



DIPARTIMENTO DI AGRARIA



NUCLEO RICERCA
DESERTIFICAZIONE

**Third Conference of the Italian Association
of Agricultural and Applied Economics**

**FEEDING THE PLANET AND
GREENING THE AGRICULTURE:
CHALLENGES AND OPPORTUNITY FOR THE
BIO-ECONOMY**

**TRANSNATIONAL COOPERATION OF
LOCAL ACTION GROUPS
THE CASE STUDY OF VENETO REGION**

Elena PISANI, Laura BURIGHEL

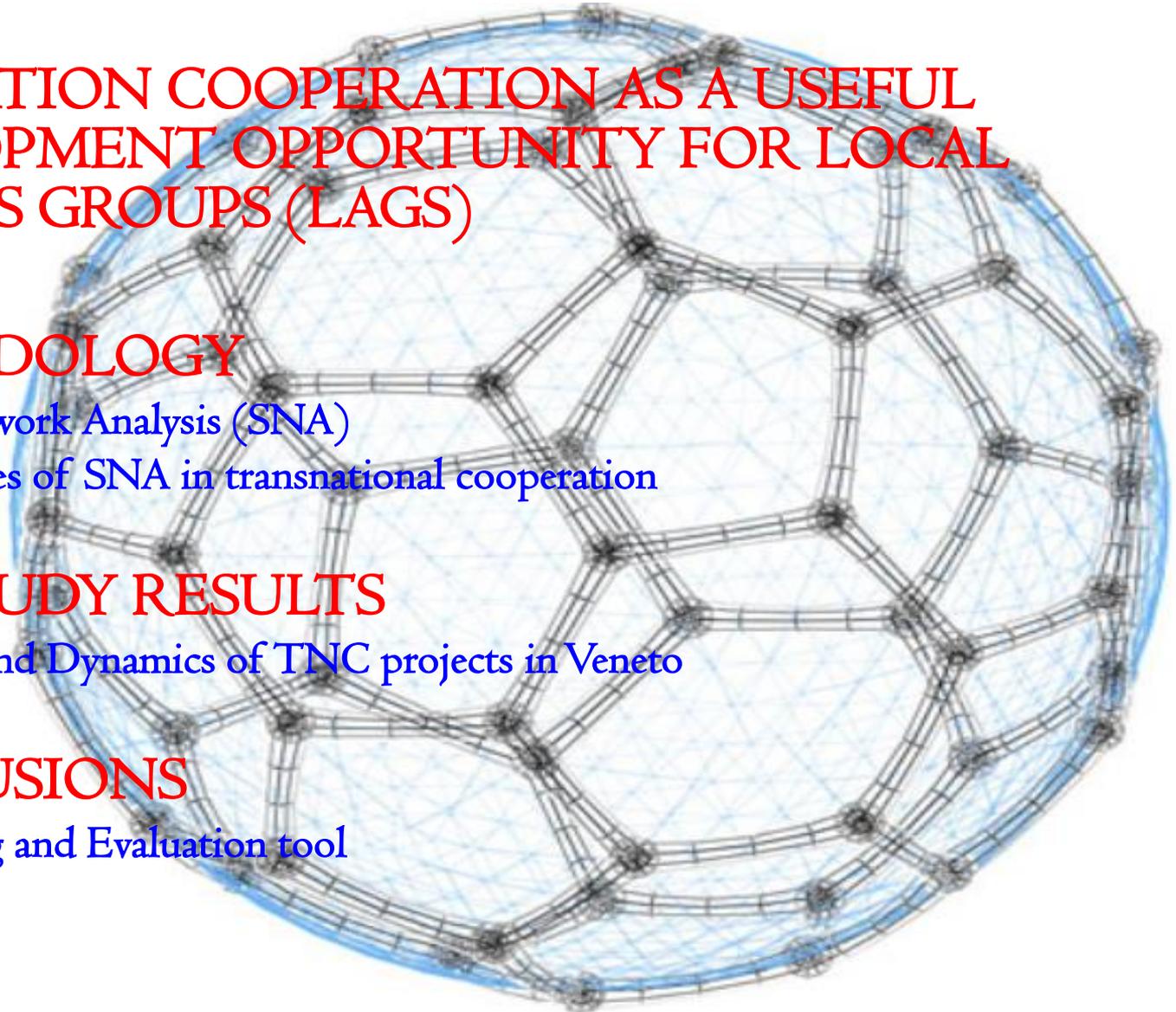
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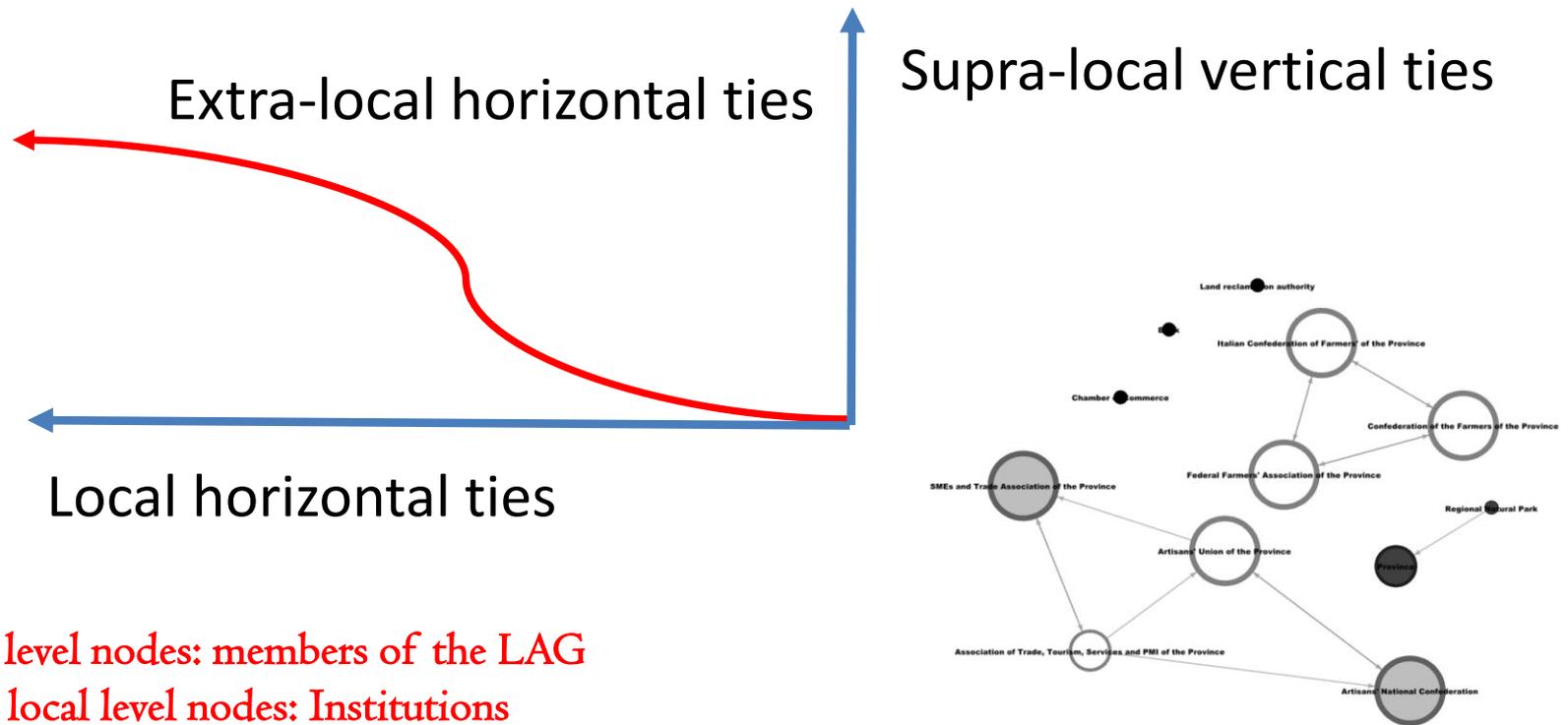
- **TRANSNATIONAL COOPERATION AS A USEFUL DEVELOPMENT OPPORTUNITY FOR LOCAL ACTIONS GROUPS (LAGS)**
- **METHODOLOGY**
 - Social Network Analysis (SNA)
 - New indexes of SNA in transnational cooperation
- **CASE STUDY RESULTS**
 - Structure and Dynamics of TNC projects in Veneto
- **CONCLUSIONS**
 - Monitoring and Evaluation tool



RURAL WEB

THE NETWORK OF THE LAGS

The network is formed by relations developed on horizontal and vertical levels.



Local level nodes: members of the LAG

Supra local level nodes: Institutions

Extra-local level nodes: other LAGs from other territories.

ADVANTAGES OF TRANS-NATIONAL COOPERATION

Co-operation

Advantage of similarity

(Ray, 2001)

Advantage of complementarity

(Ray, 2001; Pasquinelli, 2013)

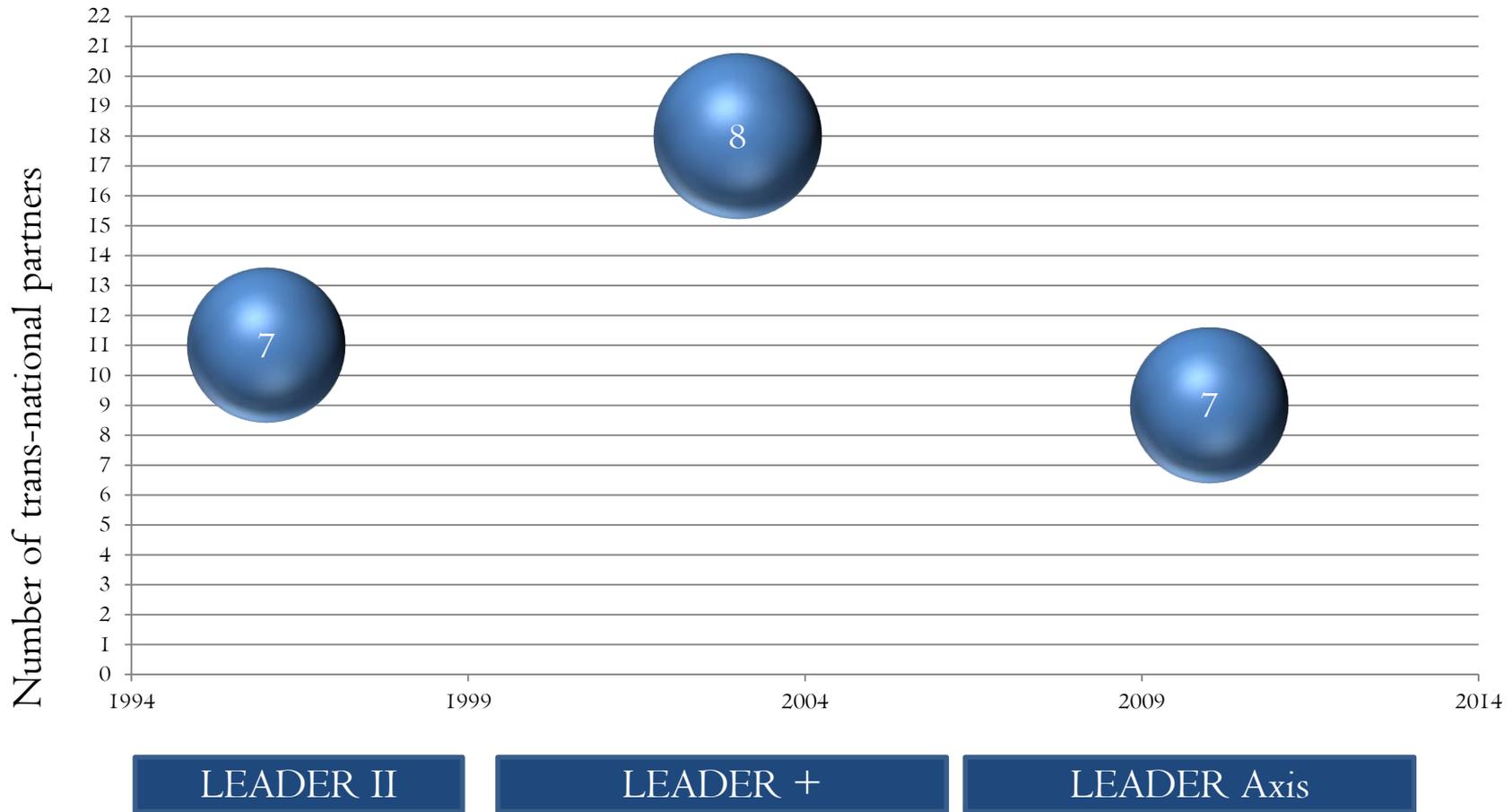
Advantage to reach critical mass

(Ray, 2001)

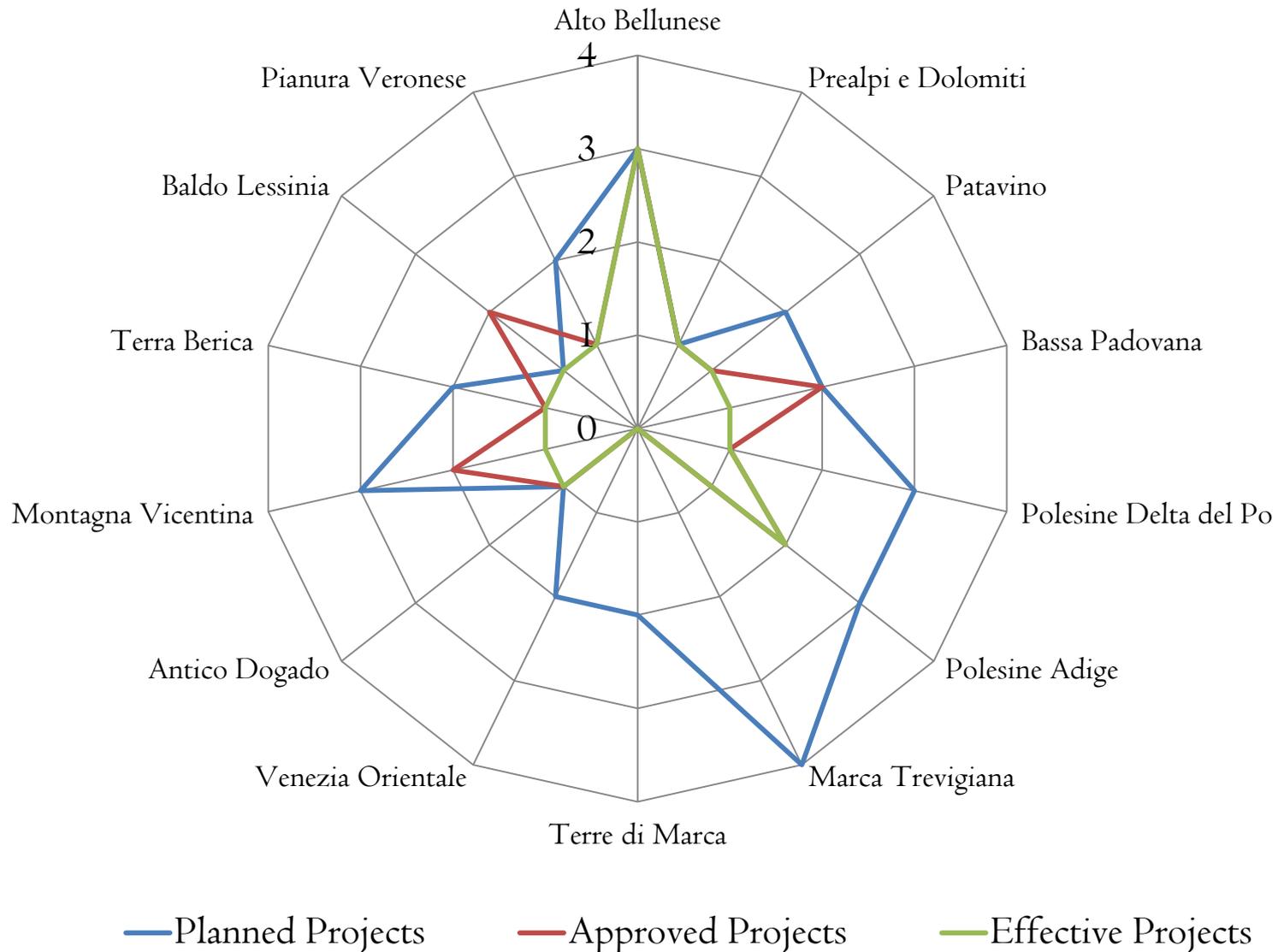
The transnational and inter-territorial cooperation is a way to ***enlarge LAGs network*** in order to be integrated in the supra-local system, and to ***realize social and economic benefits***.

(Esparcia, 2014; Saxena et al., 2007; Ray, 2001 Aral and Van Alstyne, 2007; Borgatti and Foster 2003; Burt, 2002)

NUMBER OF TRANS-NATIONAL COOPERATION PROJECTS OF LAGS IN VENETO (2007-2013)



LAGs' TRANS-NATIONAL COOPERATION in VENETO (2007-2013)



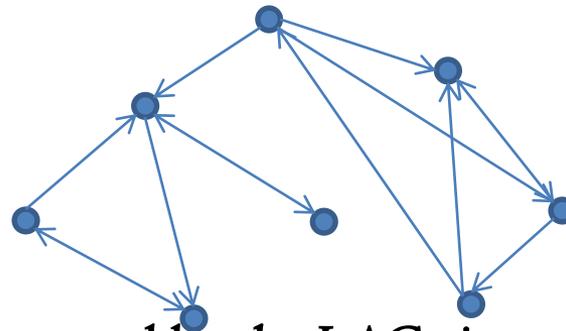
NETWORK ANALYSIS OF LAGS TRANSNATIONAL COOPERATION PROJECTS: CLASSICAL INDEXES

Why network analysis



It studies the relations within a **network of actors** (nodes), to obtain information on the nodes and their **interactions**, to understand which are the **resources/information** important for them and how do they **exchange** them. (Borgatti, Foster, 2003, Scott, 1991, Wellman, 1998)

Size and Degree
Density
Diameter
Clustering Coefficient



Degree Centrality
Betweenness Centrality
Closeness Centrality

Focus on: network created by the LAGs in realizing TNC projects

TRANSNATIONAL DENSITY INDEX REFERRED TO THE NETWORK (1.4)

	Regional LAGs	National LAGs	Transnational LAGs
Regional LAGs	D _{rr}	D _{rn}	D _{rt}
National LAGs		D _{nn}	D _{nt}
Transnational LAGs			D _{tt}

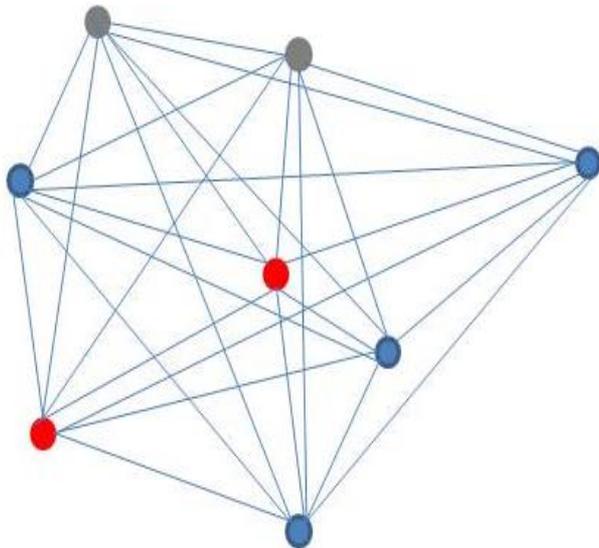
$$density = \frac{tot(n)}{\left[\frac{N(N-1)}{2} \right]} = \frac{D_{rr} * P_{rr} + D_{nn} * P_{nn} + D_{rn} * P_{rn} + D_{rt} * P_{rt} + D_{nt} * P_{nt} + D_{tt} * P_{tt}}{\left[\frac{N(N-1)}{2} \right]}$$

tot(n): number of effective ties of the network
 N: number of nodes of the network

<i>Regional density (D_{rr})</i>	Proportion of the ties among regional nodes that are present in the network (rr(n)) compared to all the ties that could be present among regional nodes (P _{rr}). Where $P_{rr} = \frac{R(R-1)}{2}$ and R is the number of regional nodes of the network.
<i>National density (D_{nn})</i>	Proportion of the ties among other national nodes that are present in the network compared to all the ties that could be present among other national nodes (P _{nn}). Where $P_{nn} = \frac{Na(Na-1)}{2}$ and Na is the number of national nodes of the network.
<i>Transnational density (D_{tt})</i>	Proportion of the ties among transnational nodes that are present in the network compared to all the ties that could be present among transnational nodes (P _{tt}). Where $P_{tt} = \frac{T(T-1)}{2}$ and T is the number of transnational nodes of the network.
<i>Regional -national density (D_{rn})</i>	Proportion of the ties among regional nodes and national nodes that are present in the network compared to all the ties that could be present among regional and national nodes (P _{rn}). Where $P_{rn} = R * Na$.
<i>National-transnational density (D_{nt})</i>	Proportion of the ties among national nodes and transnational nodes that are present in the network compared to all the ties that could be present among national and transnational nodes (P _{nt}). Where $P_{nt} = Na * T$.
<i>Regional-transnational density (D_{rt})</i>	Proportion of the ties among regional nodes and transnational nodes that are present in the network compared to all the ties that could be present among regional and transnational nodes (P _{rn}). Where $P_{rt} = R * T$.

TRANSNATIONAL DENSITY INDEX REFERRED TO THE NETWORK (2.4)

Decomposed index of network density

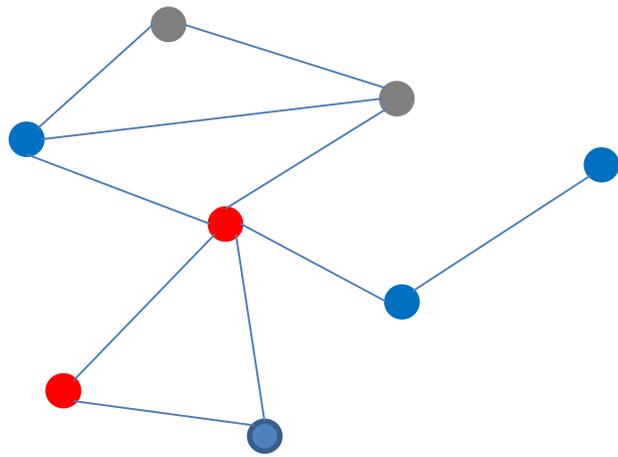


Regional LAGs Trans-national LAGs National LAGs

● ● ●

Decomposed index of density	LEADER II	LEADER +	LEADER Axis
Regional density	0.583	0.067	0.327
National density	0.836	0.444	0.571
Transnational density	0.073	0.221	0.056
Regional-national density	0.754	0.185	0.091
National-transnational density	0.282	0.124	0.222
Regional-transnational density	0.394	0.186	0.172
NETWORK DENSITY	0.533	0.192	0,204

% OF “X TYPE” ACTUAL RELATIONS OVER THE TOTAL ACTUAL RELATIONS OF THE NETWORK (3.4)

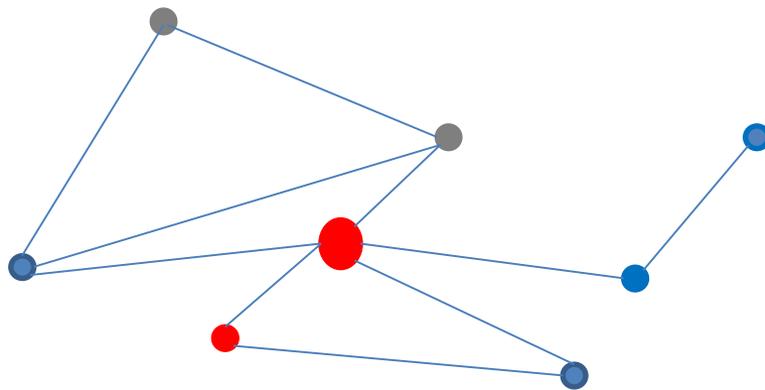


- Regional LAGs
- Trans-national LAGs
- National (non Regional) LAGs

Proportion of different types of ties	LEADER II	LEADER +	LEADER Axis
Regional/Total	5.3	1.1	23.4
National/Total	36.2	16.8	20.8
Transnational/Total	1.0	31.6	2.6
Regional–national/Total	32.7	10.5	10.4
National-transnational/Total	14.9	20.0	20.8
Regional-transnational/Total	9.9	20.0	22.1

TRANSNATIONAL CENTRALITY INDEX (REFERRED TO THE NODE) (4.4.)

- The transnational dimension can be analyzed also through transnational centrality (tc), calculating the total number of transnational relations of the specific node



$t(n)$: number of trans-national relations of the node

N : number of nodes of the network

● Regional LAGs ● Trans-national LAGs ● National (non Regional) LAGs

LEADER II: ANALYSIS OF THE STRUCTURE OF TNC PROJECTS NETWORK IN VENETO

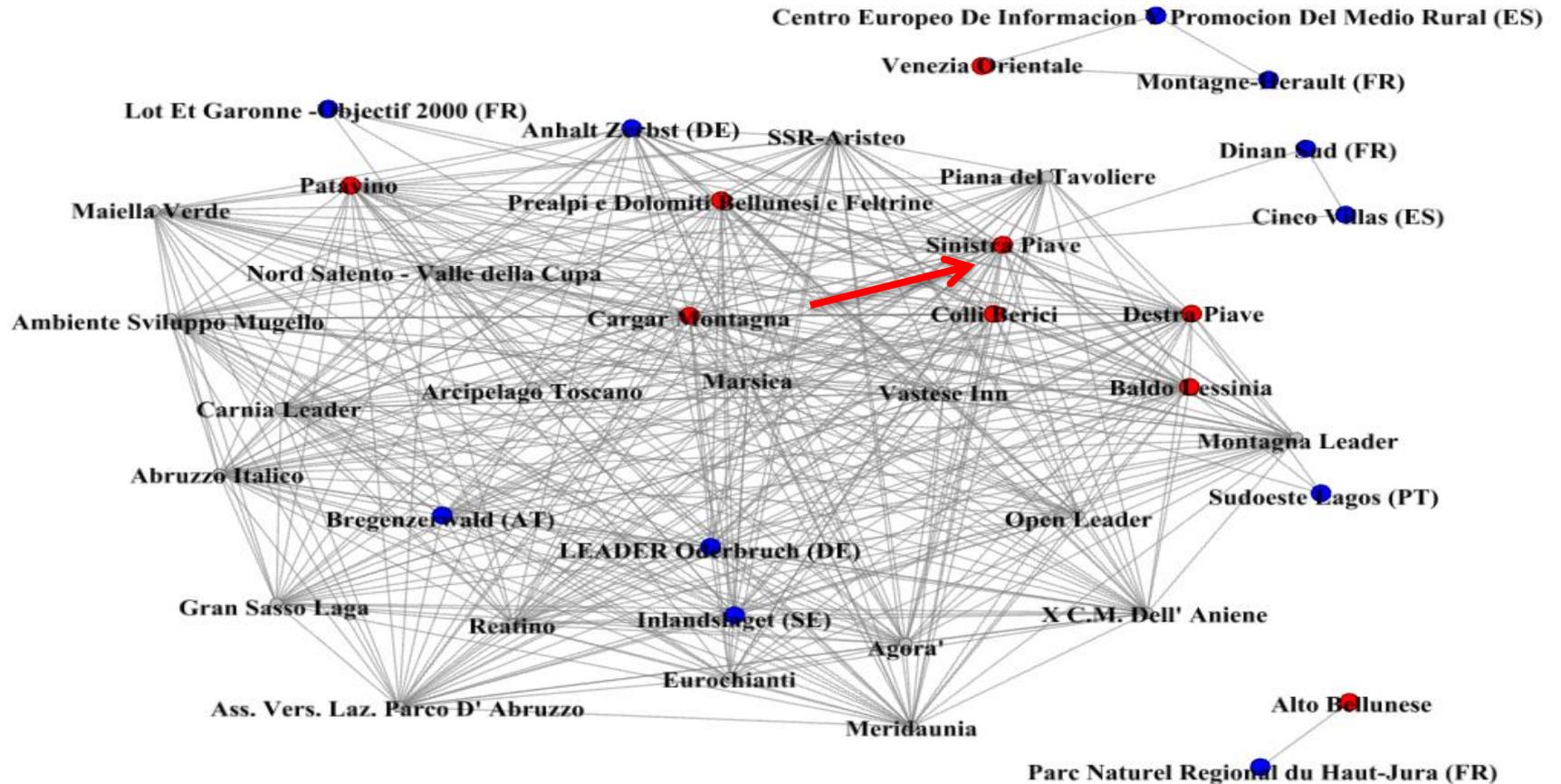
Veneto's LAGs



Trans-national LAGs



Italian (noT Veneto's) LAGs



LEADER +: ANALYSIS OF THE STRUCTURE OF TNC PROJECTS NETWORK IN VENETO

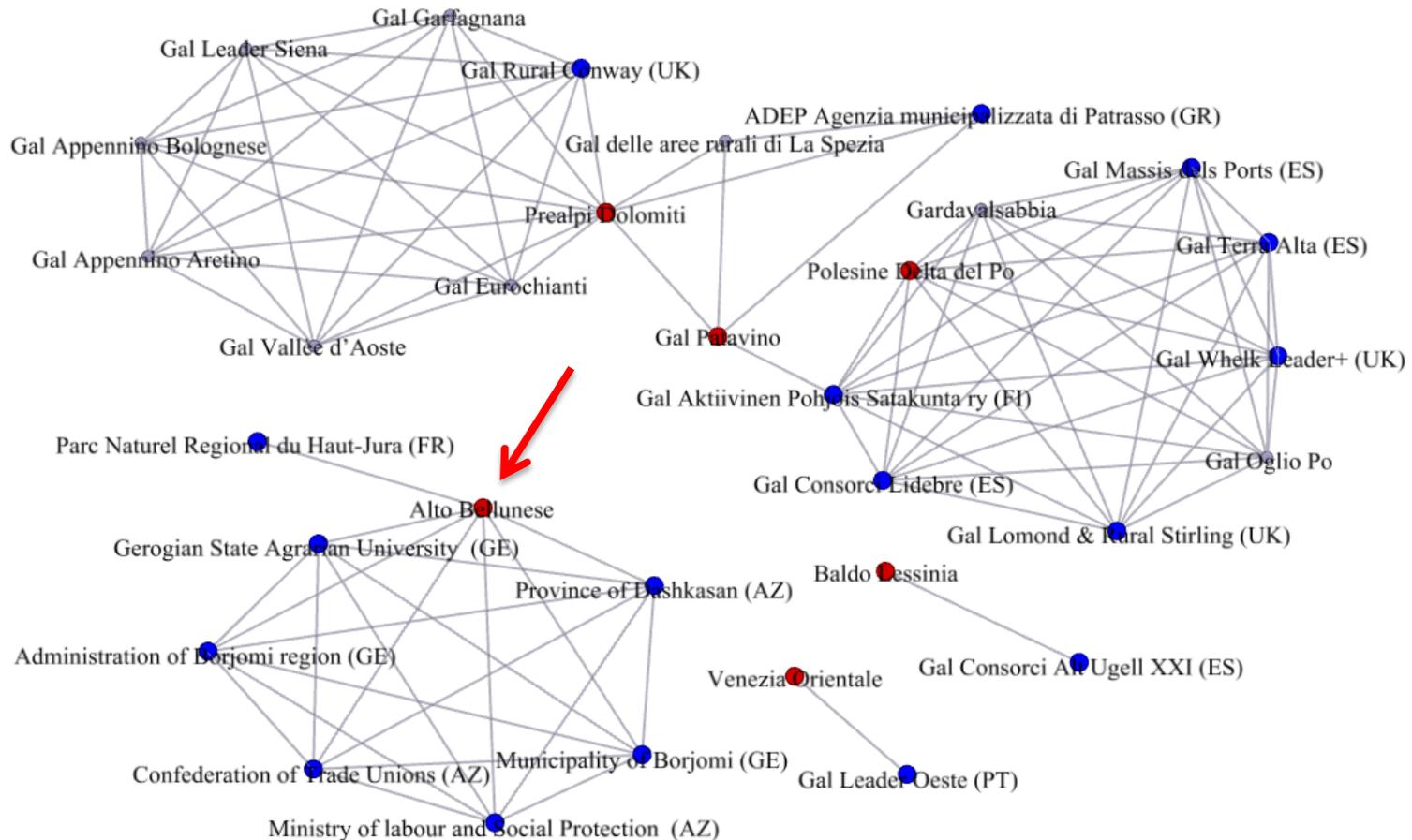
Veneto's LAGs



Trans-national LAGs



Italian (non Veneto's) LAGs



LEADER AXIS: ANALYSIS OF THE STRUCTURE OF TNC PROJECTS NETWORK IN VENETO

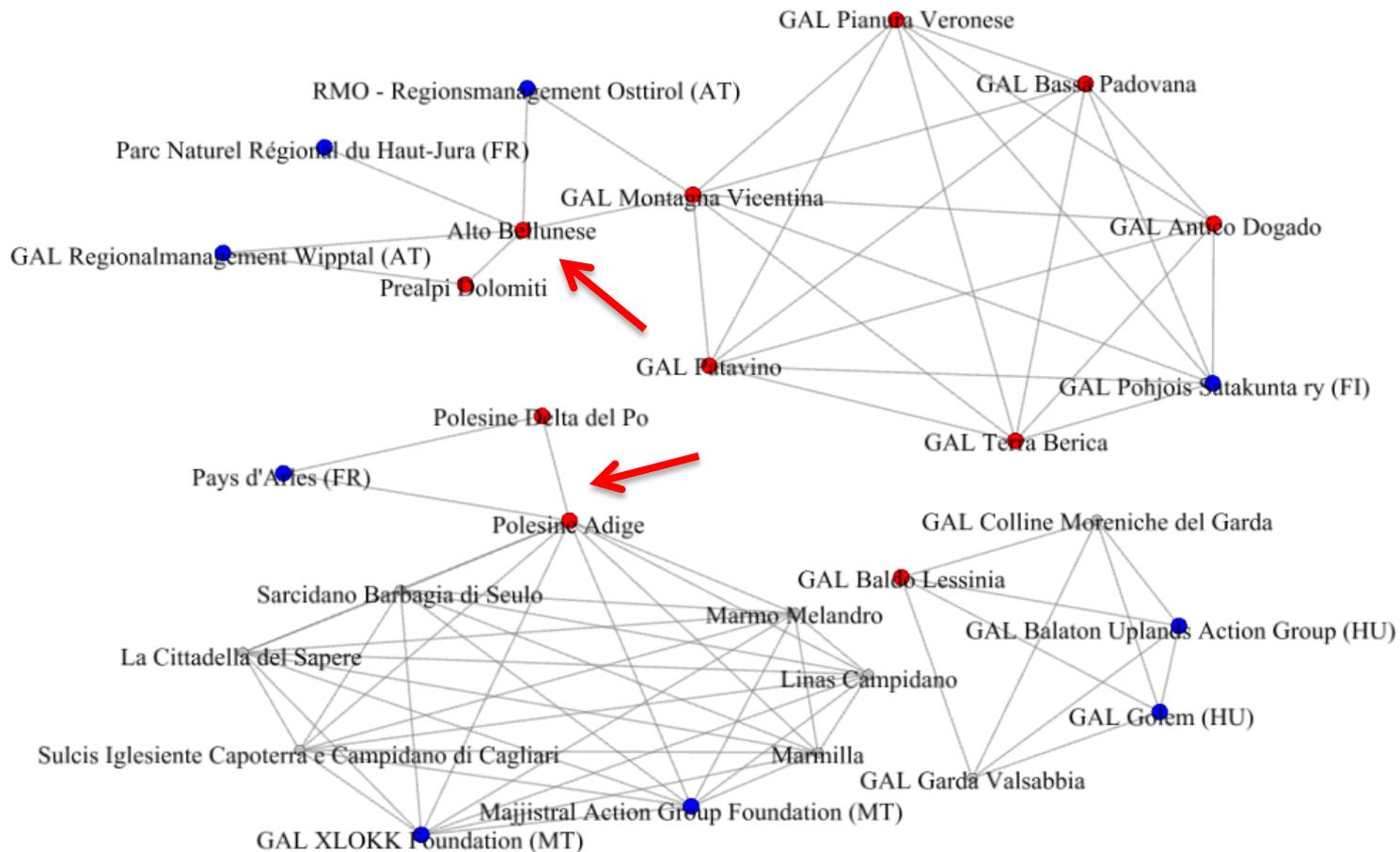
Veneto's LAGs



Trans-national LAGs



Italian (non Veneto's) LAGs

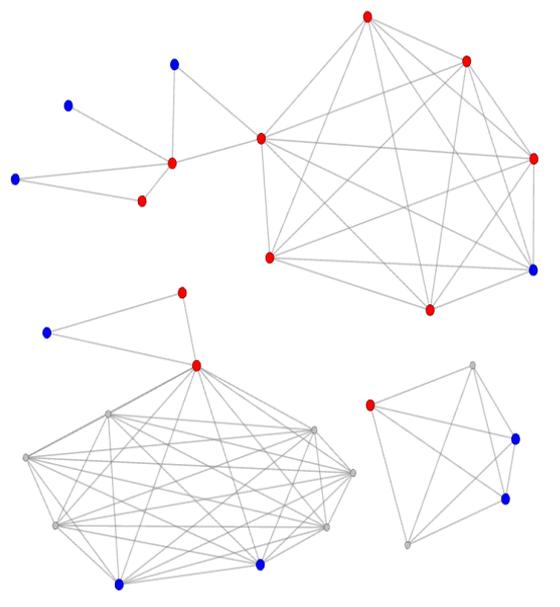
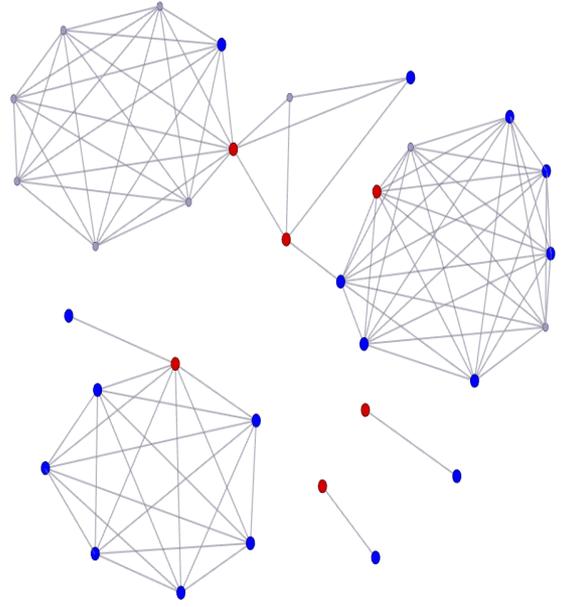
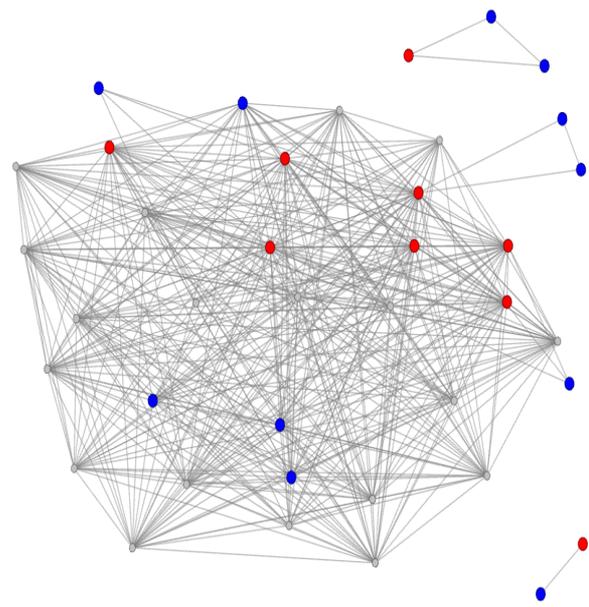


DYNAMICS OF TNC PROJECTS NETWORK IN VENETO

● Veneto's LAGs

● Trans-national LAGs

● Italian (non Veneto's) LAGs



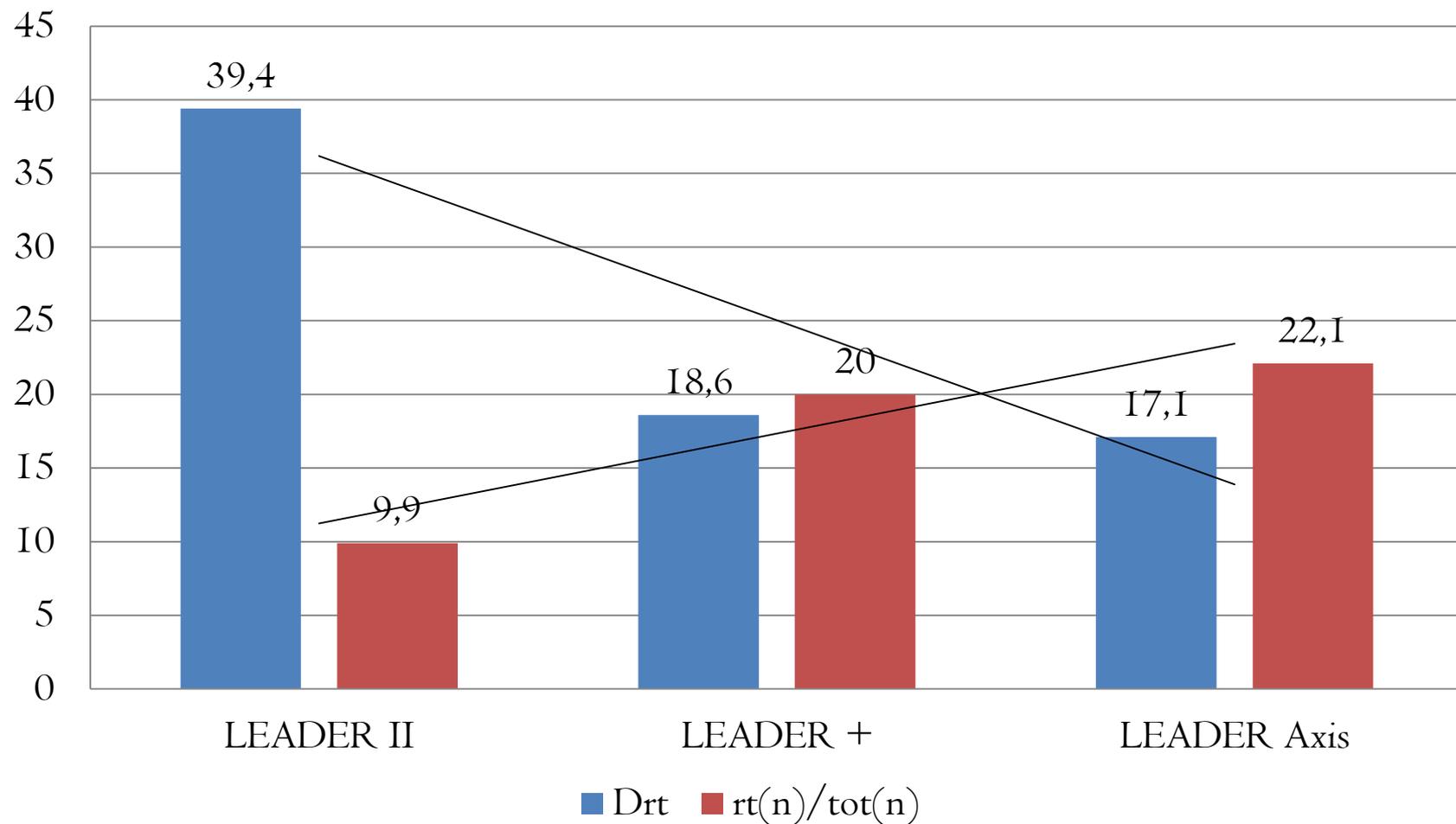
LEADER II

LEADER +

LEADER Axis



ANALYSIS OF THE DYNAMICS OF TNC PROJECTS NETWORK IN VENETO



CONCLUSIONS

- **Advantages of transnational cooperation:** the improvement of competitiveness, the pooling of expertise and know-how, the promotion of innovation by sharing best practices and new ideas, and the enhancement of territorial identity, '**similarity**' and '**complementarity**' (Esparcia, 2014; Dwyer, 2013; Ray, 2006, 2001; Pasquinelli, 2013).
- **Social Network Analysis:** evaluation method of effectiveness and efficiency in terms of resources flows for TNC projects. It can evaluate the whole **network**, the different types of **relations**, the different **nodes**.
- **Possible future researches:**
 - Integration of qualitative analysis.
 - Integrated study of inter-territorial and transnational projects
 - Link the data with the socio-economic performance of the network and of the single LAG.