Table A1 Calinski rule, relative rate of change

N Cluster	Calinski Harabasz pseudo-F
2	83.94
3	79.81
4	68.3
5	66.66
6	57.88
7	50.48
8	49.83

Figure A2. Within groups sum of squares, relative rate of change

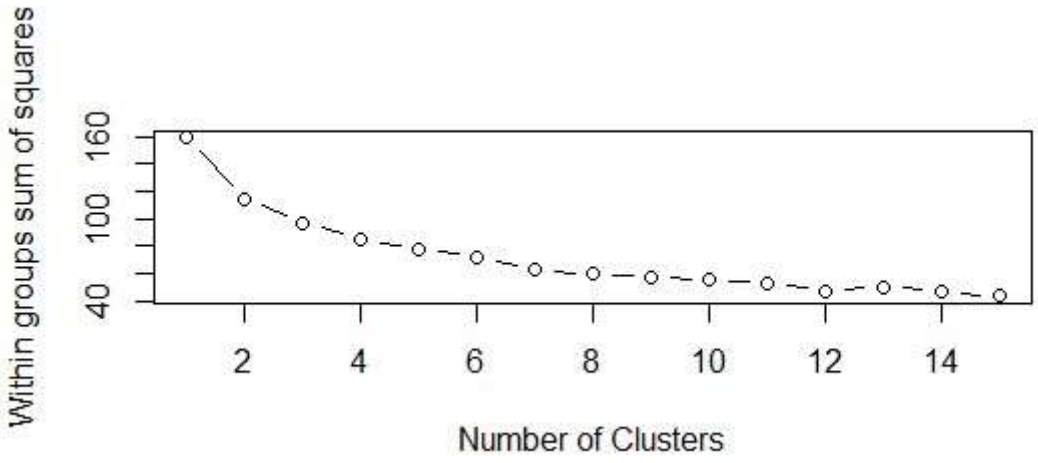

Figure A3. Centroids against first and second discriminant function, relative rate of change

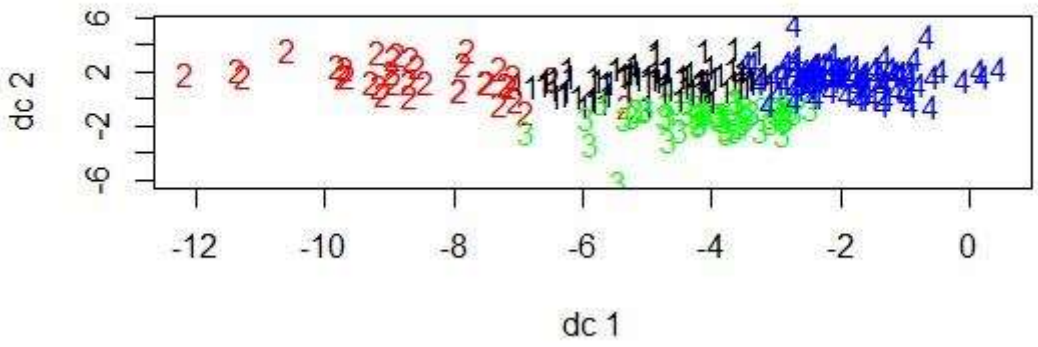

Figure A4. Bayesian Information Criteria model based solution, relative rate of change

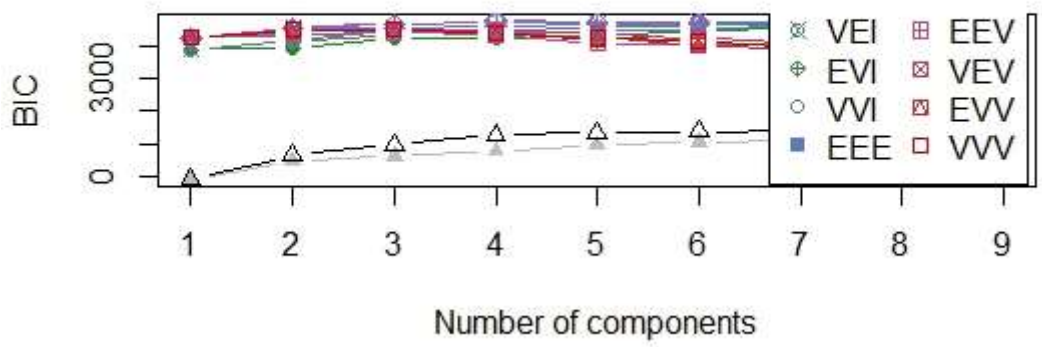

Table A5 Calinski rule, moving average

N Cluster	Calinski Harabasz pseudo-F
2	78.1
3	80.23
4	63.07
5	67.78
6	71.52
7	60.27
8	62.89

Figure A6. Within groups sum of squares, moving average

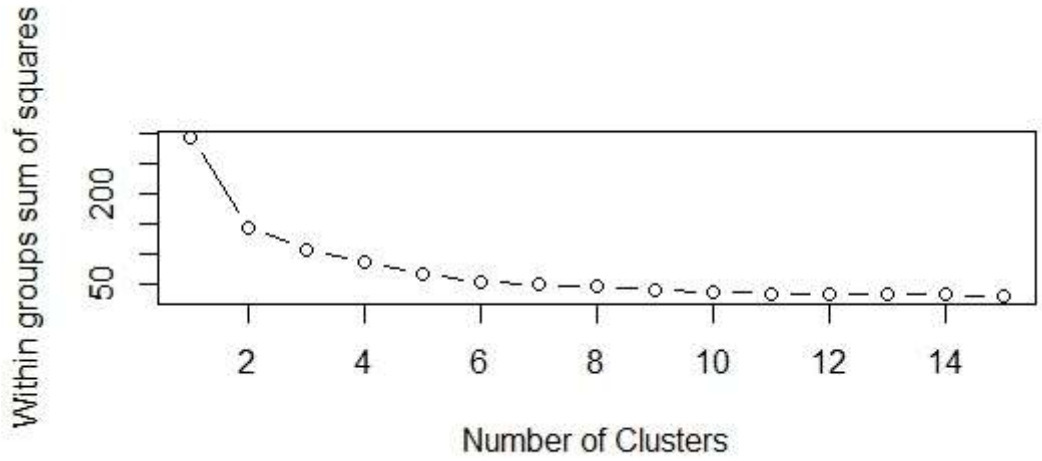

Figure A7. Centroids against first and second discriminant function, moving average

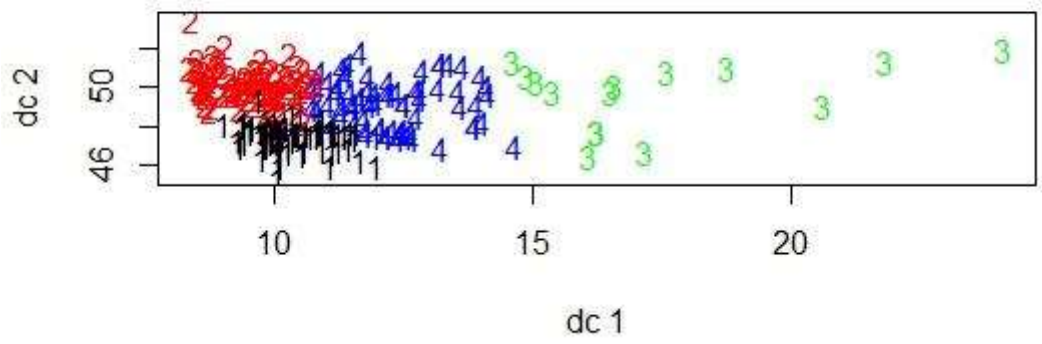

Figure A8. Bayesian Information Criteria model based solution, moving average

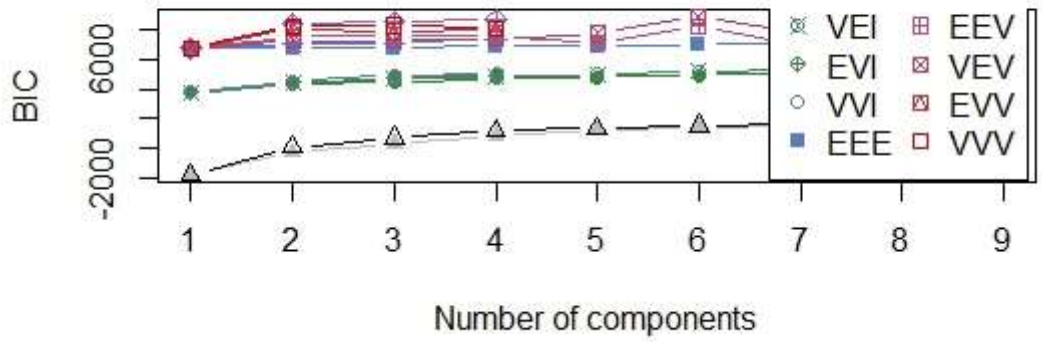

Table A9. Descriptive statistics of the raw variables used in the cluster analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Population share ISCED 0-2, 25-34	276	0.187	0.110	0.018	0.813
Population share ISCED 3-4, 25-34	276	0.493	0.132	0.123	0.862
Population share ISCED 5-8, 25-34	276	0.321	0.116	0.058	0.774
Employment rate ISCED 0-2, 20-34	276	0.585	0.127	0.069	0.951
Employment rate ISCED 3-4, 20-34	276	0.787	0.091	0.354	1.000
Employment rate ISCED 5-8, 20-34	276	0.855	0.085	0.389	1.000
NEET rate, 15-29	276	0.138	0.062	0.033	0.403
GDP in PPS, log	276	9.951	0.432	8.132	11.285
Population 20-64, log	268	13.641	0.815	9.616	15.785
Scientist and Engineer share, active population	268	0.044	0.024	0.000	0.160

Figure A10. Boxplots of STWT indicators in EU regions (NUTS 2) by years (2007, 2019)*. Source: Authors' elaboration on Eurostat online database

*the indicators report the share/rate of the population in absolute levels, lower secondary education refers to ISCED levels 0-2, upper secondary education to ISCED levels 3-4, tertairy education to ISCED levels 5-8.