



Unione europea
Fondo sociale europeo



The Role of the Entrepreneurial Region in Supporting Socio-Institutional Changes during Structural Change in the Economy

Arnault Morisson¹² & Eva Panetti³

*¹PAU Department, Mediterranean University of Reggio Calabria,
Reggio Calabria, 89124, Italy
E-mail: arnault.morisson@unirc.it*

*²Human Geography and Planning, Utrecht University, The Netherlands
E-mail: a.morisson@uu.nl*

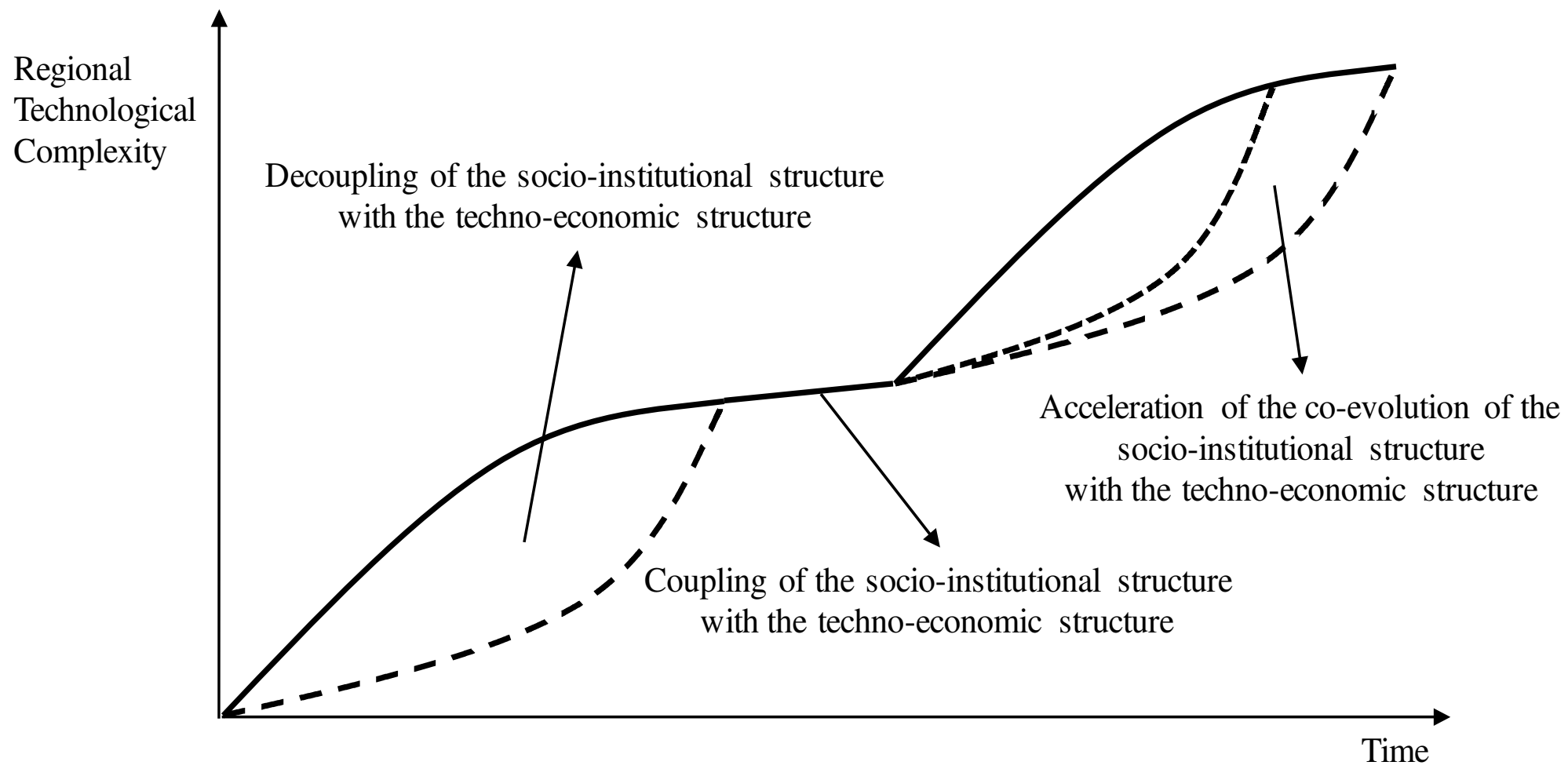
*³Institute of Studies on Mediterranean Societies (ISSM); National Research Council (CNR); Naples, ITALY
E-mail: eva.panetti@uniparthenope.it*

- EEG and RIS investigate the causes of Structural Change (Asheim, Boschma, & Cooke, 2011; Neffke, Henning, & Boschma, 2011; Tödting & Trippel, 2018).
- Neo-Schumpeterian growth models (Aghion & Howitt, 1990).
- What about the consequences of Structural Change on the Socio-Institutional Structure (formal and informal institutional and organizational structure)?
- Inertia of the Socio-Institutional structure compared to the techno-economic structure creates a period of transitional failure (Perez, 2004, 2010).
- From transition studies we know that structural change is embedded in larger structures (Geels, 2005; Geels & Schot, 2007).
- Agents of Structural Change are important to support new technological paths (Chlebna & Simmie, 2018; Neffke, Henning, & Boschma, 2011).

BACKGROUND

TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------

BACKGROUND



TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	-------------------	------------	-------------	------------	----------	-------------	-------------

MOTIVATION

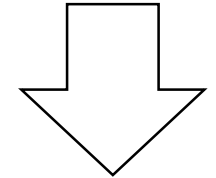
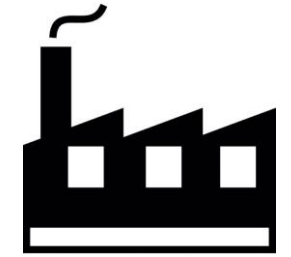
This article explores the co-evolution of the socio-institutional structure during a period of structural change in the regional economy. More precisely, we examine the role of Ruta N, the instrument of the entrepreneurial region in Medellin (Colombia), in accelerating the co-evolution of the socio-institutional structure with the novel techno-economic structure.

TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	-------------------	-------------	------------	----------	-------------	-------------

CASE SELECTED



Regional Innovation Agency



TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------

SINGLE CASE-STUDY:



THREE SOURCES OF DATA:



76 Semi-Structured Interviews



Secondary Data



Observations

ANALYSIS:



Framework



Triangulation



Pattern Recognition

RELIABILITY AND VALIDITY:



Reliable



Internal Validity



Construct Validity



External Validity

TITLE

BACKGROUND

MOTIVATION

METHODOLOGY

CASE-STUDY

FINDINGS

CONCLUSIONS

FUTURE WORK

SOCIO-INSTITUTIONAL CHANGES DURING STRUCTURAL CHANGE IN THE ECONOMY

- Mayors Fajardo (2004-2007), Salazar (2008-2011), and Gaviria (2012-2015) conducted structural reforms in education, social urbanism, social inclusion, and innovation. The Mayors were back by the *Grupo Empresarial Antioqueño* (GEA).
- The GEA is a powerful Keiretsu-like conglomerate that represents 80% of the city's GDP and 8% of the national GDP.
- In 2009, Ruta N, a regional innovation agency, was created to support Medellín's transformation from a industrial into a knowledge city. Ruta N has received support in the definition of its mission and model from Proantioquia, the GEA's unofficial philanthropic organization.

CASE-STUDY

	2002	2009	2015	Percentage Change (2002-2015)
Population in Medellín	2 129 874	2 317 336	2 464 322	15,7
Unemployment Rate	16,7	15,7	9,0	-45,9
Poverty Rate	36,1	23,9	14,3	-60,4
GINI Index	0,55	0,53	0,49	-10,9
Homicide Rate per 100 000 inhabitants	177	94	20	-88,7

TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------

SOCIO-INSTITUTIONAL CHANGES DURING STRUCTURAL CHANGE IN THE ECONOMY

Indicators	Regions	2001	2009	2016	Difference in percentage (2001-2016)	Sectors	2001	2009	2017	Absolute employment difference in percentage (2001-2017)	Relative difference in employment in percentage (2001-2017)
R&D spending as percentage of GDP	Antioquia	0,26	0,38	0,57	119,2	Commercial	318 912	444 444	519 470	62,89	8,71
	Bogotá D. C.	0,23	0,32	0,35	52,2	Service	284 846	311 688	371 774	30,52	-12,89
	Valle del Cauca	0,1	0,12	0,15	50,0	Manufacturing	326 884	324 268	345 710	5,76	-29,42
	Colombia	0,13	0,19	0,27	107,7	Real-Estate	85 284	153 476	212 675	149,37	66,43
STI spending as percentage of GDP	Antioquia	0,47	0,74	1,24	163,8	Transportation	84 680	116 476	159 099	87,88	25,39
	Bogotá D. C.	0,63	0,91	1,05	66,7	Construction	58 467	81 844	130 139	122,58	48,55
	Valle del Cauca	0,41	0,32	0,45	9,8	Financial	28 388	25 900	41 992	47,92	-1,28
	Colombia	0,34	0,45	0,71	108,8	Agricultural	16 428	13 468	16 109	-1,95	-34,56
Number of local patents registered	Antioquia	6	24	124	1966,7	Energy	2 899	5 328	9 231	218,40	112,50
	Bogotá D. C.	47	63	189	302,1	Mining	846	2 812	3 077	263,88	142,86
	Valle del Cauca	8	7	46	475,0	Other Sectors	483	296	724	49,83	0,00
	Colombia	73	126	545	646,6	Total Number of Employees	1 208 117	1 480 000	1 810 000	49,83	49,83
Number of Trademarks registered	Antioquia	1404	2780	3143	123,9						
	Bogotá D. C.	4047	6733	6639	64,0						
	Valle del Cauca	883	1398	1397	58,2						
	Colombia	16216	22224	27356	68,7						

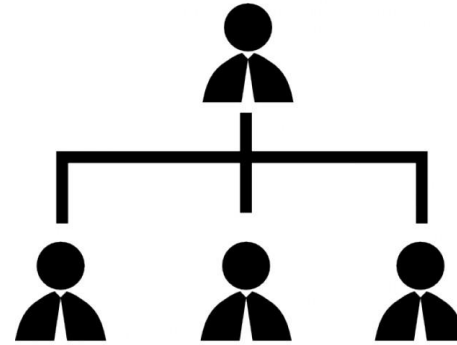
TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------



SOCIAL STRUCTURE

The innovation culture working area aims to foster in “the civil society specific attitudes towards innovation.”

“for the MIT faculty and students, the world is a village. For the Paisas, this village is the world.”



ORGANIZATIONAL STRUCTURE

“We looked at the different innovation indicators of the OECD, we saw the gap between Medellin and the different countries of the OECD. We won’t close the gap by creating a lot of programs but by giving the responsibility to others, so the Great Pact for the Innovation was like a symbol.”



INSTITUTIONAL STRUCTURE

“In the Innovation Laboratory for Government, we want to have the entities of the local government, Secretaries, and decentralized entities, to start thinking about innovation. Citizens often perceive the government as a very archaic and massive thing.”

TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------

SOCIO-INSTITUTIONAL CHANGES DURING STRUCTURAL CHANGE IN THE ECONOMY



SOCIEDAD

INSPIRAMOS A NUESTROS JOVENES A TRAVES DE LA CIENCIA, LA TECNOLOGIA Y LA INNOVACION USANDO JUEGOS Y METODOLOGIAS DIDACTICAS



TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	FINDINGS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	----------	-------------	-------------

2009

2018

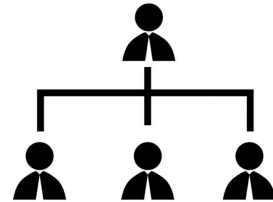
Social
Structure



“There were mental barriers in Medellin for the innovation process to take place, such as risk aversion, status quo, and norms hindering the creation of startups and research and development projects”.

“The residents of Medellin have started to understand the power of innovation, the strategic importance of innovation. It has allowed to internally position the topic of innovation”.

Organizational
Structure



“Private companies are now willing to take risks with entrepreneurs, which was not the case 10 years ago. When we were doing courses in business models 10 years ago, the entrepreneurs came with very traditional business models” .

“In 2009 and 2010, these large companies [from the GEA] didn't have a department in charge of innovation but today all of them have one”.

Institutional
Structure



“In the beginning, Ruta N was conceived as an intermediary institution working with actors of the system, the City of Medellin, CTA, Chamber of Commerce, CREAME, Parque E to strengthen them in order for them to operate the programs”.

“Ruta N generated a lot of conflicts between the different actors, nothing alarming, but a lack of coordination and a lot of rivalities between the different actors in the innovation ecosystem”.

FINDINGS

- Ruta N was created as an entrepreneurial regional innovation agency with significant funding, a wide mandate, and a high flexibility to transform its RIS.
- Ruta N has created programs to accelerate the co-evolution of the socio-institutional structure with the novel techno-economic paradigm. The programs to induce changes were devised by learning from regions in the knowledge core that already went through structural change in their regional economies.

CONCLUSIONS

- The socio-institutional structure has considerably evolved in the past decade. From the interviews conducted with expert stakeholders, the role of Ruta N in supporting socio-institutional change has been positive.
- Regions on the knowledge periphery that are undergoing structural change in their economies should support the acceleration of the co-evolution of the socio-institutional structure with the techno-economic structure to limit instabilities and inefficiencies resulting from structural change.

TITLE	BACKGROUND	MOTIVATION	METHODOLOGY	CASE-STUDY	RESULTS	CONCLUSIONS	FUTURE WORK
-------	------------	------------	-------------	------------	---------	-------------	-------------

FUTURE WORK

Future research should investigate the role of enablers of structural change in supporting new industrial path development.

TITLE

BACKGROUND

MOTIVATION

METHODOLOGY

CASE-STUDY

RESULTS

CONCLUSIONS

**FUTURE
WORK**

THANK YOU FOR YOUR ATTENTION!

If you have any question about the paper, please do not hesitate to contact the authors:

Arnault Morisson¹² & Eva Panetti³

*¹PAU Department, Mediterranean University of Reggio Calabria,
Reggio Calabria, 89124, Italy
E-mail: arnault.morisson@unirc.it*

*²Human Geography and Planning, Utrecht University, The Netherlands
E-mail: a.morisson@uu.nl*

*³Institute of Studies on Mediterranean Societies (ISSM); National Research Council (CNR); Naples, ITALY
E-mail: eva.panetti@uniparthenope.it*



Arnault Morisson
Eva Panetti



@arnomorisson