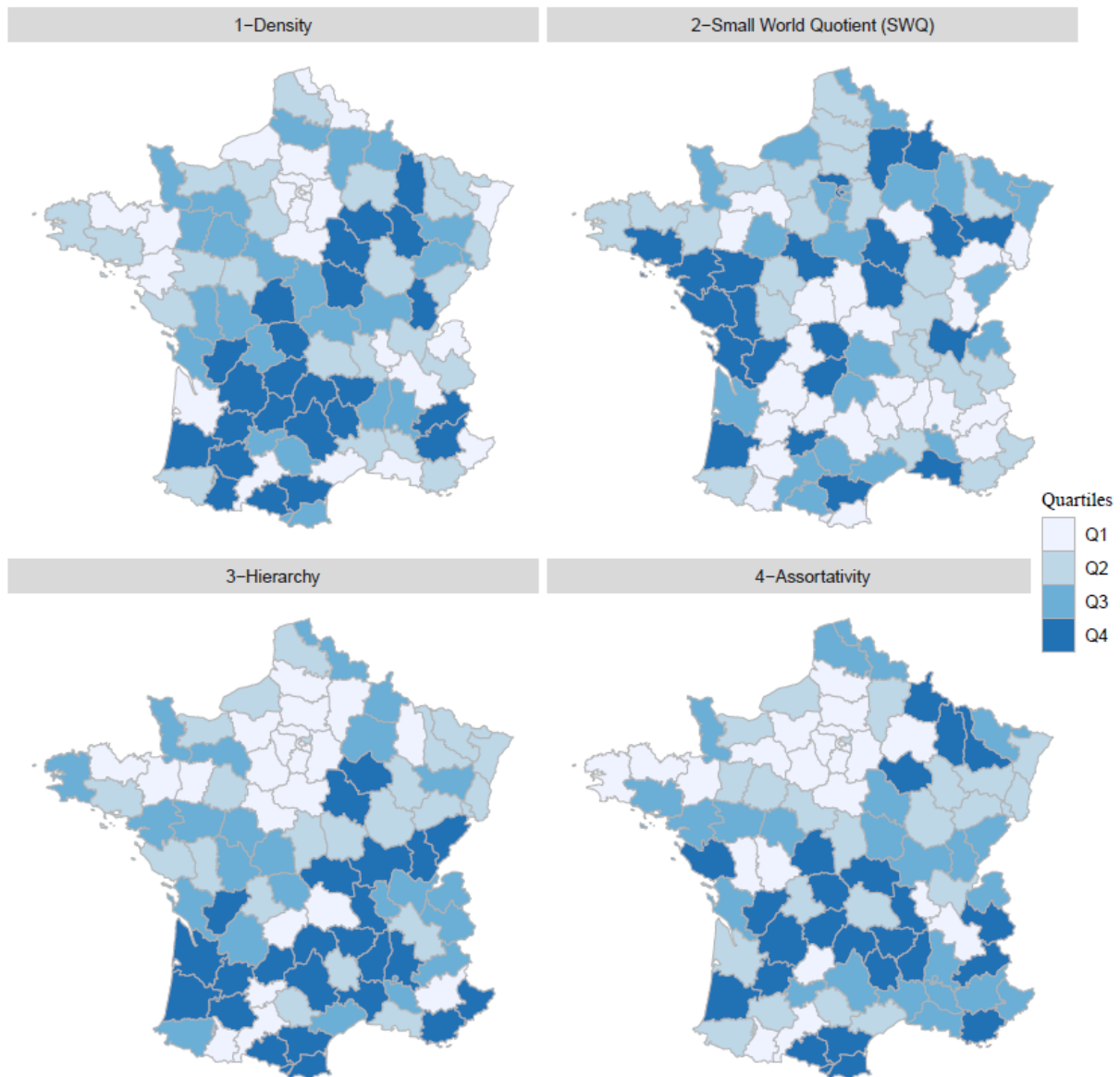


Figure 3 shows the spatial distribution of the outcome variables, averaged over the pre-treatment periods.

Regarding the network small worldliness of local inventor networks during the pre-policy periods, it turns out the most small-world networks (*i.e.* networks characterised by high clustering coefficient and low average path length) were mainly those of the west coast, such as Morbihan, Loire-Atlantique, Vendée and Charente-Maritime. Although there were other departments also depicting a strong small world nature (*e.g.* Ardennes, Bouches-du-Rhône), it is worth noting that some innovative territories such as Rhône were characterized by a limited small world nature, compared to other departments. This can result from a high level of clustering which was very often coupled with a high average path length. Based on the first two maps on top, we can also notice that many of the dense local inventor network

had a limited small world nature, suggesting that dense network may not necessarily be characterised by strong small worldliness. By increasing network small worldliness, the cluster policy would make local inventor networks more efficient. Furthermore, during the pre-policy periods, many local inventor networks were not resilient to the extent that as hierarchical structure was very often coupled with assortativity. Therefore, even though there were core actors able to coordinate local inventor networks, those actors tended to collaborate mainly with each other. There were, of course, some exceptions, mainly among small to medium-sized departments such as Lot, Finistère, Marne, Orne, and Vienne. It is worth noting the growing and innovative department that is Rhône – which is known for having a high concentration of chemical industries – was one of these exceptions.

Figure A4 Spatial distribution of the outcome variables (averaged over the post-treatment periods)

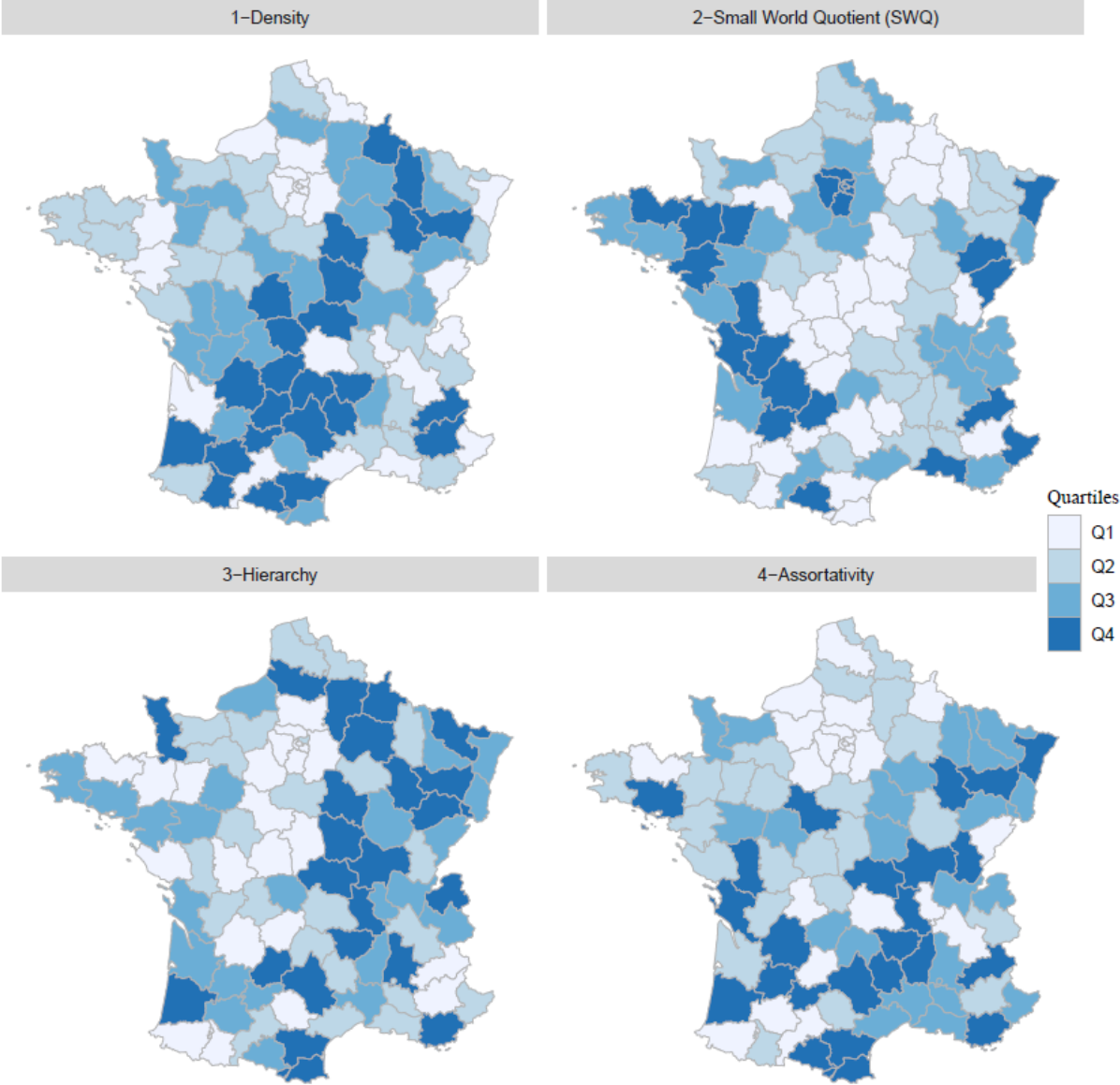


Table A1. Pre- and Post-treatment comparisons (Paired Student's t-test)

<b>Dependent variables</b>	<b>Number of observations</b>	<b>Pre-treatment mean (Periods 1 &amp; 2)</b>	<b>Post-treatment mean (Periods 3 &amp; 4)</b>
<b>Density</b>	94	0,016	0,014
<b>Small World Quotient (SWQ)</b>	94	6,625	6,228*
<b>Hierarchy</b>	94	0,629	0,595***
<b>Assortativity</b>	94	0,887	0,83***

Note: Statistical significance: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Based on Table 4 and Figures 3 and 4, the comparison of the network features before and after the policy exhibits small variations on average. Network density faces a small but insignificant decline. The regions ranking remains very similar over the pre- and post-treatment periods. The small world quotient is also characterised by a small and insignificant reduction. However, converse to density, this mean stability hides important changes at the regional level. Some regions with weak small-worldliness properties before the policy turn to belong to the first or second quartile during the post-treatment period (Mayenne, Dordogne, Lot and Garonne, Hautes-Alpes). Conversely, other regions reduce their small world properties after the policy (Aisne, Ardennes, Yonne, Nièvre, Creuse, Corrèze, Landes, Aude). As most of these regions do not host clusters and record very few cluster participants and low treatment intensity (see Figure 2), these dynamics can however hardly result from the implementation of the French cluster policy. More minor changes are observed in highly treated regions, like in Paris area where a slight increase in small-worldliness is observed. The role played by more general trends or other shocks requires to be identified in order to determine to what extent the policy could have driven these transformations.

More significant trends in network properties are observed from the last two dependent variables, namely hierarchy and assortativity. Both indicators exhibit smaller values after the policy implementation pointing to a reduction in the core-periphery structure of the network. Although some of the regions facing important changes are similar to the one above mentioned, others record a high treatment intensity (Alpes Maritimes, Morbihan, Vendée), pointing to potential relationships between policy participation and network dynamics. Beyond these descriptive statistics our econometric strategy thus aims at identifying the specific role played by the cluster policy.

Table A2. Definition of the variables

Variables	Definitions	Data sources
nb_nodes (log)	Number of inventors in the regional network	INPI patent data
gdp (log)	Regional gross domestic product	INSEE (National Institute of Statistics and Economic Studies)
dird (log)	Regional internal Research and Development expenditure	R&D survey from the French research Ministry
sub_region (log)	Total amount of regional subsidies received by local R&D firms	R&D survey from the French research Ministry
sub_nat (log)	Total amount of national subsidies received by local R&D firms	R&D survey from the French research Ministry
sub_cee (log)	Total amount of European subsidies received by local R&D firms	R&D survey from the French research Ministry
RTA_Chemistry	Regional level of specialisation in Chemistry	INPI patent data
RTA_Electrical_engineering	Regional level of specialisation in Electrical engineering	INPI patent data
RTA_Instruments	Regional level of specialisation in Instruments	INPI patent data
RTA_Mechanical_engineering	Regional level of specialisation in Mechanical engineering	INPI patent data
Tc (continuous treatment variable)	Number of regional participants to the cluster policy over the total number of R&D firms in the region	DGE (General Division of Enterprises) and R&D survey from the French research Ministry
Td (dichotomous treatment variable)	Dummy taking value 1 if the region records more than 25% of cluster participants in at least one cluster	DGE (General Division of Enterprises)
Density	Ratio of the number of edges in the regional network to the number of possible edges in this network	INPI patent data
SWQ (log)	Regional Small World quotient (regional clustering coefficient ratio / regional path length ratio)	INPI patent data
Hierarchy	Regional slope of the degree distribution	INPI patent data
Assortativity	Regional slope of the degree correlation	INPI patent data

*Table A3. Descriptive statistics of the variables*

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
nb_nodes (log)	376	5.780	1.262	1.609	4.903	6.553	8.817
gdp (log)	376	16.351	0.879	14.234	15.758	16.879	19.028
dird (log)	376	11.194	1.715	5.599	10.066	12.401	15.144
sub_region (log)	376	2.318	5.311	-6.908	0.704	5.937	10.085
sub_nat (log)	376	7.824	2.394	-6.908	6.485	9.254	13.456
sub_cee (log)	376	3.924	4.958	-6.908	3.268	7.09	10.265
RTA_Chemistry	376	0.849	0.375	0.000	0.592	1.073	1.995
RTA_Electrical_engineering	376	0.792	0.497	0.000	0.472	0.993	3.091
RTA_Instruments	376	0.861	0.353	0.000	0.621	1.084	2.379
RTA_Mechanical_engineering	376	1.136	0.354	0.438	0.883	1.331	2.556
Tc (on post-policy periods)	188	0.117	0.079	0.008	0.064	0.149	0.647
Density	376	0.015	0.022	0.0005	0.004	0.018	0.2
SWQ (log)	376	6.426	1.938	0.000	5.266	7.087	11.237
Hierarchy	376	0.612	0.104	0.28	0.551	0.651	1.117
Assortativity	376	0.858	0.107	0.493	0.79	0.94	1.000

Table A4. Operationalisation of outcome variables (to be continued)

Variables	Measurement
Density	<p>The density of the (undirected) network is the ratio of the number of edges and the number of possible edges. It is calculated as follows:</p> $D = \frac{2 \cdot m}{n \cdot (n - 1)}$ <p>Where <math>m</math> is the number of edges and <math>n</math> is the number of nodes in the network.</p>
SWQ	<p>We proxy the level of network small worldliness using the widely adopted small world quotient (SWQ) which is defined as:</p> $SWQ = \frac{CC_{ratio}}{PL_{ratio}}$ <p>The clustering coefficient (CC) ratio (<math>CC_{ratio}</math>) compares the <b>actual</b> clustering coefficient with the CC that can be expected in a <b>random</b> network of the same size and density.</p> <p>The formulas for calculating the clustering coefficient are as follows:</p> $CC = \frac{\text{number of triangles with at least three legs}}{\text{number of triangles with at least two legs}}$ $CC_{ratio} = \frac{CC_{actual}}{CC_{random}}$ <p>The path length (PL) ratio (<math>PL_{ratio}</math>) compares the <b>actual</b> average path length with the average path length that can be expected in a <b>random</b> network of the same size and density.</p> <p>The formulas for calculating the path length ratio are as follows:</p> $PL = \frac{1}{n \cdot (n - 1)} \sum_{i,j} d(v_i, v_j)$ <p>where <math>d(v_i, v_j)</math> is the geodesic distance between nodes <math>i</math> and <math>j</math>; <math>n</math> is the number of nodes in the network.</p> $PL_{ratio} = \frac{PL_{actual}}{PL_{random}}$



Variables	Measurement
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**Hierarchy** The level of network hierarchy is reflected by the slope of the degree distribution, i.e., the relation between nodes degree and their rank position. We sort nodes by degrees from the largest to the smallest and transform them in log-log scale. Following Crespo et al. (2014; 2016), we consider that all nodes have at least one relation to avoid non-existing logs for isolate nodes.

$$k_h = C(k_h^*)^a$$

$$\log(k_h) = \log(C) + \delta \log(k_h^*)$$

Where  $k_h$  denotes the degree  $k$  of node  $h$ ,  $k_h^*$  denotes the rank of node  $h$  in the distribution,  $C$  is a constant, and  $a$  is the slope of relation. By construction,  $\delta$  will take 0 or negative values. To simplify interpretation, we transform it in absolute terms. If  $\delta$  has a high value, in absolute terms, the network will display a high level of hierarchy.

**Assortativity** The level of assortativity or disassortativity of networks is reflected by the degree correlation, i.e., the slope of the relation between nodes' degree and the mean degree of their local neighbourhood.

For each node (inventor)  $h$ , we calculate the mean degree of its neighbourhood  $V_h$ . A node  $i$  is in the neighbourhood of node  $h$  when both of them have, at least, one co-invention together, i.e., they have a relation. If  $k_h$  is the degree of node  $h$ , the mean degree of node  $h$  is calculated as follows:

$$\bar{k}_h = \frac{1}{k_h} \sum_{i \in V_h} k_i$$

And the relationship between nodes' degree and the mean degree of their neighbourhood is estimated as follows:

$$\bar{k}_h = \alpha + \beta k_h$$

Where  $\alpha$  is a constant and  $\beta$  is the degree correlation. By construction,  $\beta$  is enclosed between -1 and 1. If  $\beta$  is positive and gets closer to 1, then the network is highly assortative, meaning that highly connected nodes tend to interact with highly connected nodes, and poorly connected nodes with poorly connected nodes. However, if  $\beta$  is negative and gets closer to -1, the network is disassortative, meaning that highly connected nodes tend to interact with poorly connected nodes and vice versa.

Table A5. Correlation matrix of the variables

	nb_nodes (log)	gdp (log)	dird (log)	sub_regi on (log)	sub_nat (log)	sub_cee (log)	RTA_Ch emistry	RTA_El ectrical_ engineer ing	RTA_In strument s	RTA_M echanica l_engine ering	Tc (on post- policy periods)	Density	SWQ	Hierarch y	Assortati vity
nb_nodes (log)	1.000														
gdp (log)	0.922	1.000													
dird (log)	0.918	0.855	1.000												
sub_region (log)	0.398	0.407	0.441	1.000											
sub_nat (log)	0.749	0.739	0.813	0.471	1.000										
sub_cee (log)	0.686	0.647	0.753	0.364	0.676	1.000									
RTA_Chemistry	0.344	0.367	0.329	0.119	0.249	0.226	1.000								
RTA_Electrical_e ngineering	0.297	0.239	0.319	0.180	0.301	0.255	-0.143	1.000							
RTA_Instruments	0.273	0.273	0.251	0.199	0.282	0.142	0.144	0.179	1.000						
RTA_Mechanical _engineering	-0.309	-0.336	-0.299	-0.299	-0.339	-0.202	-0.381	-0.523	-0.598	1.000					
Tc (on post-policy periods)	0.291	0.198	0.300	0.200	0.237	0.220	-0.021	0.185	0.165	-0.152	1.000				
Density	-0.704	-0.646	-0.693	-0.296	-0.597	-0.555	-0.242	-0.185	-0.051	0.152	-0.247	1.000			
SWQ (log)	0.199	0.255	0.207	0.019	0.215	0.163	0.107	0.051	0.048	-0.066	0.047	-0.296	1.000		
Hierarchy	-0.207	-0.191	-0.282	-0.204	-0.279	-0.191	-0.136	-0.172	-0.044	0.162	0.016	0.253	-0.224	1.000	
Assortativity	-0.544	-0.405	-0.545	-0.317	-0.426	-0.347	-0.124	-0.270	-0.104	0.126	-0.023	0.309	0.015	0.460	1.000

Table A6. Coefficient estimates of spatial panel models (continuous treatment variable)

Coefficients	Model 4				Model 5			
	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity
$\rho$	0.116	0.152**	0.140*	0.106	0.126*	0.139*	0.142**	0.107
Tc	0.017	0.811	0.007	0.147*	0.020*	-0.957	0.020	-0.001
W*Tc	–	–	–	–	-0.017	6.167*	0.024	0.379***
nb_nodes (log)	-0.009***	-0.392	0.078***	-0.080	-0.010	-0.47	0.077***	-0.095
gdp (log)	-0.039***	7.522***	-0.362***	-0.056	-0.029**	6.215**	-0.316***	-0.111
dird (log)	0.002	0.081	-0.027	0.001	0.003	-0.002	-0.026	-0.006
sub_region (log)	0.000	-0.002	-0.001	-0.002	0.000	0.005	-0.001	-0.001
sub_nat (log)	-0.003	0.144	-0.009**	-0.001	-0.003	0.141	-0.009**	-0.001
sub_cee (log)	0.000	-0.068*	0.003*	0.002	0.000	-0.062*	0.003*	0.002*
RTA_Chemistry	0.008***	0.797	-0.002	0.008	0.007***	0.871*	-0.005	0.013
RTA_Electrical_engineering	0.004	-0.588	0.028	-0.041**	0.003	-0.447	0.023	-0.034*
RTA_Instruments	0.007***	0.598	0.026	-0.012	0.007***	0.605	0.024	-0.013
RTA_Mechanical_engineering	0.012***	-0.956	0.054*	-0.021	0.011***	-0.889	0.048	-0.020

Note: Statistical significance: \*p< 0.10, \*\*p< 0.05, \*\*\*p< 0.01

Table A7. Coefficient estimates of spatial DiD models (dichotomous treatment variable)

Coefficients	Model 3				Model 4 (in DiD design)				Model 5 (in DiD design)			
	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity
$\rho$	–	–	–	–	-0.047	0.086	-0.069	0.192**	-0.085	0.062	-0.069	0.124
constant	0.087	7.587	0.421	1.106***	0.031	-6.331	1.329	0.573**	0.052	-8.735	1.207	0.451*
Td_25%	0.004	0.074	-0.021	0.019	-0.001	0.148	0.007	0.010	-0.001	0.173	0.009	0.017
W*Td_25%	–	–	–	–	–	–	–	–	-0.007	1.073*	0.054	0.104
nb_nodes (log)	0.001	-0.006	0.007	0.0002	-0.013	-0.111	0.043**	-0.046***	-0.013	-0.142	0.042**	-0.05***
gdp (log)	-0.004	-0.093	0.009	-0.014	0.001	0.730*	-0.032	0.050***	0.001	0.744*	-0.032	0.047**
dird (log)	-0.002	-0.001	-0.001	-0.007	-0.002	0.188	-0.026*	-0.029**	-0.002	0.222	-0.024*	-0.025**
sub_region (log)	-0.001	0.026	-0.000	0.001	-0.001**	-0.036	0.008***	0.006**	-0.001**	-0.044	0.008***	0.006**
sub_nat (log)	0.003*	0.028	0.002	0.005	0.004***	-0.135	-0.008	-0.006	0.003***	-0.113	-0.007	-0.004
sub_cee (log)	0.000	0.028	-0.002	-0.001	-0.001**	0.062	0.000	0.003*	-0.001**	0.051	0.000	0.002
RTA_Chemistry	0.006	-0.112	-0.004	0.022	0.011***	-0.076	-0.031	-0.010	0.011***	-0.022	-0.028	-0.004
RTA_Electrical_engineering	-0.003	-0.391	-0.002	-0.011	0.008**	0.02	-0.047**	-0.048**	0.007**	0.128	-0.042*	-0.039**
RTA_Instruments	-0.003	-0.248	0.01	0.028	0.011***	-0.242	0.017	0.008	0.011***	-0.12	0.023	0.021
RTA_Mechanical_engineering	-0.01	0.154	0.005	-0.005	0.012*	0.000	-0.027	-0.042	0.010	0.365	-0.009	-0.009
D	-0.006	0.356	0.008	-0.022	0.000	-0.481	0.019	0.047*	0.001	-0.504	0.018	0.046*

Note: Statistical significance: \*p< 0.10, \*\*p< 0.05, \*\*\*p< 0.01

Table A8. Alternative specification of the dichotomous dependent variable (10% threshold)

As a sensitivity analysis regarding the dichotomous specification of the treatment variable, we consider as treated units all NUTS3 regions hosting at least 10% of a cluster's participants.

Coefficients	Model 3				Model 4 (in DiD design)				Model 5 (in DiD design)			
	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity
$\rho$	–	–	–	–	-0.044	0.080	-0.058	0.214***	-0.037	0.069	-0.056	0.210**
constant	0.077	7.347	0.384	1.242***	0.03	-7.532	1.299	0.526*	0.027	-8.312	1.286	0.449*
Td_10%	0.0001	-0.072	-0.028	0.058**	-0.003	-0.129	-0.023	0.025	-0.003	-0.12	-0.023	0.027
W*Td_10%	–	–	–	–	–	–	–	–	0.001	0.472	0.007	0.050**
nb_nodes (log)	0.0004	-0.051	0.012	-0.004	-0.013	-0.069	0.041**	-0.052***	-0.013	-0.095	0.041**	-0.055***
gdp (log)	-0.003	-0.064	0.011	-0.023	0.002	0.806*	-0.029	0.052***	0.002	0.809*	-0.029	0.052***
dird (log)	-0.002	0.027	-0.003	-0.005	-0.002	0.152	-0.023*	-0.026**	-0.002	0.147	-0.023*	-0.026**
sub_region (log)	-0.001	0.026	-0.000	0.000	-0.001**	-0.032	0.008***	0.005**	-0.001**	-0.026	0.008***	0.006**
sub_nat (log)	0.003*	0.021	0.003	0.005	0.004***	-0.126	-0.009	-0.007	0.004***	-0.126	-0.009	-0.007
sub_cee (log)	0.000	0.031	-0.002	-0.001	-0.001**	0.060	0.000	0.004*	-0.001**	0.063	0.000	0.004**
RTA_Chemistry	0.006	-0.199	0.004	0.011	0.011***	0.055	-0.037	-0.021	0.011***	0.081	-0.037	-0.018
RTA_Electrical_engineering	-0.003	-0.41	-0.003	-0.009	0.008**	0.042	-0.05**	-0.046**	0.008**	0.07	-0.05**	-0.043**
RTA_Instruments	-0.003	-0.241	0.013	0.022	0.011***	-0.22	0.017	0.008	0.011***	-0.188	0.018	0.012
RTA_Mechanical_engineering	-0.011	0.063	0.009	-0.005	0.011*	0.041	-0.037	-0.047	0.012*	0.198	-0.034	-0.031
D	-0.003	0.498	-0.004	-0.016	0.003	-0.544	0.053*	0.026	0.003	-0.542	0.053*	0.026

Note: Statistical significance: \*p< 0.10, \*\*p< 0.05, \*\*\*p< 0.01

Table A9. Spatial DiD models (dichotomous treatment variable)

	Model 4 (in DiD design)				Model 5 (in DiD design)			
	Density	SWQ	Hierarchy	Assortativity	Density	SWQ	Hierarchy	Assortativity
<b>Direct effects</b>								
Td_25%	-0.001	0.148	0.007	0.010	-0.001	0.173	0.009	0.017
W*Td_25%	–	–	–	–	-0.007	1.074*	0.054*	0.105
nb_nodes (log)	-0.013	-0.111	0.043**	-0.046***	-0.013	-0.142	0.042**	-0.05***
gdp (log)	0.001	0.731**	-0.032	0.05***	0.001	0.744	-0.032	0.047***
dird (log)	-0.002	0.189	-0.026**	-0.029**	-0.002	0.223	-0.024*	-0.025**
sub_region (log)	-0.001**	-0.036	0.008***	0.006***	-0.001**	-0.044	0.008***	0.006**
sub_nat (log)	0.004	-0.135	-0.008	-0.006	0.003	-0.113	-0.007	-0.004
sub_cee (log)	-0.001***	0.062	0.000	0.003*	-0.001**	0.051	0.000	0.002
RTA_Chemistry	0.011***	-0.076	-0.031	-0.01	0.011***	-0.022	-0.028	-0.004
RTA_Electrical_engineering	0.008**	0.02	-0.047**	-0.048***	0.008**	0.128	-0.042*	-0.039**
RTA_Instruments	0.011***	-0.242	0.017	0.009	0.011***	-0.120	0.023	0.021
RTA_Mechanical_engineering	0.012*	0.000	-0.027	-0.043	0.010	0.365	-0.009	-0.009
DiD	0.000	-0.482	0.019	0.048*	0.001	-0.504	0.018	0.046*
<b>Indirect effects</b>								
Td_25%	0.000	0.014	0.000	0.002	0.000	0.011	-0.001	0.002
W*Td_25%	–	–	–	–	0.001	0.07	-0.003	0.014
nb_nodes (log)	0.001	-0.01	-0.003	-0.011	0.001	-0.009	-0.003	-0.007
gdp (log)	0.000	0.067	0.002	0.011	0.000	0.048	0.002	0.007
dird (log)	0.000	0.017	0.002	-0.007	0.000	0.014	0.002	-0.003
sub_region (log)	0.000	-0.003	-0.001	0.001	0.000	-0.003	0.000	0.001
sub_nat (log)	0.000	-0.012	0.001	-0.001	0.000	-0.007	0.000	-0.001
sub_cee (log)	0.000	0.006	0.000	0.001	0.000	0.003	0.000	0.000
RTA_Chemistry	-0.001	-0.007	0.002	-0.002	-0.001	-0.001	0.002	-0.001
RTA_Electrical_engineering	0.000	0.002	0.003	-0.011	-0.001	0.008	0.003	-0.005
RTA_Instruments	-0.001	-0.022	-0.001	0.002	-0.001	-0.008	-0.002	0.003
RTA_Mechanical_engineering	-0.001	0.000	0.002	-0.010	-0.001	0.024	0.001	-0.001
DiD	0.000	-0.044	-0.001	0.011	0.000	-0.033	-0.001	0.006
<b>Total effects</b>								
Td_25%	-0.001	0.162	0.007	0.012	-0.001	0.184	0.008	0.020
W*Td_25%	–	–	–	–	-0.006	1.144*	0.050*	0.119
nb_nodes (log)	-0.013	-0.122	0.041**	-0.057***	-0.012	-0.151	0.039*	-0.057***
gdp (log)	0.001	0.799**	-0.03	0.062**	0.001	0.793	-0.030	0.054**
dird (log)	-0.002	0.206	-0.024**	-0.035**	-0.002	0.237	-0.022*	-0.029**
sub_region (log)	-0.001**	-0.04	0.008***	0.008**	-0.001**	-0.047	0.007**	0.006**
sub_nat (log)	0.003***	-0.148	-0.008	-0.008	0.003	-0.121	-0.007	-0.005
sub_cee (log)	-0.001**	0.068	0.000	0.004*	-0.001**	0.055	0.000	0.003
RTA_Chemistry	0.011***	-0.083	-0.029	-0.013	0.010***	-0.024	-0.026	-0.005
RTA_Electrical_engineering	0.008**	0.022	-0.044**	-0.059**	0.007*	0.137	-0.039*	-0.045**
RTA_Instruments	0.011**	-0.264	0.016	0.010	0.010**	-0.127	0.022	0.024
RTA_Mechanical_engineering	0.011*	0.000	-0.025	-0.053	0.009	0.388	-0.008	-0.010
DiD	0.000	-0.526	0.018	0.059*	0.001	-0.537	0.017	0.052*

Note: Statistical significance: \*p< 0.10, \*\*p< 0.05, \*\*\*p< 0.01

