

Indirect determinism

“Looking at the cognitive attitude of parsimony, culturally inculcated by operating on cognition with Occam’s razor, there are visible only the direct effects of a cause, or at most those of other collateral causes. The indirect effects of an explicit cause are, however, neglected.”

The paradigm of the organism, whose pliancy on the knowledge model for complexity is much easier to understand, reveals surprising contents in determinism.

Together with other social sciences, psychology and anthropology most of all, Economics has proceeded to applying step by step the theory of determinism in order to expose the chain of causes which would be able to justify as many of the effects as possible. Causal linking has generally become a sort of cognitive reflex, a formula to spontaneously be called upon by the common knowledge when faced with complex situations.

The explanations which Economics traditionally provides for its problems stem from this: the effect is the product of a cause or a series of causes which must be identified in order to lay the foundation for a rational behaviour. Macroeconomics came to the forefront and had an impact on the economic strategies of any nature due to its preoccupation with describing the inter-causality.

The causal mediations have turned out to be the proving grounds for the cognitive performance of Economics.

It all became absolutely problematic when, in certain periods or in special contexts which were usually defined as crises, there was an agglomeration of unexpected effects, perceived as unintentional results with distant, even unknown causes. The cognitive pattern of the linked causes has been caught off-guard. What seemed to be a formula of success to the progress of knowledge in Economics, the explanation for a cause which has its own cause and the explanation for the circular pattern of cause and effect, turned out to have exhausted its virtues when faced with today’s crisis.

Of course, it's not all about an infirmation per se of the method. Somewhat unexpectedly the method needs a change of perspective in its usage and a change in the philosophy which sustains it, because the complexity cannot be understood through causal linearity, be it shorter or longer. The causal hypostatization had to untie what could be called nodes of causes – non-linearly arranged, overlaid, under-stretched, transversal, with crisscrossed spatial conditionings, weaving a web of influences which are not exclusively direct. Meaning, simply put, that it had to become apt at describing indirect causes, with determinism having been inevitably proven multiple and the inter-conditioning no longer being explicit.

The explicative model of the causal linearity used to make the immediate goal accessible, with punctual dimensions, while also being efficient marking the guidelines of the short term and at reaching the individually centred goals. The founding of the explanation through the model of the indirect determinism reveals the macroeconomic size of the projects built on the algorithm-based long term, of the trans-sectorial strategies, of the plurivalent goals, the economic goals, the social and inter-generational goals, in functional contexts of a global type.

But what is truly provocative to the cognitive model of indirect determinism is something different: the clarification of the indirect effects of an explicit cause. The impact studies usually catalogue the effects – for instance, the effects of a policy of political economics according to the principle of proportional correlation. Looking at the cognitive attitude of parsimony, culturally inculcated by operating on cognition with Occam's razor, there are visible only the direct effects of a cause, or at most those of other collateral causes. The indirect effects of an explicit cause are, however, neglected.

It would be fair to say that in fact the perception of the problem does not exist. Only the agglomeration of the unexpected consequences in light of the crisis has awakened the interest for seeking the answers beyond the traditional formula of linear causality. The phenomenology of the consequences of the crisis belongs essentially to a radically different course in the manifestation of the causal relationship, a course configured at the intersection between the conceptualization of the discreet and the probable within the space of uncertainty. The specific expression has been passed around in the recent literature as metaphor of the *black swan*.

The univocal link between cause and effect is barely evident, or discernible. The reality of the consequences emerges mostly through non-linear causal paths, with the unfamiliar but contingent sense of determinist chaos and of fractal geometry linkage.

The determinism of unexpected effects paints a logic of rational filters which are inadequate to the traditional practice of truth validation. The explosive content of this logic holds a purpose due to the recognition of the inadequacy of the methods of practical action to the solving of complex problems. Both the multitude of unknown correlations between variables, and – especially – the indirect self-propagating influences will usually be kept away from being employed as operators into strategies. The incompleteness of the conceptualization of complex processes is a truth which is cognitively disconcerting and which makes any actional system anonymous.

The model of knowledge has stayed within the same inferential parameters employed by Euclidean geometry and by classical logic. Any cause has, in the complex 1/1 scale reality, a multitude of direct and indirect effects, which can be intermediated or not, instantaneous or delayed, positive and negative, incremental and recessive etc. The crises themselves can be defined as an agglomeration of unexpected effects, indirect, intermediated, with a recessive substantiation which is perverse by its persistency, negative through its delay, de-synchronization and propagation.

The indirect effects of a theory, philosophy, strategy or economic policy matter more than the direct, visible effects. The calculations usually reflect only the direct, measurable effects, when in reality their dimension could be dwarfed several times over by the volume of the indirect effects, of contrary movement.

As such, the model of knowledge must be loaded with the acquisitions of situational logic, which is sensitive to the dynamics of multi-conditionings within the self-learning complex systems. Their feedback manifestations which are trans-, supra- and infra-relational – themselves with differentiated courses – highlight causal nodes, not simple univocal causes. But they also highlight the unexpected effects, with a critical mass in the planes or segments of reality which are extremely different from the ones directly influenced by a causal node.

Marin Dinu

Contents

Oltenia's identity – A systemic approach of a tourism destination's universe Aurelia-Felicia Stăncioiu, Nicolae Teodorescu, Ion Pârgaru, Andreea Botoș, Anamaria-Cătălina Radu	7
Perspectives of economics – behavioural economics Paula-Elena Diacon, Gabriel-Andrei Donici, Liviu-George Maha	27
Business cycles synchronization in the European Union: truth or challenge? Cristina-Flavia Tatomir, Oana Cristina Popovici	33
Saving and economic growth: An empirical analysis for Euro area countries Elena-Adriana Andrei, Cătălin-Emilian Huidumac-Petrescu	43
Security of M-Commerce transactions Ion Ivan, Daniel Milodin, Alin Zamfiroiu	59
A model for measuring value for money in professional sports Vlad Roșca.....	77
The influence of modern epistemological streams. The case of epistemological anarchism Grigore Ioan Piroșcă	87
From a holistic approach of public policy to co-governance Luminița-Gabriela Popescu	95
Reference vectors in economic choice Teycir Abdelghani Goucha	109
The economic and communication implications of tourism in Romania Claudia Elena Paicu, Diana Andreia Hristache	119

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Oltenia's identity – A systemic approach of a tourism destination's universe

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Abstract. *The multitude of tourism products, “constructed” with a basis containing the resources of a tourism destination, on the one hand, and from the anticipation of the tourists’ needs and desires, on the other hand, is “hosted” in a complex space, which transcends the spatial and temporal coordinates. Therefore, it is necessary that the marketing specialists know and subsequently use the components of the “destination’s universe” in the laborious process of constructing tourism products with specific, authentic elements, constituting points of contact between the targeted consumer segments and the nature and culture of the destination itself. The purpose of this paper is to identify, within a quantitative research, those specific elements of the region which can “collaborate” on developing every structured tourism product, comprising both tangible and intangible elements, functional and symbolic, which can be offered to as many market segments as possible, through planned activities of destination marketing, yet entirely complying with its identity.*

Keywords: destination; touristic identity; authenticity; Oltenia.

JEL Classification: M3; L83.

REL Classification: 14F; 14G.

Introduction

With a wide range of resources, Oltenia, in terms of authenticity and identity, can be successfully represented by its balneotherapy, natural or cultural profile alike. Its balneotherapy resources materialize the most numerous mineral springs in Romania, with the possibility of treating a large number of illnesses, the natural ones allow practicing relaxation tourism, as well as sports tourism etc., and the cultural ones compose an exceptional genuine background, by the existence of the oldest monasteries in the country, with unique architectural elements, customs and traditions, unique as well; therefore, Oltenia region is segregated, yet also integrated, from a touristic point of view, in the macrodestination Romania. Thus, the main challenge for the tourism development in Oltenia destination is not represented by identifying the constitutive elements of the tourism products (this requirement being, in the present circumstances, only a starting point for the real problem of the region's tourism development), but by the decision to combine them, in order to create complex products, according to the expectations and the increasingly sophisticated desires of potential tourists. These combinations are, naturally, based on complex criteria related to the compatibility of the resources' profile in terms of the natural environment, and to the distance between the tourist attractions, in its turn necessary as a "micro-solution" in order to meet the desires of potential tourists as well as „the compatibility perceived by them”, aspect representing, to a certain extent, the object of the present study.

Conceptual framework

The combination, organization and coordination of the products and services that are offered in the destination by different suppliers, with different interests, has as a natural result the development of a unitary image; therefore, it is necessary that the elements composing this image benefit by *a marketing capital based on the principle of communicating vessels*, case in which the fulfillment of an operating economic agent's objectives enable/facilitate/equate the image improvement of other economic agents in the destination. Thus, the aggregate efforts (which involve resources, skills and capabilities submitted to various regulations and forms of organization, yet aligned in order to achieve a common purpose) lead to the "aggregate effects", in the planned tourism development area, according to the criteria of economic efficiency, sustainability and responsibility.

The image of the destination, filtered by its identity elements, represents the basis of the brand construction process; therefore, in order to develop a strong, coherent brand, it is necessary to create a structure responsible with destination marketing

so as to “increase the long-term competitiveness of the destination” (Pike, 2005, p. 39), along with the development of strategies/tactics/actions, subsumed to the same set of general and marketing objectives within the marketing planning, which takes into account all the stakeholders of the destination, including the local community.

Methodological frame

As the space of Oltenia (like the other Romanian spaces, as well), rightly considered “a system of tourism resources”, may correspond to a single developed product, the need to strengthen its components into unitary, relevant products is subsumed to the adequacy of the combination product-destination/market. Therefore, within the present research, started in 2010 and completed in 2012, it is studied, for each county of the region, the “variation of the tourist profile”, before and after the '90s, taking into account the types of tourism considered to be specific, as well as the resources (tangible and intangible) and representative tourist attractions, on a sample of 1,247 young people, aged between 18 and 24 years⁽¹⁾ (27.1% from Muntenia, 26.7% from Bucharest, 31.2% from Oltenia, 15% from Transilvania, Banat-Crișana, Bucovina, Maramureș, Moldova and Dobrogea), with higher education studies in progress. The data were processed and systematized using IBM SPSS Statistics 20.

Research results

A first objective of this research was to identify the types of tourism considered by the respondents to be specific, within a comparative analysis, before and after the '90s, to the five counties of Oltenia: Vâlcea, Gorj, Mehedinți, Dolj and Ilt.

Thus, regarding Vâlcea County, considering the most representative types of tourism, before and after the '90s (presented in a comparative manner in Table 1), on the first place is situated the leisure, recreation and rest tourism (selected by 32.2% of the respondents) – type of tourism considered to be specific to a greater extent in the current period. In spite of the multitude of balneotherapy resorts in Vâlcea County (e.g., Călimănești-Căciulata, Băile Olănești, Băile Govora) and of the indisputable uniqueness of the cure factors treating specific illnesses (e.g. Băile Govora – respiratory conditions, Băile Olănești – kidney conditions), the balneotherapy tourism is considered a specific type of tourism to a lesser extent (27.1% of the respondents); the respondents do not consider balneotherapy tourism as the most representative type of tourism neither before the '90s

(acceptable, given their age, but especially the lack/insufficiency of information/communication regarding the existence of the cure factors or their effects on health, regardless of the respondents' attitude towards health), when the balneotherapy resorts from Vâlcea County attracted a significant flow of tourists, both from Romania and abroad.

The cultural tourism, through the monasteries in Vâlcea County: Govora, Dintr-un Lemn etc.), is, according to the respondents, more "appropriate" in the current period compared to the tourism before the '90s (11.7%, compared to 8.2% of the respondents). This fact can be explained by the increased efforts from nowadays, both for creating tourism products and for "packing" them, by developing tourism packages with thematic circuits (e.g., religious circuit for the monasteries in Vâlcea County). Visiting relatives and friends is considered by a large proportion of respondents as the specific type of tourism of the county (22.4%, respectively 15.9%, before and after the '90s); the position of this type of tourism, namely the second place among the most representative types of tourism from Vâlcea County, could mean that, given the acknowledged hospitality of Romanians, in general, the motive of visiting relatives and friends is fundamental in selecting the destination, a logically justified situation, again, by the age and especially by the lack of interest in their health.

Table 1. *Comparative analysis for the specific type of tourism in Vâlcea County, by the reference period*

	Total sample	Before the '90s	– % of total column –	
			Total sample	After the '90s
<i>Basis</i>	1,247	1,247	1,47	1,247
Leisure, recreation and rest tourism	401	32.2	446	35.8
Visiting relatives and friends	279	22.4	198	15.9
Balneotherapy tourism	364	29.2	338	27.1
Cultural tourism	102	8.2	146	11.7
Business and professional motives tourism	54	4.3	80	6.4
Other	47	3.7	39	3.1

Source : statistical survey conducted by the authors.

Regarding Gorj County (Table 2), the most representative type of tourism concerns visiting relatives and friends, this option "diluting" the extraordinary cultural potential of the area, mainly represented by the "Constantin Brâncuși" ensemble, along with other cultural elements of Târgu Jiu, the cultural tourism being ranked only on the second place among the specific types of tourism of Gorj County, recording an increase of "its representation" (27.8%, respectively 31.2% of the respondents, before and after the '90s). The leisure, recreation and rest

tourism is ranked, in the case of Gorj County, on the third place for the tourism before the '90s, outperforming in the current period the visits to relatives and friends, while being nowadays considered more representative with an increase of 5% in comparison with the situation before the '90s. Balneotherapy tourism, represented by Băile Săcelu, is considered specific to Gorj County by 9.7% of the respondents, a significant percentage considering the fact that in this county there is a single balneotherapy resort, not included among the ones of national importance.

Table 2. *Comparative analysis for the specific type of tourism in Gorj County, by the reference period*

	Total sample	Before the '90s	– % of total column –	
	Total sample	Before the '90s	Total sample	After the '90s
Basis	1,247	1,247	1,247	1,247
Leisure, recreation and rest tourism	261	20.9	314	25.2
Visiting relatives and friends	383	30.7	290	23.3
Balneotherapy tourism	127	10.2	121	9.7
Cultural tourism	347	27.8	389	31.2
Business and professional motives tourism	48	3.8	69	5.5
Other	81	6.6	64	5.1

Source: statistical survey conducted by the authors.

Considering Mehedinți County (Table 3), the first place is occupied by the leisure, recreation and rest tourism (with the same percentage before the '90s and nowadays – 30.6% of the respondents), indicating the fact that, according to the respondents, the accommodation, food and leisure services are sufficiently developed so as to ensure a certain experience (perhaps justified by the nature of “limitrophe county”). After the tourism of “visits to relatives and friends” (selected by 2.1%, respectively 18.4% of the respondents, before and after the '90s), the cultural tourism (mainly represented by Drobeta-Turnu Severin city), although considered to a great extent specific to Mehedinți County, occupies only the second place, with 21.1% of the total respondents, and balneotherapy tourism (represented, as touristic potential, by Bala resort), occupying the third place, is considered less representative in the current period than in the past (15.7%, in comparison with 16.1%).

Table 3. Comparative analysis for the specific type of tourism in Mehedinți County, by the reference period

	Total sample	Before the '90s	Total sample	After the '90s
<i>Basis</i>	1,247	1,247	1,247	1,247
Leisure, recreation and rest tourism	381	30.6	381	30.6
Visiting relatives and friends	275	22.1	229	18.4
Balneotherapy tourism	201	16.1	196	15.7
Cultural tourism	240	19.2	263	21.1
Business and professional motives tourism	65	5.2	87	7.0
Other	85	6.8	91	7.2

Source: statistical survey conducted by the authors.

Regarding Dolj County (Table 4), the type of tourism considered specific by most of the respondents (26.9%) is represented by the visits to relatives and friends; although its importance is undeniable, the dimension of this type of tourism and the variation of the flow of tourists are influenced to a lesser extent by the natural and anthropogenic potential of the destination and by the destination marketing efforts, their role only pursuing to enrich/supplement the tourism experience, to influence the degree of sophistication of the tourism product, and, to some extent, the rate of return (with significant effects on tourists' satisfaction). However, since the main motivation associated to this type of tourism is not necessarily dependent on the comparative and competitive advantages of the area, the fact that the respondents (22.1%) consider it the type of tourism specific to Dolj County, it can be concluded that they do not know, or do not consider important, the natural/cultural potential of the county.

On the second place, the leisure, recreation and rest tourism is considered to be specific to a greater extent nowadays, than in the past (with 22.1%, compared to 20.2% of the respondents), followed by the cultural tourism (mainly represented by the potential of Craiova city), 18.8% of the respondents considering it to be specific to Dolj County. Important to mention is that the business and professional motives tourism, although considered specific only by 16.5% of the respondents, has recorded a much higher proportion than other counties of Oltenia (which did not exceed 7% of the respondents), nowadays, more than before the '90s (also due to the "development" tendency of this type of tourism). Thus, business tourism, although on the fourth place in the respondents' opinion referring to the specific types of tourism, is a type of tourism by means of which Dolj County differs from the other counties of Oltenia, situation which could be justified by the fact that Craiova city is perceived, on a real basis, as being the largest city in Oltenia region (hence, with the largest business potential).

Table 4. *Comparative analysis for the specific type of tourism in Dolj County, by the reference period*

	– % of total column –			
	Total sample	Before the '90s	Total sample	After the '90s
Basis	1,247	1,247	1,247	1,247
Leisure, recreation and rest tourism	252	20.2	275	22.1
Visiting relatives and friends	410	32.9	336	26.9
Balneotherapy tourism	112	9.0	103	8.3
Cultural tourism	190	15.2	234	18.8
Business and professional motives tourism	169	13.6	206	16.5
Other	114	9.1	93	7.4

Source: statistical survey conducted by the authors.

Regarding Olt County (Table 5), the leisure, recreation and rest tourism is selected by the majority of the respondents (28.6%), followed by the visits to relatives and friends (24.9%, less representative than in the past – 27.4%). Although in Olt County there are no balneotherapy resorts, representative or of national interest, the balneotherapy tourism is considered by 5% of the respondents as the specific type of tourism; this fact indicates the low level of information on the county's resources or the formation/existence of an image which does not correspond to the place identity, maybe also by the superposition of the word "Olt" over the word "Oltenia".

Table 5. *Comparative analysis for the specific type of tourism in Olt County, by the reference period*

	– % of total column –			
	Total sample	Before the '90s	Total sample	After the '90s
Basis	1,247	1,247	1,247	1,247
Leisure, recreation and rest tourism	370	29.7	356	28.6
Visiting relatives and friends	342	27.4	310	24.9
Balneotherapy tourism	179	14.4	187	15.0
Cultural tourism	151	12.1	171	13.7
Business and professional motives tourism	99	7.9	124	9.9
Other	106	8.5	99	7.9

Source: statistical survey conducted by the authors.

In the context of a relatively constant background of resources, the possible changes comprised in the comparative analysis, before and after the '90s, occur only due to the opinions (more or less founded) of the potential tourists, being necessary to find appropriate solutions, by linking/confrontation them with the consumers' needs and preferences. Similarly, in order to "validate" the possibility

of practicing these types of tourism, considered specific in the current period, they should be compared to the existing resources (or even to the destination image).

Another objective of the research has been to determine the sources of information on the considered types of tourism from each county of Oltenia, to which the respondents appeal. The most important sources of information for the tourism before the '90s, for all counties of Oltenia (Table 6), are the family, the friends, the Internet and the television (with percentages between 17.6% and 32.9%). It should be noted that, for the situation before the '90s, the Internet is considered a more important source of information than the influence of friends, in the case of Mehedinți, Dolj and Olt counties (23.9%, 22.1%, respectively 23.7%). Inexplicable is, however, the respondents' opinion according to which, for the same period, books, newspapers and even the radio (impersonal sources) have not represented important sources of information, although their degree of spreading was much more significant than the one of the Internet.

Table 6. Sources of information for the tourism from each county of Oltenia, before the '90s

– % of total column, multiple answers –

	Vâlcea	Gorj	Mehedinți	Dolj	Olt
Family	32.9	26.7	25.8	24.1	26.4
Friends	24.2	20.8	18.7	20.3	20.8
Internet	21.1	20.9	23.9	22.1	23.7
Television	19.4	18.2	18.4	17.6	18.9
Books	12.8	11.3	12.0	8.1	10.3
Newspapers	11.1	11.1	10.1	9.0	9.5
Magazines	10.7	10.0	7.8	7.8	7.6
Radio	6.0	5.4	5.8	5.7	4.1
Brochures	5.6	5.8	6.1	4.5	4.8
Films	2.7	2.3	2.9	1.8	3.4
Blogs, social media	2.4	2.6	2.3	3.2	3.3
Other	4.5	6.0	6.6	6.3	5.9
Total	1,247	1,247	1,247	1,247	1,247

Source: statistical survey conducted by the authors.

As far as the tourism after the '90s is concerned (Table 7), there are considered, as important sources of information, the family, the friends, the Internet and the television (with percentages between 18.8% and 25.6%). While, in the past, the main source of information (for all counties of Oltenia) was represented by family, nowadays the Internet occupies the first place (with percentages between 33.4% and 36.6%), followed by friends, for Dolj and Olt counties. However, given the Internet's expansion and influence on young people, the fact that blogs and social media do not represent nowadays important sources of information for

the counties of Oltenia indicates a possible lack of use of these means of promotion/communication by the supporters in the region.

Table 7. Sources of information for the tourism from each county of Oltenia, after the '90s

– % of total column, multiple answers –

	Vâlcea	Gorj	Mehedinți	Dolj	Olt
Family	25.6	21.8	20.8	19.5	21.7
Friends	26.5	21.7	20.5	22.0	23.4
Internet	36.6	33.4	35.3	34.9	35.4
Television	22.0	20.4	20.0	18.8	19.4
Books	8.9	7.9	7.7	5.8	7.3
Newspapers	9.6	8.3	7.1	6.5	6.5
Magazines	11.1	9.9	8.3	7.1	7.1
Radio	5.2	6.2	5.8	5.5	5.3
Brochures	6.4	7.1	7.1	4.7	5.8
Films	1.9	2.7	1.8	1.6	2.0
Blogs, social media	6.4	5.1	5.5	4.8	5.3
Other	3.6	3.9	4.2	4.8	4.7
Total	1,247	1,247	1,247	1,247	1,247

Source: statistical survey conducted by the authors.

In order to “materialize” the tourism products based on the types of tourism identified as being specific to each county of Oltenia, the respondents were asked to mention the main three attractions for each county, in part. Analyzing the first ten attractions for each county, depending on the frequency of occurrence, there are considered the most representative, in Vâlcea County, Băile Olănești (mentioned by 149 respondents), followed by Cozia Monastery (136 respondents), Călimănești (125 respondents), Băile Govora (108 respondents), Căciulata (81 respondents), Horezu (53 respondents), the monasteries in Vâlcea County (53 respondents), Râmnicu Vâlcea (45 respondents), Ocnele Mari (42 respondents) and Horezu Monastery (40 respondents) – Table 8. All the attractions listed by the respondents revolve around the major balneotherapy resorts (Băile Olănești, Băile Govora, Călimănești-Căciulata, Ocnele Mari), indicating the practice of balneotherapy tourism (despite being ranked the fourth, in terms of the specific type of tourism in Vâlcea County), this being easily replaced/combined (taking into account the preferences/distance between attractions/time allocated to the journey) by/to cultural tourism (especially with its religious side) – located on the third place (with cultural cities and monasteries). In addition, in terms of degree of attractiveness, Călimănești-Căciulata, Băile Olănești and Băile Govora were considered the most attractive, achieving average scores (on a scale of 1 to 5) of 4, 4.07, respectively 4.17, granted by the respondents who have visited Oltenia.

Fulfilling, according to the respondents, the criterion of representativeness, simultaneously with that of attractiveness, these three resorts, both independently and globally (in terms of their similar profile and small distance between them), constitute “the center of touristic interest”, according to the identity of Vâlcea County.

For Gorj County (Table 8), the most representative tourist attractions are, in the order of their importance, the “Poarta Sărutului” and Rânca mountain-based resort (selected by 219 respondents), the “Coloana Infinitului” (211 respondents), the “Masa Tăcerii” (197 respondents), “Constantin Brâncuși” ensemble (97 respondents), Tismana Monastery (77 respondents), Târgu Jiu (64 respondents), Muierii Cave (57 respondents), Polovragi Cave (24 respondents) and Lainici Monastery (21 respondents) – each of them recording scores of attractiveness higher than 4 (on a scale of 1 to 5). In accordance with the specific type of tourism of Gorj County, the main attractions target the cultural tourism (with Brâncuși’s sculptures in Târgu Jiu and monasteries), but also the leisure, recreation and rest tourism (with Rânca mountain-based resort).

Disconsidering Băile Herculane (wrongly considered by 62 respondents as belonging to Mehedinți County instead of Caraș-Severin), the most representative tourist attraction is represented by the Iron Gates (178 respondents), followed by the Danube Boilers (40 respondents), the Danube (37 respondents), “The Bridge of God” (35 respondents), Mehedinți Plateau (31 respondents), Decebal’s half-length portrait (28 respondents), Drobeta-Turnu Severin (27 respondents), Danube Defile, Iron Gates Museum and Traian’s Bridge (20 respondents) – Table 8. In this way, the historical elements are defined as identity elements of the county, together with those related to the Danube, all of them recording scores of attractiveness greater than 3.5 (on a scale of 1 to 5).

Craiova polarizes the first representative attractions of Dolj County by the city itself – tourism destination (99 respondents), Romanescu Park (74 respondents), the Botanical Garden and the Museum of Art (22 respondents), the Zoological Garden (16 respondents), Oltenia Museum (11 respondents), Băniei House and other museums (8 respondents) and the monasteries in the area (10 respondents), the following city, much less representative for Dolj county, from the respondents’ perspective, being Calafat (10 respondents) – Table 8. Thus, according to the respondents, the image of Dolj County is largely confined to Craiova destination, with its cultural and recreation-oriented attractions (with scores of attractiveness higher than 3, on a scale of 1 to 5) – necessary resources for the practice of leisure, recreation and rest tourism, as well as cultural tourism,

considered specific to Dolj County (on the second and third places, after the tourism of “visits to relatives and friends”).

Olt County's representative attractions, outlining its identity, are represented by Olt Valley (92 respondents) and Olt River (78 respondents) – also having the highest scores of attractiveness, the respondents also mentioning the main city, Slatina (47 respondents), Sucidava Citadel (28 respondents), Brâncoveni and Clocociov monasteries (24, respectively 11 respondents), also other monasteries (23 respondents) as representing Olt County, Ceaușescu's house (21 respondents), Olt Defile and Corabia Harbour (14 respondents) – Table 8.

Table 8. *The most representative tourist attractions, in the respondents' opinion, for the counties of Oltenia*

– % of total column, multiple answers –

	Vâlcea		Gorj		Mehedinți		Dolj		Olt	
Rank I	Băile Olănești	11.9	"Poarta Sărutului"	17.5	Iron Gates	14.2	Craiova	7.9	Olt Valley	7.3
Rank II	Cozia Monastery	10.9	"Coloana Infinitului"	16.9	Danube Boilers	3.2	Romanescu Park	5.9	Olt River	6.2
Rank III	Călimănești	10.0	"Masa Tăcerii"	15.7	The Danube	2.9	Botanical Garden	1.7	Slatina	3.7
Rank IV	Băile Govora	8.6	Brâncuși ensemble	7.7	"The Bridge of God"	2.8	Museum of Art	1.7	Sucidava Citadel	2.2
Rank V	Căciulata	6.4	Rânca	6.6	Mehedinți Plateau	2.4	Zoological Garden	1.2	Brâncoveni Monastery	1.9
Rank VI	Horezu	4.2	Tismana Monastery	6.1	Decebal's half-length portrait	2.2	Oltenia's Museum	0.8	Other monasteries	1.8
Rank VII	Monasteries	4.2	Târgu-Jiu	5.1	Drobeta-Turnu Severin	2.1	Calafat	0.8	Ceaușescu's house	1.6
Rank VIII	Râmnicu Vâlcea	3.6	Muierii Cave	4.5	Danube's Defile	1.9	Monasteries	0.8	Olt Defile	1.1
Rank IX	Ocele Mari	3.3	Polovragi Cave	1.9	Iron Gates Museum	1.6	Băniei House	0.6	Corabia Harbour	1.1
Rank X	Horezu Monastery	3.2	Lainici Monastery	1.6	Traian's Bridge	1.6	Museums	0.6	Clocociov Monastery	0.8
Total	1,247		1,247		1,247		1,247		1,247	

Source: statistical survey conducted by the authors.

Identifying the respondents who have visited Oltenia region so far is important, as it can provide clues regarding their opinion on the type of tourism specific for each of Oltenia's counties; in an affirmative case, it implies “complementing” the sources of information with past experiences. Thus, from the 1247 respondents, 40.9% of them have mentioned that they have visited Oltenia (254 of respondents from Oltenia, 118 from Bucharest, 89 from Muntenia, 19 from Moldova and 14 from Dobrogea), while 43% of them have not visited yet this region; in addition,

another 15% of the respondents stated that they have not visited Oltenia yet, but plan to undertake journeys in the future – thus representing a potential market (73 respondents from Bucharest, 59 from Muntenia, 28 from Moldova, 14 from Oltenia and 9 from Dobrogea), and 1.1% of them have never visited, neither they want to visit this region in the future (absolute non-consumers of tourism products in the region of Oltenia).

In terms of tourism products, it is necessary that the needs and desires of potential tourists become “inputs” for their construction. The time they are willing to spend in the region of Oltenia provides the “space”, necessary to be known by tourism marketing specialists, which shall be further “populated” with activities/services in accordance with the type/types of tourism chosen by the potential tourists.

The journeys appertaining to business tourism usually last a settled period of time, those concerning balneotherapy tourism being bound to fit certain “rules”, more or less subjective, depending on the purpose of the journey (e.g., recuperation, prophylaxis, relaxation), while the visits to relatives and friends may also have a duration of time according to which certain tourism activities could be determined (and not the desired activities determine the journey duration); “the unknown data”, however, from the equation of the considered types of tourism remains the journey duration in Oltenia, for a cultural purpose.

The diversity of tourism resources of Oltenia are reflected in the perception/opinion of the potential tourist, by the number of days allocated to the destination visit. Thus, the required period of time in order to visit Oltenia from a cultural point of view (Figure 1) is, for most of the respondents, a week (30.8%), while 27.9% have mentioned that they would allocate to such journey a few days, 22.9% have opted for a period longer than a week, whereas 15.1% consider that a weekend is sufficient so as to visit the cultural attractions of the region and only 3.3% wish to confine their journeys to a single day. Therefore, it can be noticed that there are three major segments (with close weights in the total of the respondents) for which tourism marketing specialists could and should create, as well as “pack”, products involving cultural journeys, sojourns or circuits, of a few days, a week or even more.

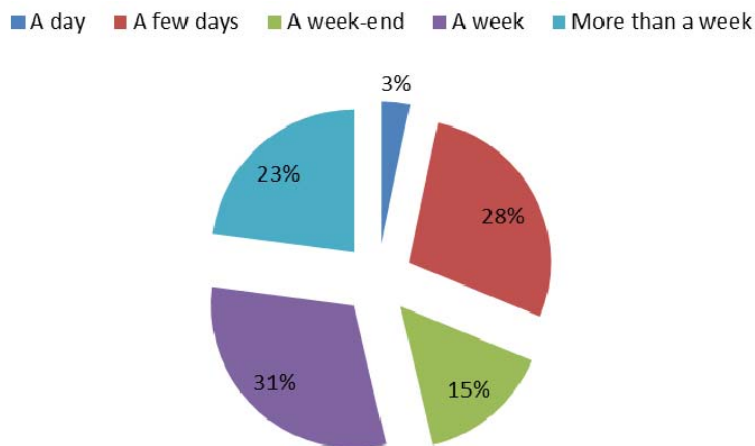


Figure 1. The period of time, considered necessary by the respondents, in order to visit Oltenia from a cultural point of view

Subsequently, it was aimed, among those who visited Oltenia, the identification of those respondents who would recommend this region to friends, as a cultural destination, according to the region's resources. Thus, it has been observed that an unexpectedly high percentage, of 77.5% of respondents who visited Oltenia, are determined to recommend this region to friends (most of them from Oltenia – 224 of the 254 respondents who visited the region), while 18.9% of them are not yet determined, and only 3.9% state that do not wish to recommend the region (Figure 2) – indicating a certain dissatisfaction regarding the consumption of the tourism product.

Regarding the recommendation of Oltenia as a balneotherapy destination, most of the respondents (61.6%) mentioned that they would recommend it, 27.6% do not know yet whether they will recommend it or not, while only 10.8% state that they would not recommend it (Figure 2). It can be observed that the intention to recommend Oltenia as a cultural destination manifests to a greater extent than the intention to recommend it as a balneotherapy destination, indicating satisfaction as a result of cultural holidays or of cultural components of holidays. Therefore, it is recommended that in the process of constructing tourism products in the region of Oltenia is used, as the main type of tourism – the cultural tourism, in combination with other types of tourism considered specific for each county in the region.

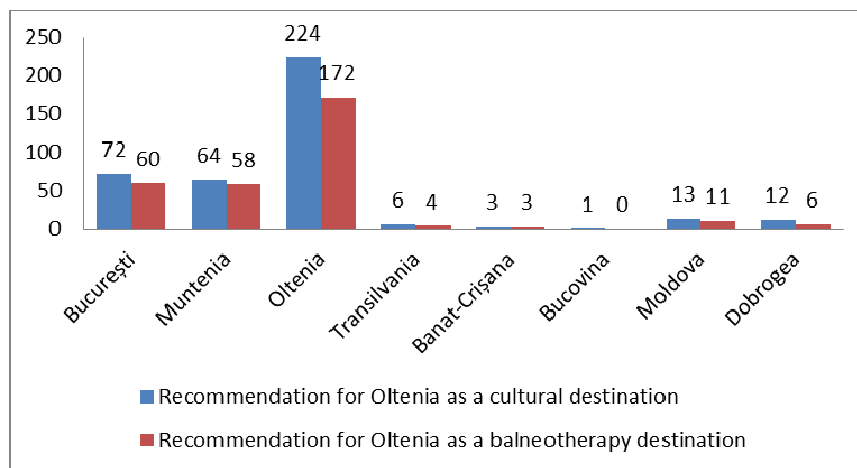


Figure 2. *Intention of recommending Oltenia as a cultural and balneotherapy destination*

Regarding the attractiveness of the five counties in Oltenia, analyzed in this research, it can be noticed that on the first place is Vâlcea County (with an average of 3.89, on a scale of 1 to 5), on the second place is Mehedinți County (3.76), Gorj county, ranked third (3.66), on the fourth place, Olt County (3.57), and on the last place, Dolj County (3.32). Thus, the presence of the most representative attractions from the most attractive counties (e.g., Băile Olănești, Băile Govora, Călimănești-Căciulata from Vâlcea County; the Iron Gates, the Danube Boilers from Mehedinți County) within the touristic circuits of Oltenia region is recommended.

A further objective of this research was to identify the opinion of young people towards various statements regarding Oltenia, measured on a scale of 1 to 10. Thus, the following were observed:

- The statement according to which Oltenia is the touristic region with the most beautiful manually woven carpets has recorded an average of 7.23, however, 35.2% of the respondents did not know any information about this statement;
- The statement according to which Oltenia is known as being the most rich region in thermal resorts has recorded an average of 6.79, however, 35.2% of the respondents did not know any information about this statement;
- The statement according to which Oltenia is the touristic region with the most numerous semi-fortified buildings (called “cule”) has recorded an average of 6.72, however, 62% of the respondents did not know any information about this statement;
- The statement according to which Oltenia is the touristic region mostly renowned for ceramics has recorded an average of 6.65, however, 40.7% of the respondents did not know any information about this statement;

- The statement according to which Oltenia is the region with the oldest monasteries in the country has recorded an average of 5.63, however, 28% of the respondents did not know any information about this statement;
- The statement according to which Oltenia is the poorest region has recorded an average of 4.21, however, 28.7% of the respondents did not know any information about this statement.

It may be ascertained that the mineral and thermal springs, as unique natural resources and superlatives of the region, are not known to a great extent, and neither are the semi-fortified buildings (“cule”), nor the ceramics – unique cultural resources of Oltenia. Therefore, increased communication is required, through all the relevant marketing channels, of the unique resources, of the superlatives, in terms of dimensions of some phenomena, in order to transform these elements of identity, unknown to a significant proportion of young people, into important elements of the region's image.

Regarding the elements which have the role of maintaining the spirit of Oltenia intact (Figure 3), the respondents have considered important the following: folklore/traditions/customs (67.5%), nature/landscape (64.7%), history (35%), atmosphere/ambient of the area (25.3%), people (24.2%), followed by religion (14.4%) and other (0.3%). Since the customs and traditions in Oltenia are considered in the highest proportion, by the respondents, as explanatory elements, illustrating the region's identity, they should be present at both functional and symbolic levels in the structure of tourism products in Oltenia, along with the natural background, represented by the landscapes of the region.

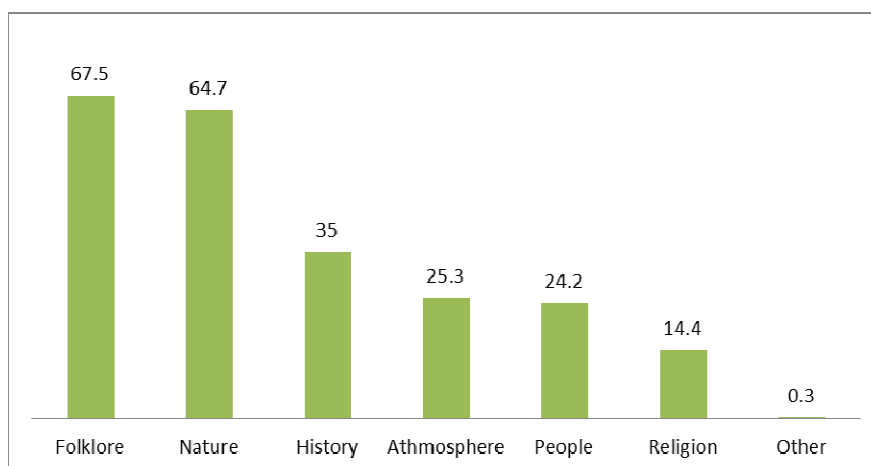


Figure 3. *Elements with the role of preserving Oltenia's spirit*

Within the traditions in the region of Oltenia, which maintain its spirit, and, thus, the place identity, it is important to study the degree of awareness of the elements which “complete” (and sometimes fundament) the touristic experience, offering specificity and uniqueness. These include the specific products, cuisine and wines of the region, providing consistency to the identity of Oltenia and tangibility to the elements that distinguish it from other regions of the country. The best known specific product of Oltenia is represented by leek (mentioned by 212 respondents), being important to also mention an ungrafted vine variety called “zaibăr” (mentioned by 132 respondents), Horezu ceramics (mentioned by 55 respondents), plum brandy called “țuică” (mentioned by 29 respondents) and a salty type of cheese called “brânză de burduf” (mentioned by 19 respondents) – Table 9. Since the respondents associate these products to Oltenia, retrieving them within the holidays in this region confers coherence to specific tourism products and a “permanent contact” with the spirit of Oltenia.

In accordance with the traditions of Oltenia, the forcemeat rolls in cabbage leaves (“sarmale”) and the specific sausages from Oltenia (“cârnați oltenești”), mentioned by 45, respectively 37 respondents, however, surpass, in terms of cuisine, the leek products, such as the leek main dish and the leek soup (mentioned by 14, respectively 12 respondents) – Table 9. Accompanying the cuisine and completing the gastronomical experience, the wine of Drăgășani is the most renowned wine, specific to Oltenia (mentioned by 76 respondents), followed by Oprișor (mentioned by 40 respondents) and Segarcea (mentioned by 31 respondents) – Table 9. Therefore, within the food services of the tourism product, but also as symbols, in its composition, these gastronomical products have the role of ensuring the specificity of Oltenia region.

As intangible elements, representing the culture of Oltenia, in order to shape the image of the region, the main renowned personalities of Oltenia and the most widespread legends have been determined. Undoubtedly, Constantin Brâncuși is the most famous personality of Oltenia (mentioned by 468 respondents). Correlated with the outstanding cultural resources of the region, Constantin Brâncuși can become a key element in shaping, illustrating, synthetising and representing the culture of Oltenia, improving, thus, the opinion concerning the practice of cultural tourism (currently on the third place in most counties). Michael the Brave and Tudor Vladimirescu (mentioned by 115, respectively 105 respondents) have the role of illustrating the history of the region, considered by 35% of the respondents an identity vector of Oltenia and Amza Pellea (mentioned by 79 respondents) expresses the spirit of the people of Oltenia, (considered to have a specific way of being by 24.2% of respondents) – Table 9. Among the

legends, elements of the region's image as well, the respondents have attributed the traditional Romanian holiday called "Dragobete" to the most renowned legend closely related to Oltenia (mentioned by 34 respondents), followed by Dochia's legend (mentioned by 21 respondents) – Table 9.

Table 9. *The most representative elements, in the respondents' opinion, for Oltenia's identity*
– % of total column, multiple answers –

	Specific products		Cuisine		Wines		Personalities		Legends/ Myths/ Stories	
1 st place	Leek	17.0	Meatrolls - "Sarmale"	3.6	Drăgășani wine	6.0	Constantin Brâncuși	37.5	"Dragobete"	2.7
2 nd place	Ungrafted vine variety called "zaibăr"	10.5	Specific sausages	2.9	Opișor	3.2	Michael the Brave	9.2	Dochia's Legend	1.6
3 rd place	Horezu ceramics	4.4	Leek main dish	1.1	Segarcea	2.4	Tudor Vladimirescu	8.4	The Bridge of God's legend	1.0
4 th place	Plum brandy called "țuică"	2.3	Leek soup	0.9	Vânu Mare	1.7	Amza Pellea	6.3	Michael the Brave's legend	0.9
5 th place	Salted cheeses called "brânză de burduf"	1.5	Polenta	0.9	Stârmina	1.6	Niculina Stoian	4.4	The Gate of Kiss legend	0.7
6 th place	Palinka	1.2	Aspic called "Piftie"	0.5	Știrbei	1.2	Nicolae Ceaușescu	4.3	The seven wonders of Caracal	0.6
7 th place	Manually woven carpets	1.1	Polenta with meatrolls	0.4	"Sâmburel de Olt"	0.9	Ecaterina Teodoroiu	3.8	Iancu Jianu	0.6
8 th place	Green watermelon called "lubenită"	0.9	Specific stew	0.4	"Dealul Viilor"	0.7	Maria Tănase	3.3	The legend of Olt River formation	0.6
9 th place	Bread baked using an iron object (bell-type) called "țest"	0.9	Dumplings with plums	0.4	"Fetească Albă"	0.7	Nicolae Titulescu	3.0	The dance of mythical creatures called "iele"	0.4
10 th place	Pies of leavened dough called "scovergi"	0.4	Polenta with cheese	0.4	Corcova	0.5	Maria Lătărețu	2.8	"Paparude"	0.4
Total	1,247		1,247		1,247		1,247		1,247	

Source: statistical survey conducted by the authors.

Regarding the means of promotion – suitable for promoting Oltenia, for all the types of tourism, tourist attractions, natural and anthropogenic resources, as well as cultural resources of the destination, it is interesting that the main means of promotion, according to the respondents, is represented by the presentations within tourism fairs and conferences (with a score of 1.3 – Figure 4). Also the Internet is a suitable option, through websites and social media, altogether with advertising clips (1.13), considering articles from specialist journals as well (1.09).

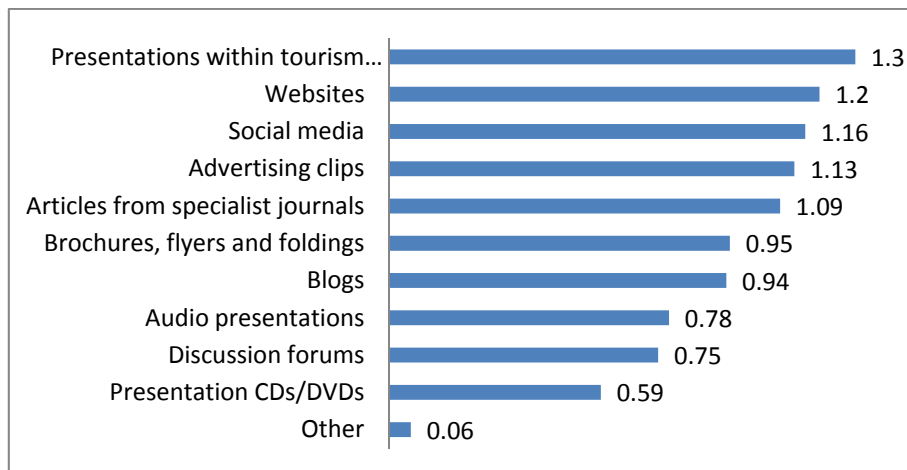


Figure 4. Means of promotion considered suitable by the respondents for promoting Oltenia

It is necessary to be noted that these five communication tools, considered appropriate, constitute a communication mix, in which communicating the elements of Oltenia's image should have a unitary nature, firstly considering elements of identity and the type of resources involved in the practice of various possible types of tourism, which can generate activities compatible only with certain communication media (e.g., the incompatibility of a detailed communication regarding the medical or therapeutical procedures regarding the balneotherapy resources in Vâlcea County in the online environment).

Limits

In order to develop tourism in a certain destination, it is necessary that such complex research is continued, and, most of all, extended, with the consideration of multiple components of the tourism products which could be constructed and provided to other market segments as well (with demographic and psychographic variables explaining certain preferences or phenomena).

In addition, a different type of organization could be proposed (e.g., by a type of tourism considered specific, such as balneotherapy, cultural tourism, visiting relatives and friends etc. which naturally "imprints" tourism activities as well), separated from the one containing the division by counties, whereas, in some cases, certain information held by respondents may not be associated with a certain county, and, therefore, could not reach to be communicated and disseminated.

Conclusions

The multitude of resources/types of resources does not implicitly facilitate the tourism development from a certain region, rather on the contrary, it requires increased marketing efforts. Therefore, tourism marketing specialists have the task of segmenting, targeting and positioning the market, i.e. to test the compatibility of the resources in order to combine them, both from the perspective of local communities and from the perspective of the potential tourists (all the more in the case of such a complex destination, like Oltenia), to track/target market segments for each tourism product, to find/position or retrieve/reposition the unique elements, all these simultaneous actions requiring coordination, organization and harmonization in a planned manner, with precise objectives, in order to efficiently and responsibly exploit the entire touristic potential of the region Oltenia.

Therefore, given that the research results show the fact that (both before and after the '90s) for neither of Oltenia's counties, none of the types of tourism is considered to be specific, at the same time, exclusive, the opinions revealing a rather fragmented distribution (either due the low level of knowledge, or due to the possibility of practicing a wide range of types of tourism); it is thus required a combination of types of tourism (e.g. leisure and cultural tourism, cultural and balneotherapy tourism), taking into account the ranking of the types of tourism that are representative for each county of Oltenia and the degree of attractiveness of each county.

Moreover, in order to foreshadow "the skeleton of the tourism product" with tourist attractions, one should take into account those which are equally considered representative (respecting the "requirements" of the destination) and attractive (respecting the "requirements" of potential tourists), the common core of the attractions representing the framework of developing various tourism activities (with distinct degrees of specificity and compatibility), leading to the creation of perceptual maps of attractions.

Permanently studying and, at the same time, carefully managing the differences between the elements of identity and the perceived elements (concerning the image) of a destination, it is assigned to the specialists the task to remove the existing dissonance, in order to avoid "supplying" the potential tourists' expectations in a wrong direction, but also to maintain an authentic background of resources of the destination, uninvaded of "extraneous" elements, which, despite having an increased capital of knowledge, can "dilute" the region's identity by associating it, without factual basis, with inadequate elements of folklore, tradition, nature and culture.

Note

- ⁽¹⁾ The questionnaires were completed by students of the faculties of Marketing, Commerce, Agricultural and Environmental Economics (from the bachelor and masters degree), promotions of 2010/2011 and 2011/2012, of the Bucharest University of Economic Studies and from the Faculty of Entrepreneurship, Engineering and Business Management of the Polytechnic University of Bucharest, whom we thank on this occasion.

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Perspectives of economics – behavioural economics

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Abstract. *The present turning point, accentuated by the crisis, has revitalized the interdisciplinary study of economics and determined the reconsideration of its fundamental bases as a social science. The economists have abandoned the traditional neoclassical sphere and have directed towards understanding the behaviour resorting to psychology and developing in this manner a new field - behavioural economics. This article examines whether this economic sub-discipline is a viable research direction and the extent to which it may increase the explanatory power of science by providing a realistic database for analysis, taking into account the complexity of the human factor.*

Keywords: behavioural economics; epistemology; neoclassical economics; homo oeconomicus, rationalism.

JEL Classification: A1, B0, D03.

REL Classification: 5K.

Introduction

In the last decades, the relatively new discipline of behavioural economics raised a series of challenges for the dominant theory, namely neoclassical economics. Although, behavioural economics has its origins in the opera of the classics and its beginnings (as a distinct area of interest) in the works of Simion (in the '60s) and Kahneman and Tversky (in the 70s), it drew an increased attention with the onset of the 2007 global financial crisis. Then, the question of whether the actual economic analyze is build on the inadequate premise of unlimited rationality became increasingly evident.

This article briefly discusses the accomplishments of behavioural economics untill now and tries to analyze if this new field of economics can be assimilated by the traditional direction of study, or it constitutes a new and distinctive one. The paper aims to present the principal themes and characteristics that constitute the background of this new economic field. Furthermore, it tries to carefully compare some principles of behavioural economics to the correspondent ones of traditional economics.

1. Background elements that supported the present momentum of behavioural economics

Lately the reconsideration of economics status was more intense than ever, not only among scientists, but also among general public (it is known the invasive character of ordinary life in economics, which is stronger than in any other social science). This was due to, primarily, the onset of the financial and economic crisis in 2007, and, secondly, the continuing need to reassess the public policies because the current century is marked by the intensification of phenomena such globalization and economic liberalization. By accepting these realities, the scientific body of economists recognized that one of the major challenges of the current period is to find ways in which economics can increase its explicative and practical basis attempting to reconcile the need for scientifically approach (which according to experts has led to, for example, an excessive utilization of the mathematical skills and abstractization) with the need for reflecting the practical reality, without losing its character of human science, whose both starting point and purpose is the human being.

Economists, leaving the traditional sphere drawn by neoclassicism, have directed towards understanding economic decisions and behaviours resorting increasingly to psychology and developing in this manner a field known in the literature as behavioural economics.

2. Some theoretical arguments of behavioural economics

As the name indicates, behavioural economics is a “hybrid area of research” (Francisco, Madden, Borrero, 2009, p. 277) that incorporates principles, concepts and ideas mainly from psychology (but also from other social sciences like sociology, philosophy or politics) into economic theory, in order to enhance the realism of the economic assumptions.

Behavioural economics is usually referred as a field centered on the “conviction that increasing the realism of the psychological underpinnings of economic analysis will improve the field of economics *on its own terms* - generating theoretical insights, making better predictions of field phenomena and suggesting better policy” (Camerer, Loewenstein, 2004, p. 3).

Behavioural economics aims to join together and to adapt the basic principles of neoclassical economics with the realities imposed by the complex human nature. This is why it appeals not only to evidences discovered by psychology, but also from other social sciences that study individual in its multiple forms of manifestations. It generally integrates theoretical concepts and findings from psychology with neoclassic theory. Its multidisciplinary approach encourages the dialog and tries to enhance the realism of the traditional theory. However, although behavioural economics agrees with some presumptions of the mainstream economics, it opposes and modifies others (or their context).

Behavioural economics tries to explain (and ultimately to apply these findings into practice) why individuals frequently make irrational choices, and why and how their behaviour does not match the patterns predicted by neoclassical models. In the study of this research area there are notable scientists such as Herbert Simon (who promoted the concept of *bounded rationality* and postulated toward a reunification between psychology and economics), Daniel Kahneman and Amos Tversky (who developed *the prospect theory* and identified the main cognitive factors for common human errors with the help of heuristics and bias), Richard Thaler (who was the first economist that distinguished his work and behavioural economics, on one hand, from experimental economics of, for example, Vernon Smith, on the other hand) or George Akerlof (who identified and analyzed the principal problems that affect markets characterized by asymmetrical information), etc. (Heukelom, 2007).

The core assumption of behavioural economics is based on the bounded (limited) rationality of individuals in general and of markets in particular, which is opposed to the central presumption of mainstream economics, that of rational choice theory. Bounded rationality should not be confused with irrationality. Herbert Simon advanced the term specifically to demonstrate that although it seems that

individual's choices are irrational, they actually act rationally from their point of view (because their intention is to act rationally) as the author said: "On the contrary, I think there is plenty of evidence that people are generally quite rational; that is to say, they usually have reasons for what they do" (Simion, 1985, p. 297).

The innovative concepts developed inside this area of research are founded on the work of classical economists. For instance, Adam Smith ([1776], 2011), the father of modern economics, developed in his most influential book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, not only a study of economics, but also an absolute analyze of human social psychology. The author also advocates psychological explanation of the economic behaviour and ideas about the psychology of ethics in economics (Smith, [1759] 2006).

Furthermore, even notable representatives of the neoclassical body of theory, such as Irving Fisher, recurrently promote psychological arguments in order to sustain their main principles.

3. The status of behavioural economics into the economic disciplines

In its effort to develop a new theory of choice behavioural economics faces some difficulties like: the determined variables are very numerous and no common understanding has been developed in terms of variables to be included in the model (Etzioni, 2010, p. 53). However, some specialists argue that the sub-discipline of behavioural economics is a new economic school of thought, distinct and separate from neoclassical economics, but in an early stage of development (Tomi, 2007, p. 478).

Some of the principal concepts and assumptions in behavioural economics are (Camerer, 2005, Maky, 2001, Schwartz, 2007):

- *Bounded rationality* – the idea proposed by Herbert Simion became one of the pylons on which behavioural economics is set. This idea advocates that rationality of people is a priori limited by given factors like the access to information, their finite amount of time, and the cognitive limitations of their minds;
- *Complete preferences* – here, the behaviourists advocate the need to endow the model of the utility function by taking into account preferences;
- *Non-egoistic behaviours* (such as altruism) – oppose/or oppose in some given circumstances to one of the main hypothesis of neoclassicism, namely self interest (behavioural economics advocates that self-interest have limits and imperfections);

- *Emotions, ethics, justice, well-being and social preference* are also important variables that affect the decision making process;
- *Inter-temporal choice*, which describes how people act when they make decisions with future repercussions;
- *Choice under risk and/or ambiguity*, it was shown that the type and amount of information people capture can sometimes transfix the decision-making process;
- *Equilibrium* is a central issue that implies this relative new discipline has to advance beyond individual choice, up to the analysis of the market.

Since its emergence as an independent sub-discipline, behavioural economics has known a remarkable expansion. The current directions that are influenced by behavioural economics are, for example, game theory, neuroeconomics, behavioural welfare economics, behavioural finance, experimental economics, etc. Furthermore, although the proposed analysis of behavioral economics has microeconomic foundations, lately it has expanded its scope, also encompassing macroeconomic analysis.

Behavioural economists are concerned not only with the theoretical study, but also with the practical one. So they went forward, including into their analyses public policies and choices, which represent another form of economic decision-making process.

Conclusions

In recent years, behavioural economics has increased its presence as a distinct research area, its study being animated by the technological advances of the last decades (that helped to a better understanding of the human brain and behaviours), and by the more frequent economic crisis (that have accentuated the need to uncovering that beyond any abstract, formal or mathematic model, economics is a scientific study which deals with the economic human aspects of the world). If, on one hand, this discipline is meant to be a continuation of the classical work, on the other hand, it creates its own concepts by exploiting the knowledge of psychology and other social sciences.

The ultimate goal of this discipline is to increase the explanatory power of economics by furnishing it with more suitable psychological basis, given that human behaviour concerns all the social sciences. However, because it is still in an early stage of development, its status, role and implications may not yet be fully assessed.

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Business cycles synchronization in the European Union: truth or challenge?

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Abstract. *This paper provides an updated picture of the degree of business cycles synchronization in the European Union, analyzing its evolution during 1999-2011. We use the Hodrick-Prescott filter to capture the relevant trends in the business cycles and the Pearson correlation coefficient to measure the degree of synchronization. The results obtained show that the highest level of business cycle synchronization with the Euro Area is reached by Finland and France, while Poland is by far the country with the most divergent business cycle.*

Keywords: synchronization; business cycle; Euro area; European Union.

JEL Classification: E32, F15, F44.

REL Classification: 8H.

Introduction

The international crisis that started in 2007 has shown over the last four years the existence of a strong business cycles synchronization in the European Union (EU). The economic and financial crisis has affected the old EU Member States (MS) almost at the same time, and with only a slight delay the New Member States (NMS). Thus, European policymakers and the European Central Bank had to deal with and respond to the economic downturn that occurred relatively simultaneously in all EU MS, even if their amplitude varied from country to country.

The issue of business cycles synchronization especially in the European Monetary Union (EMU) is seen in the literature as an “one size does not fit all” problem, considering that one single model cannot be a valid one for all the EMU MS.

Business cycles in the Euro Area (EA) have experienced both periods of convergence and divergence over time (De Haan, Inklaar, Jong-a-Pin, 2005). The question arising now is whether the business cycles will become more synchronized in the next years so that the “one size does not fit all” problem will be solved. In the same time, there are NMS that are willing to join the Euro area in short time, putting pressure on the effectiveness and the optimality of the EMU, taking into consideration that the discrepancies between the EA member states will be even bigger. The answer to this question is seen by economists from two different perspectives: the optimistic perspective claims a higher degree of synchronization due to the widening of economic and monetary integration (Artis, Zhang, 1999), while the negative perspective, based on the assumption that deeper integration goes to industrial concentration and specialization, supports more divergence of business cycles in the next years (Krugman, 1991).

1. Literature review

In the last years a consistently literature focusing on business cycle synchronization within the EA and between MS that joined the EU in 2004 and 2007 was developed in order to analyze the opportunity of EA enlargement. In the same time, Sweden, Denmark and Great Britain and their relationship with the EA has been analyzed in numerous studies.

Main contributions in this field of research were made by Artis and Zhang (1999) who established the existence of correlations in the EA states that are becoming more evident over time.

In a recent study, Gayer (2007) notes that the degree of business cycles in the EA was high in the early 1990s and has undergone notable changes with the

introduction of the single currency in 1999, except for short interruptions recorded in 2003-2004. Moreover, the results of Gayer (2007) highlight evidence of a distinct business cycle in the EA. However, de Haan et al. (2007) argue that there is a consistent trend towards an European business cycle. Artis (2003), in an attempt to identify an European business cycle, notes that while some European countries tend to stay together, to move in the same direction, there are many others who do not. Overall, the results in the literature vary according to the period analyzed and the state or group of states used as reference.

Business cycles synchronization between the NMS and the EA is consistently considered in the literature, but was heavily restricted by the limited time series, relatively short, available for NMS. Due to the variety of dating methods and indicators used for estimating cycles and timing, there are major differences between the results and conclusions arising from studies dealing with this topic. In addition, the results differ because the high heterogeneity in the NMS group, so that a general conclusion for the whole group of countries is very difficult to shape.

A detailed analysis of business cycle synchronization between the NMS and the EA was made by Darvas and Szapary (2004) in their study involving several variables, several states and several ways of measuring the degree of synchronization than most studies, providing more relevant results. Thus, Hungary, Poland and Slovakia have the highest degree of synchronization between the NMS with the Euro zone peripheral states. The remaining NMS are less synchronized with the EA, raising questions about their accession to the Euro zone in the near future.

Fidrmuc and Korhonen (2006) provides a very comprehensive survey of the literature on business cycle synchronization between the NMS and the EA and on the asymmetric macroeconomic shocks between these two groups of countries, presenting the results of 35 studies. The highest correlation of business cycles with the EA is owned by Hungary, followed by Slovenia and Poland. In several studies, one or more NMS cycles strongly correlated with the EA than the peripheral economies of the Euro zone (Greece, Portugal and Ireland).

2. The degree of business cycles synchronization – empirical analysis

In order to determine the degree of business cycles synchronization we first have to detach the business cycles trends. In order to do so, we use the macroeconomic indicator Gross Domestic Product (GDP), annual time series for the period 1999-2011, taken from Eurostat, one of the European Commission databases. The most direct technique to separate the cyclical component from the trend is to compute

the first differences in order to obtain stationary data series. Most studies use non-parametric filters like Hodrick-Prescott filter (HP, 1997) and band pass filters like Baxter King (BK, 1999) and Christiano-Fitzgerald (CF, 2003).

The most widely used filter is the HP filter. The trend component is estimated by minimizing deviations from trend. There are relatively few studies that check the sensitivity of results to different methods used for filtration. Artis and Zhang (1997) and Calderon et al. (2002) concluded that the option of using a filter is not crucial for their results.

As already mentioned, there are numerous empirical methods for measuring the cyclical component of the business cycles. Following the European Commission's methodology, in this paper we use the HP method of estimation of business cycles, applied in the logs of the variables. In order to determine the economic cycle we use HP filter with $\lambda = 100$, which is appropriate for annual macroeconomic data series.

The HP filter is a very frequent parametric method for decomposing time series (y_t) into two unobservable components, which are trend ($\bar{y}_t$) and cycle (c_t). The trend is extracted through the minimization of a loss function of this type:

$$\min_{\bar{y}_t} = [\sum_{t=1}^T c_t^2 + \lambda \sum_{t=1}^T ((\bar{y}_{t+1} - \bar{y}_t) - (\bar{y}_t - \bar{y}_{t-1}))^2], \quad (1)$$

unde

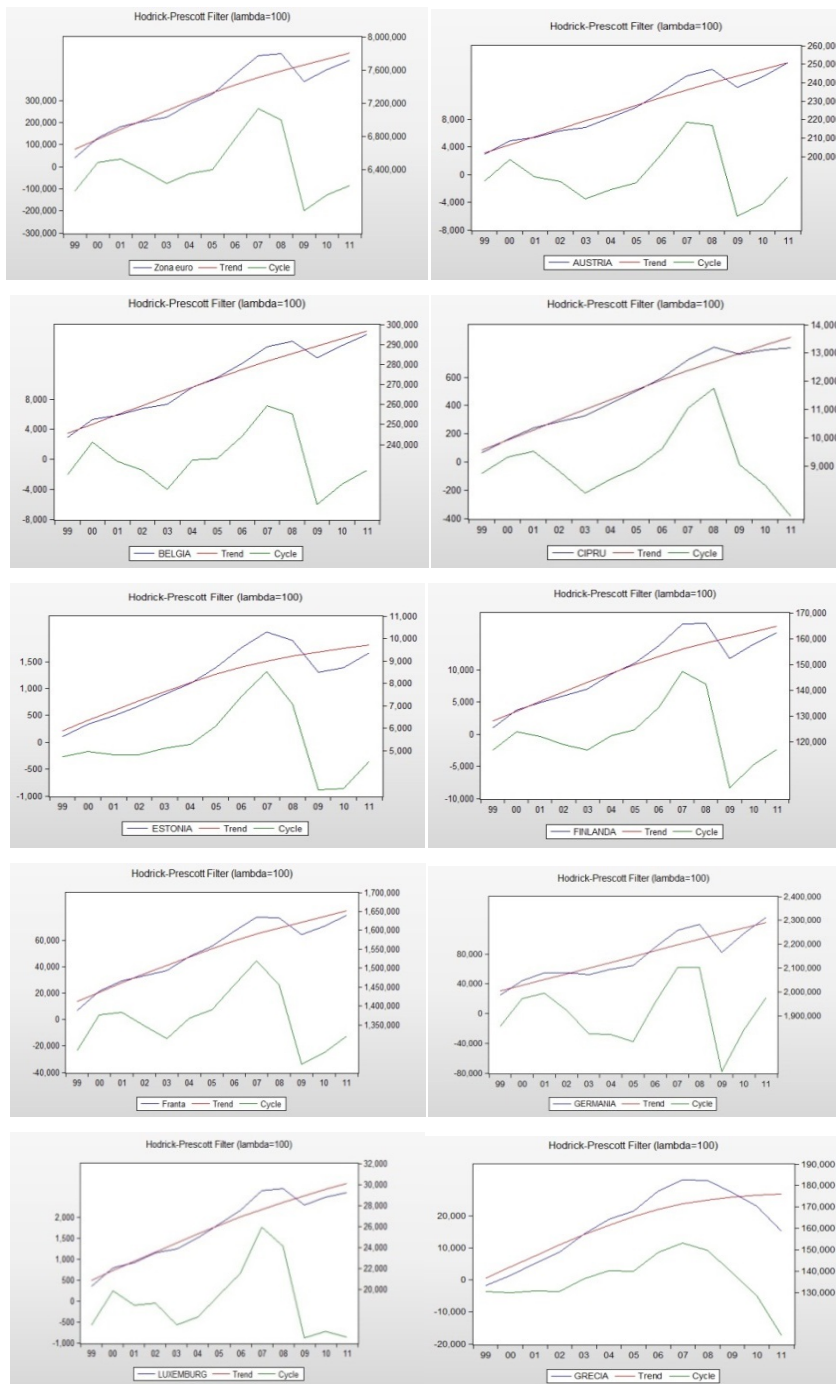
T is the total number of observations;

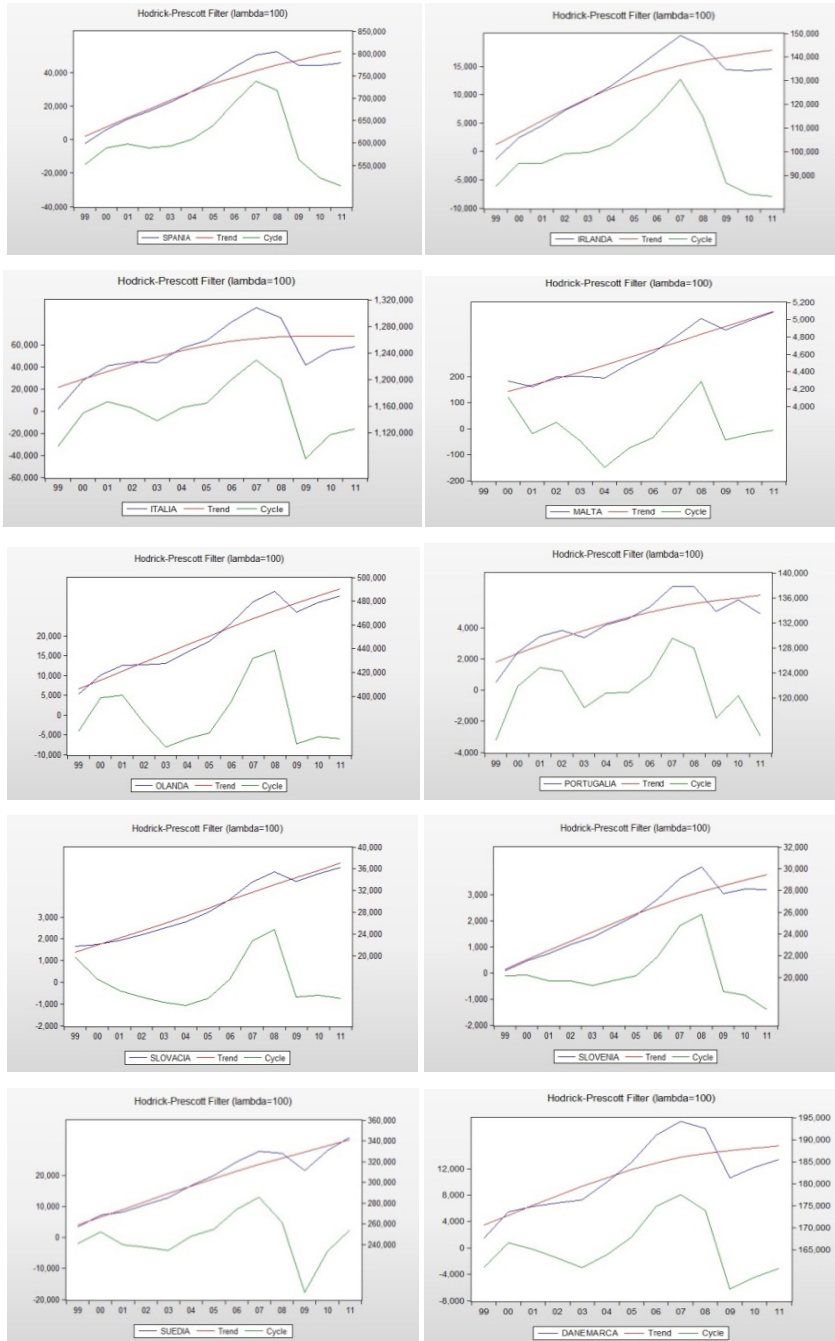
$\sum_{t=1}^T c_t^2$ represents the sum of squared deviations, being equal to $\sum_{t=1}^T (y_t - \bar{y}_t)^2$;

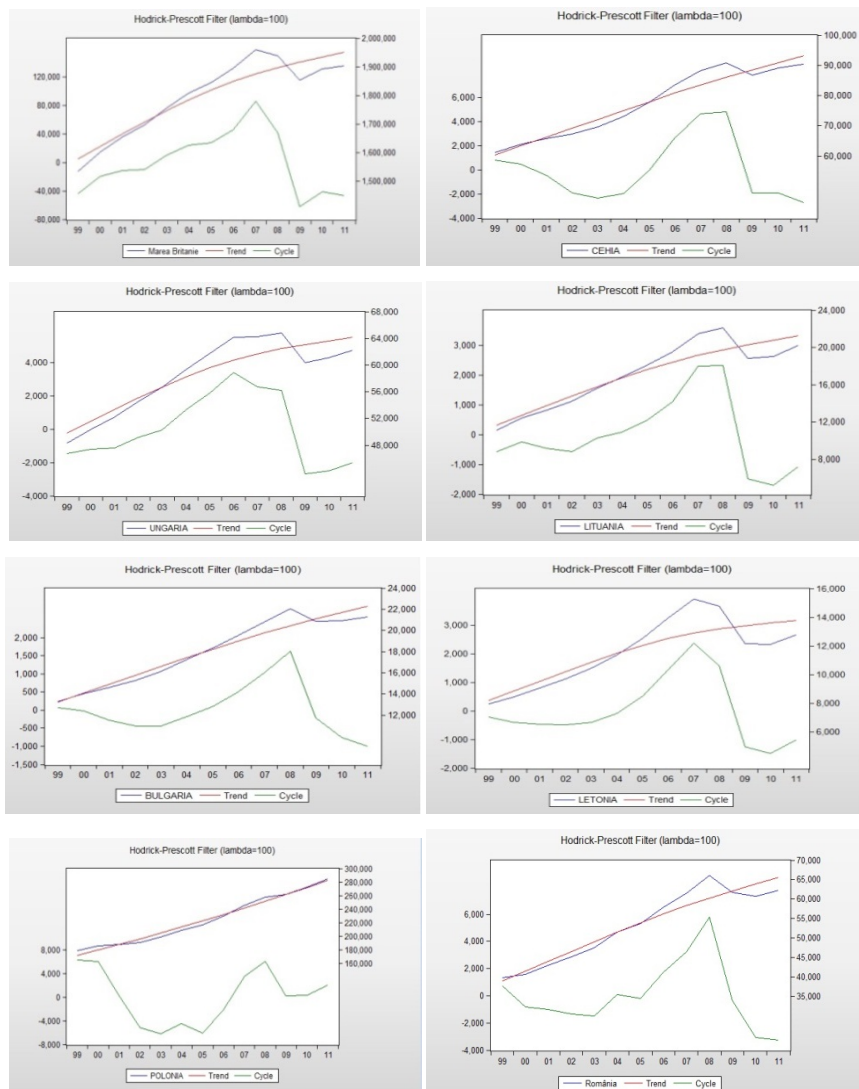
$\sum_{t=1}^T ((\bar{y}_{t+1} - \bar{y}_t) - (\bar{y}_t - \bar{y}_{t-1}))$ represents the sum of the trend growth rate changes;

λ is the parameter meant to penalize the fluctuations in the growth rate of the trend series;

The results of applying the HP filter to the GDP data series are shown in the images below:







Equally varied are the ways of measuring the degree of business cycles synchronization. Most studies used simple correlation coefficients (Pearson), but there are other tools suggested in the literature as dynamic correlation, phase correlation and index adjusted according to Harding and Pagan's (2006).

As a mean of measuring the degree of business cycles synchronization, we use the Pearson correlation coefficient computed for the period 1999-2011. The Pearson coefficient can range between -1 and 1 and a negative/positive correlation indicates a negative/positive between the variables considered.

The table below shows the results obtained by decreasing ordering MS according to the Pearson coefficient:

Table 1. *Ranking MS according to the degree of business cycles synchronization with the EA*

Rank	Member State	Pearson coefficient	Observations
1	Finland	0.986064	EA member state
2	France	0.976970	EA member state
3	Luxembourg	0.968133	EA member state
4	Italy	0.967928	EA member state
5	Denmark	0.967498	non-EA member state (opt-out)
6	Belgium	0.966232	EA member state
7	Austria	0.961720	EA member state
8	Lithuania	0.932818	non-EA member state
9	Latvia	0.931807	non-EA member state
10	Estonia	0.927856	EA member state
11	Czech Republic	0.921441	non-EA member state
12	Netherlands	0.918042	EA member state
13	Slovenia	0.910291	EA member state
14	Spain	0.895024	EA member state
15	Ireland	0.870857	EA member state
16	Portugal	0.868624	EA member state
17	United Kingdom	0.863905	non-EA member state (opt-out)
18	Slovakia	0.852461	EA member state
19	Bulgaria	0.847989	non-EA member state
20	Sweden	0.847781	non-EA member state (derogation)
21	Germany	0.847380	EA member state
22	Cyprus	0.825215	EA member state
23	Romania	0.815232	non-EA member state
24	Hungary	0.786525	non-EA member state
25	Greece	0.634186	EA member state
26	Malta	0.566897	EA member state
27	Poland	0.399708	non-EA member state

Source: Authors' calculations.

The highest level of business cycles synchronization with the EA is reached by Finland and France, with Pearson coefficient values above 0.97, while Poland is by far the country with the less synchronized business cycle, with a coefficient below 0.4.

Regarding the EA countries, Greece and Malta are the only countries which have relatively low coefficient values (below 0.65), the rest of the states registering high values, over 0.8, thus having the business cycles closely correlated with the EA business cycle.

Among the EU NMS that are currently on the road to Euro, Lithuania, Latvia and the Czech Republic have strongly correlated business cycles with the EA, given the very high values of the Pearson coefficients (over 0.9). The coefficients are also high in Bulgaria, Romania and Hungary. Poland is the only country in this group that is significantly detached from the EA, occupying the last place in the ranking.

Of the three countries covered by the opt-out clause or derogation from adopting the Euro currency, Denmark has the highest degree of business cycle synchronization with the EA, being in the 5th place in the ranking, while the United Kingdom and Sweden are found in the second half of the league.

Conclusions

The results obtained in this paper reiterates the gap between the EU MS in terms of business cycle synchronization. In the EA, Greece and Malta have the weakest correlations with the business cycle of the area, putting pressure on the currency area optimality. Interestingly, the degree of divergence of these two countries is much higher than that of the European countries which are not yet part of the EA, except Poland. In contrast, Finland and France are identified with the EA business cycle. In the group states that are on the track to join the EA, Poland, Hungary and Romania have the weakest correlations with the EA business cycle, being the least prepared to adopt the single currency. Significant differences observed in the EU MS jeopardize the future of the single currency area, being so weakened by the economic and financial turmoil of the past four years.

Acknowledgements

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Saving and economic growth: An empirical analysis for Euro area countries

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Abstract. *The study consists in analysing the long-run relationship between saving and the real economic growth for Euro area countries. By using annual data series and econometric techniques like Johansen co-integration procedure, Granger causality or panel data models, our findings suggest the existence of a unidirectional causality between the two macroeconomic variables; the sense of this connection is from real GDP growth rate to gross national saving rate, with a delay of, at least, four years.*

Keywords: economic growth; saving; Granger causality; panel data; Euro area.

JEL Classification: E01, E21.

REL Classification: 20A, 20Z.

Introduction

The economic growth has always been the most fascinating and complex macroeconomic issue; the impact of the saving rate, one of the key determinant, on the evolution of GDP, in the very long-run, represents the main subject in various empirical studies. In this way, relevant are the papers of Aghion et al. (2009), Barro and Sala-i-Martin (2004), Mankiw (2003), Acemoglu and Ventura (2000), Romer (1996). By taking into account the neoclassical and endogenous growth theory's predictions, most of these works, utilizing cross-country regressions, in order to estimate the relationship between saving and the real economic growth, concluded that: (i) in Solow's model, a permanent increase in the saving rate leads to faster growth only temporarily – it has only moderate effects on the level of output; (ii) in most endogenous models, countries tend to grow faster according to their steady state level of the saving rate – the higher the saving rate the higher growth is; (iii) in the long-run, the effects of saving on the economic growth are more strong for the rich economies than for the poor economies.

These studies reveal that there is a significant positive relationship between the two macroeconomic variables, but they don't offer any information about the direction and the sense of the causality link.

To identify the existence of a unidirectional relation, in one sense or the other, or the existence of a bidirectional connection, the most indicated methods are the *Granger causality*, the *Johansen co-integration procedure*, the *vector autoregressive (VAR) model*, the *vector error correction (VEC) model* or *panel data models*.

Our analysis focuses on the study of long-run interdependence between real GDP growth and the gross national saving rates for Euro-area countries. We intend to investigate two main objectives: the first consists in determining whether saving and GDP are co-integrated, and the second in identifying the direction of causality between the two macroeconomic variables.

The following parts of this paper are organized as: *Section 2* provides an overview of the econometric methodology being used, *Section 3* presents the results obtained from empirical analysis, and *Section 4* highlights the conclusions.

1. Methodology

Before we test if between two or more given time series is a Granger causality, we must check if the data series are stationary and, at the same time, co-integrated. At the formal level, stationarity can be determined by finding out if the time series

contains a unit root. The most known test, that can be used for this purpose, is the *Augmented Dikey-Fuller* (ADF) test; this test consists in estimating the following regression:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^p \alpha_i \Delta Y_{t-i} + \varepsilon_t,$$

where Y_t is the variable tested for stationarity, δ represents the lags used to identify the possible auto-correlations of higher order, and ε_t is the white noise error term.

The unit root statistic test is carried out under the null hypothesis $H_0: \delta = 0$ against the alternative hypothesis $H_A: \delta < 1$.

The testing procedure is the same as for Dikey-Fuller (DF) test: once a value for

the statistic test $DF\tau = \frac{\hat{\tau}}{SE(\hat{\lambda})}$ is computed, it can be compared to the relevant

critical value for the DF test. Therefore, the more negative the value of the ADF test is, the stronger the rejection of the null hypothesis is.

Testing the hypothesis that there is a statistically significant connection on long-run between the time series could be done by proceeding to the *Johansen* (1991) *co-integration procedure*. For modeling co-integration, the basic steps in Johansen's methodology are the following:

1. Specify and estimate the following VAR(p) model for Y_t :

$$Y_t = A_1 Y_{t-1} + \dots + A_p Y_{t-p} + \varepsilon_t,$$

where: Y_t is the vector of the $I(1)$ variables, and ε_t is the vector of innovations.

2. Rewrite the VAR(p) model on order to determine the number of cointegrated vectors, as:

$$\Delta Y_t = \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i Y_{t-i} + \varepsilon_t,$$

$$\text{where: } \Pi = \sum_{i=1}^p A_i - I; \Gamma = -\sum_{j=i+1}^p A_j.$$

3. Impose normalization and identifying restrictions on the cointegrating vectors that results from taking a rank $r < k$ for the coefficients of the Π matrix;

4. Estimate the resulting cointegrated *Vector Error Correction* (VEC) model.

In the Granger (1969) approach X is a cause of Y if it is useful in forecasting Y , considering only past values of Y . There are three different types of situations in

which a Granger causality test can be applied: (i) a simple Granger causality test for no more than two variables and their lags, (ii) a multivariate Granger causality test for more than two variables or (iii) in a VAR framework for testing the simultaneity of all included variables. For testing if X Granger cause Y and vice versa, one can proceed to the estimation of the following OLS regressions:

$$\Delta Y_t = \alpha_0 + \alpha_1 \Delta Y_{t-1} + \dots + \alpha_l \Delta Y_{t-l} + \beta_1 X_{t-1} + \dots + \beta_l X_{t-l} + \varepsilon_t$$

$$X_t = \alpha_0 + \alpha_1 X_{t-1} + \dots + \alpha_l X_{t-l} + \beta_1 \Delta Y_{t-1} + \dots + \beta_l \Delta Y_{t-l} + u_t$$

Based on the estimated OLS coefficients for the two equations, one can infer that between the two variables is:

- a unidirectional Granger causality from X to Y ;
- a unidirectional causality from Y to X ;
- a bidirectional or feedback causality – in this case X cause Y and vice versa;
- no Granger causality in any direction.

Another econometric method that one can use for testing the relationship between two variables is *Panel data*. Regarding the choice of using or not panel data, Hsiao (2003) reveals several *advantages* of such regression models:

- unlike time series and cross-section studies, a panel data model assumes that individuals, firms, states or countries are heterogeneous;
- panel data models have a large number of observations, so it carries out *more informative data, more variability, less collinearity among the variables, more degrees of freedom* and more reliable parameter estimates;
- a panel data model is more suitable to study the dynamics of economic policies adjustments;
- by estimating a panel data regression model one can identify and analyse effects that simply cannot be detected in pure cross-section or pure time series data;
- panel data represents an excellent background for constructing and testing more complicated behavioral models, such as economies of scale or technological progress;
- macro panel data implies a longer time series than a pure time series data;
- in panel data the unit root tests have standard asymptotic distribution.

The most significant *limitations* of panel data are related to the problems of data collection – coverage or frequency, distortions of measurement errors, selectivity problems, short time series dimension and cross-section dependence, which affects inference.

In his study, Gujarati (2004) indicates that the estimation of panel data regression models depends on the *assumptions* we will make about the intercept, the slope coefficients and the error term, as: (i) the intercept and slope coefficient are

constant across time and space and the error term captures differences over time period and entities, (ii) the slope coefficients are constant and the intercept varies over entities, (iii) the slope coefficients are constant and the intercept varies over entities and time period, (iv) both slope coefficients and the intercept vary over entities or (v) all coefficients vary over entities and time.

On way to analyse the impact of variables that may vary over individuals and time, Baltagi (2005) estimates the *Fixed Effects* (FE) model by using differential intercept dummies:

$$y_{it} = \alpha_1 + \alpha_2 D_{2it} + \alpha_3 D_{3it} + \alpha_4 D_{4it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it} ,$$

where α_1 represents the intercept and $\alpha_2, \alpha_3, \alpha_4$ are the differential intercept coefficients.

The dummy variable technique is known in the literature as the *Least-Squares Dummy Variable* (LSDV) model or as the covariance model. One could test the joint significance of these dummies by performing the restricted F test:

$$F = \frac{(RRSS - URSS)/(N-1)}{URSS/(NT-T-K)} \approx^{H_0} F_{N-1, N(T-1)-K} .$$

Although easy to apply the model may suffers from a large loss of degrees of freedom. Also, the estimation of so many variables in the model could cause the problem of multicollinearity among the regressors. Furthermore, if we include variables that are time invariant it is possible that the *FE* estimator may not be able to identify the effect of such variables.

Lancaster (2000) suggests as solutions to this incidental parameter problem the use of instrumental variables, the first differencing or conditioning of the model.

Another important aspect one must take into account is the analyse of the error term variance; we can assume that the error term variance is the same for all cross-section units or it is heteroscedastic and there is no autocorrelation over time.

Brüderl (2005) shows that if in the *FE* model are too many parameters, then the loss of the degrees of freedom can be avoided if we will assume the error term variation across entities as beeing *random*.

Dougherty (2007) indicates that the most known procedure used for choosing between *FE* estimation and *RE* estimation is the *Durbin-Wu-Hausman* test. The null hypothesis underlying the test is that the β_i are distributed independently of the X_i . If the null hypothesis is not rejected, both random and fixed effects are statistically significant, but fixed effects will be inefficient, because its LSDV

form involves the estimation of an unnecessary set of dummy variable coefficients. If the null hypothesis is rejected, the conclusion will be that *RE* model is not appropriate and that one may choose to use the *FE* model.

2. Empirical analysis

This analysis uses time series data on gross national saving rate and real economic growth for Euro-area countries. All the data have annual frequency, covering the time period 1960-2011; they are extracted from The World Bank Data website:

- ΔGDP_t - real economic growth (annual %) of the EU-17 countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, Spain;
- GNS_t - gross national saving (% of GDP).

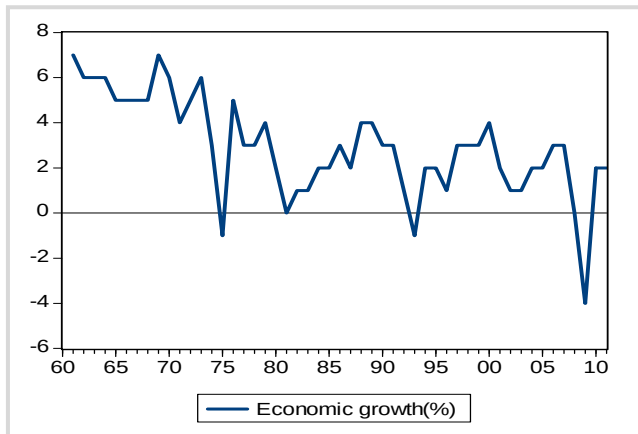


Figure 1. Evolution of the Euro-area real GDP growth rates

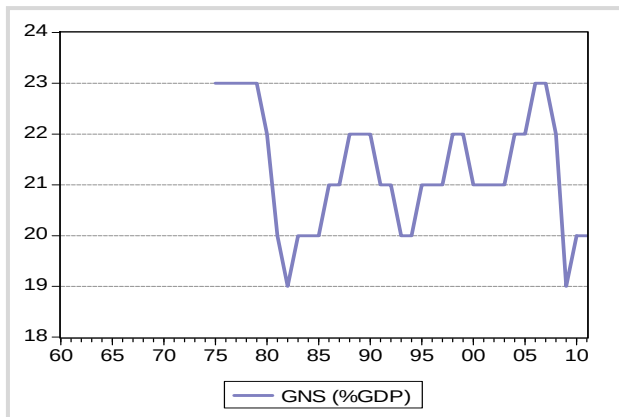


Figure 2. Evolution of the gross national saving rate

Stationarity and co-integration tests

For testing the stationarity and, also, to identify the integration order of the two time series, we performed the *Augmented Dikey-Fuller* (ADF) unit root test for the level series and for the order one differences.

Table 1. Unit root test results for the level series and for the 1st differences

	GNS_t	GDP_t	ΔGNS_t	ΔGDP_t
t -statistic	-2.474	-3.790	-5.182	-8.347
ρ value	0.129	0.005	0.000	0.000
critical value (5%)	-2.945	-2.921	-2.948	-2.923
R_{adj}^2	0.127	0.214	0.432	0.691
F - statistic	6.125	14.369	26.860	53.774
Prob F	0.018	0.000	0.000	0.000

The 1st order one differences ρ -value (0.000) associated to t -statistic indicates a clear rejection of the non-stationary hypothesis for both time series, gross national saving rate and real GDP growth rate; thus, we can infer that the two data series are stationary integrated of order one - $I(1)$.

Johansen co-integration test

Due to the fact that the two macroeconomic variables are $I(1)$, one can check if the data series are co-integrated by applying the *Johansen* procedure.

Table 2. Results of the Johansen cointegration test for the stationary variables

Data trend	None	None	Linear	Linear	Quadratic
Test type	No Intercept	Intercept	Intercept	Trend	Trend
	No Trend	No Trend	No Trend	Trend	Trend
Trace	1	1	2	0	2
Max-Eig	1	0	2	0	0

The results reveals the existence of at least one and no more than two co-integration connections, in the very long run, between gross national saving rate and the evolution of real GDP.

Granger causality test

In order to determine the existence of a relationship between saving rate and the dynamic of the real economy we tested the bivaried Granger causality by estimating the following OLS regression models:

$$\Delta GDP_t = \alpha_0 + \alpha_1 \Delta GDP_{t-1} + \dots + \alpha_l \Delta GDP_{t-l} + \beta_1 GNS_{t-1} + \dots + \beta_l GNS_{t-l} + \varepsilon_t$$

$$GNS_t = \alpha_0 + \alpha_1 GNS_{t-1} + \dots + \alpha_l GNS_{t-l} + \beta_1 \Delta GDP_{t-1} + \dots + \beta_l \Delta GDP_{t-l} + u_t$$

Therefore, we will test, first, if GNS_t Granger cause ΔGDP_t and, second, if ΔGDP_t Granger cause GNS_t .

Table 3. Granger Causality tests for $l=5$

Null hypothesis	F - statistic	P value
ΔGDP_t does not Granger cause GNS_t	2.610	0.054
GNS_t does not Granger cause ΔGDP_t	1.099	0.390

Due to the fact that the F value is statistically significant only for the first regression model we can assume that there is a unidirectional causality between the two macroeconomic variables, from the real GDP toward the saving rate for Euro-area countries.

We will estimate the following VAR(4) model in order to identify the intensity and the direction of this causal relationship:

$$\left\{ \begin{array}{l} \Delta GDP_t = \alpha_{10} + \alpha_{11} \Delta GDP_{t-1} + \alpha_{12} \Delta GDP_{t-2} + \alpha_{13} \Delta GDP_{t-3} + \\ \quad + \alpha_{14} \Delta GDP_{t-4} + \beta_{11} GNS_{t-1} + \beta_{12} GNS_{t-2} + \beta_{13} GNS_{t-3} + \\ \quad + \beta_{14} GNS_{t-4} + \varepsilon_{1t} \\ GNS_t = \alpha_{20} + \alpha_{21} \Delta GDP_{t-1} + \alpha_{22} \Delta GDP_{t-2} + \alpha_{23} \Delta GDP_{t-3} + \\ \quad + \alpha_{24} \Delta GDP_{t-4} + \beta_{21} GNS_{t-1} + \beta_{22} GNS_{t-2} + \beta_{23} GNS_{t-3} + \\ \quad + \beta_{24} GNS_{t-4} + \varepsilon_{2t} \end{array} \right.$$

The results of the VAR(4)'s estimates are summarized in the tabel below:

Table 4. Estimation results of VAR for $l=4$

	GNS_t	ΔGDP_t
GNS_{t-1}	0.685	-0.137
GNS_{t-2}	0.186	0.137
GNS_{t-3}	-0.275	-0.679
GNS_{t-4}	-0.205	-0.101
ΔGDP_{t-1}	0.099	0.431
ΔGDP_{t-2}	-0.247	-0.440
ΔGDP_{t-3}	0.607	0.448
ΔGDP_{t-4}	0.055	-0.249
C	12.933	14.362
R^2	0.593	0.396
R^2_{adj}	0.457	0.195
F - statistic	4.378	1.970
AIC	2.590	3.797
SC	2.998	4.205

* statistically significant at 95%.

According to the estimation results we can observe that there is a strong positive unidirectional causality from real GDP growth rate to the gross national saving rates for Euro-area countries, with a delay of at least four years, as otherwise the impulse response function graph shows.

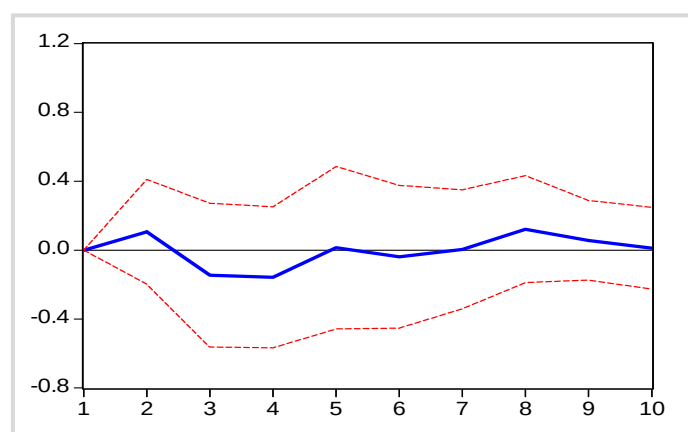


Figure 3. The saving rate response function to a shock of real economic growth

The Vector Error Correction (VEC) model

We use the VEC model because (i) the unit root test results showed that the data series are not stationary in their levels, but are in their first differences, (ii) to test if the $I(1)$ macroeconomic variables are cointegrated and, also, (iii) if there is a long-run relationship between them. Thus, introducing the cointegration equation for GDP and GNS, we estimated the VEC model as it follows:

$$\begin{cases} \Delta GDP_t = \alpha_{10} + (a + b\Delta GDP_{t-1} + c\Delta GNS_{t-1}) + \alpha_{11}\Delta GDP_{t-1} + \alpha_{12}\Delta GDP_{t-2} + \\ \quad + \alpha_{13}\Delta GDP_{t-3} + \alpha_{14}\Delta GDP_{t-4} + \\ \quad + \beta_{11}GNS_{t-1} + \beta_{12}GNS_{t-2} + \beta_{13}GNS_{t-3} + \beta_{14}GNS_{t-4} + \varepsilon_{1t} \\ GNS_t = \alpha_{20} + (a + b\Delta GDP_{t-1} + c\Delta GNS_{t-1}) + \alpha_{21}\Delta GDP_{t-1} + \\ \quad + \alpha_{22}\Delta GDP_{t-2} + \alpha_{23}\Delta GDP_{t-3} + \alpha_{24}\Delta GDP_{t-4} + \\ \quad + \beta_{21}GNS_{t-1} + \beta_{22}GNS_{t-2} + \beta_{23}GNS_{t-3} + \beta_{24}GNS_{t-4} + \varepsilon_{2t} \end{cases}$$

The results of the VEC(4)'s estimates are summarized in the tabel below:

Table 5. Estimation results of VEC model for $l=4$

	ΔGNS_t	ΔGDP_t
ΔGNS_{t-1}	0.608	0.954
ΔGNS_{t-2}	0.890	1.420
ΔGNS_{t-3}	0.453	0.447
ΔGNS_{t-4}	0.362	0.395
ΔGDP_{t-1}	0.071	-0.361
ΔGDP_{t-2}	-0.157	-0.776
ΔGDP_{t-3}	-0.289	-0.299
ΔGDP_{t-4}	0.076	-0.139
Intercept	0.001	0.008
Cointegrating eq.	-0.986	-1.343
b	1	
c	0.088*	
a	-21.293	
R^2	0.675	0.528
R^2_{adj}	0.542	0.335
F - statistic	5.092	2.739
AIC	2.156	3.926
SC	2.614	4.384

* statistically significant at 95%.

The VEC model is statistically significant highlighting that there is a positive direct relationship in the very long run between real GDP growth and the saving rate (Figure 4); furthermore, the value and the sign of the c coefficient indicates that the saving rate has an elasticity higher than one in relation to the evolution of GDP growth rate.

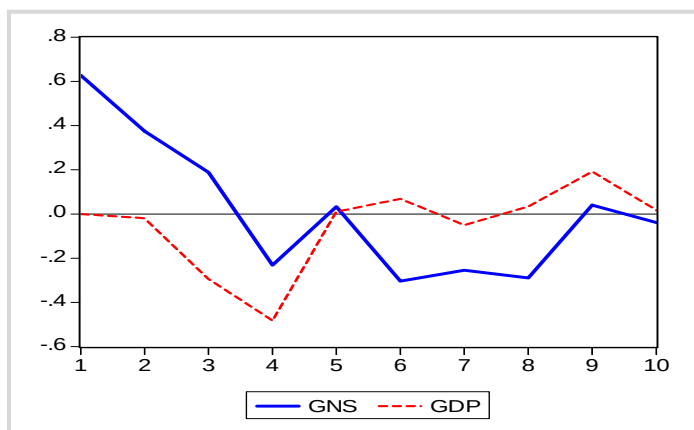


Figure 4. Combined graphs impulse response function

Relationship between saving rate and real economic growth using panel data

In order to investigate the interdependence between saving and the economic growth for Euro-area countries, we performed a *panel data analysis*; in this sens, we used the following macroeconomic variables:

- ΔGDP_t – real GDP growth rate (annual %) of the EU-17 countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, Spain;
- ΔGNS_t – gross national saving (% of GDP).

Our data series have annual frequency and covers the 2000-2011 time period; they have been provided, for each country, by The World Bank Data.

Panel data models

Using the variables mentioned above, one can estimate the either *Fixed Effects* (FE) or *Random Effects* (RE) models.

The *Fixed Effects* (FE) model has the following expression:

$$y_{it} = (\alpha + u_i) + X_{it}'\beta + v_{it}$$

where y_{it} is the dependent variable, X_{it} is a matrix of explanatory variables, and $v_{it} \sim IID(0, \sigma_v^2)$.

The *Random Effects (RE) model* could be expressed as:

$$y_{it} = \alpha + X_{it}'\beta + (u_i + v_{it})$$

where y_{it} is the dependent variable, X_{it} is a matrix of explanatory variables, and $v_{it} \sim IID(0, \sigma_v^2)$.

There are major differences between the two models:

- in the *FE model* the intercept is varying across countries or time periods, while in the *RE model* the intercept is constant;
- the variance of the residual term is constant for *FE model*, while in *RE model* the variance is not constant over time or across countries.

For choosing between *FE* and *RE* we use *Hausman test*; therefore, we are testing the null hypothesis that the intercepts are orthogonal to both explanatory variables and residual variable.

In the following only the relevant models (either *RE* or *FE*) are shown, according to *Hausman test*.

Gross national saving rate as a predictor of the real GDP growth rate

In order to assess the connection between saving rate and the dynamic of real economic growth, we have estimated the following *Fixed Effects (FE) model*:

$$\Delta GDP_{it} = (\alpha + \mu_{it}) + GNS_{it-1}'\beta + v_{it},$$

where $i = 1...17$ represents the country and t is the time index.

Table 6. *Saving rate and the real economic growth*

Variable	Coefficient	St. Error	T-statistic	Prob.
C	-2.302	1.403	-1.640	0.102
GNS ?	0.220	0.068	3.217	0.016
Cross section fixed (dummy variables)				
_Austria_C	-1.533			
_Belgium_C	-1.292			
_Cyprus_C	2.583			
_Estonia_C	1.814			
_Finland_C	-1.134			
_France_C	-0.496			
_Germany_C	-1.260			
_Greece_C	1.432			
_Ireland_C	0.395			
_Italy_C	-1.265			

Variable	Coefficient	St. Error	T-statistic	Prob.
_Luxembourg_C	0.244			
-Malta_C	1.352			
_Netherlands_C	-1.911			
_Portugal_C	-0.191			
_Slovakia_C	2.590			
_Slovenia_C	-0.414			
_Spain_C	-0.187			
Period fixed (dummy variables)				
2000_C	2.159			
2001_C	0.246			
2002_C	0.089			
2003_C	-0.179			
2004_C	0.651			
2005_C	0.951			
2006_C	1.821			
2007_C	1.958			
2008_C	-1.123			
2009_C	-6.364			
2010_C	0.153			
2011_C	-0.365			
R-squared	0.678	Mean dependent var		2.187
Adjusted R-squared	0.624	S.D. dependent var		3.391
S.E. of regression	2.077	Akaike info criterion		4.435
Sum squared resid	725.229	Schwarz criterion		4.918
Log likelihood	-407.904	F-statistic		12.648
Durbin-Watson stat	1.214	Prob(F-statistic)		0.000

As one can observe, the estimated model is not valid for the entire Euro-17 area. Thus, the influence of gross national saving rate isn't statistically significant; yet, for Cyprus, Estonia, Greece, Malta and Slovakia, the coefficient of the cross-section is significant, which means that for these countries there is a causality link between the two variables from the saving rate to the real economic growth.

Real economic growth as a predictor of the saving rate

In order to assess the ability of real economic growth to predict the evolution of the gross national saving rate, we have estimated the following *Random Effects (RE) model*:

$$GNS_{it} = \alpha + \Delta GDP'_{it-1}\beta + (v_{it} + \mu_{it}),$$

where $i = 1...17$ represents the country and t is the time index.

Table 7. *Real economic growth and the saving rate*

Variable	Coefficient	St. Error	T-statistic	Prob.
C	19.218	1.239	15.502	0.000
GDP ?	0.503	0.056	8.920	0.000
Cross section random effects				
_Austria_C	5.125			
_Belgium_C	4.121			
_Cyprus_C	-8.352			
_Estonia_C	1.444			
_Finland_C	5.001			
_France_C	-0.463			
_Germany_C	2.596			
_Greece_C	-9.031			
_Ireland_C	0.315			
_Italy_C	-0.012			
_Luxembourg_C	3.243			
_Malta_C	-7.194			
_Netherlands_C	5.819			
_Portugal_C	-5.112			
_Slovakia_C	-2.404			
_Slovenia_C	3.776			
_Spain_C	1.125			
R-squared	0.290	Mean dependent var		2.981
Adjusted R-squared	0.286	S.D. dependent var		2.997
S.E. of regression	2.532	Schwarz criterion		1250.239
F-statistic	79.666	Durbin-Watson stat		0.786
Prob(F-statistic)	0.000			

For Euro area as a whole the real GDP growth rate could be seen as a key determinant of the gross national saving rate; there is a positive strong relationship between the two variables, in other words the higher GDP the higher saving is. Again, the impact is not statistically significant for Cyprus, Greece, Malta and Portugal.

Conclusions

This paper's sample is based on annual observations within the entire Euro-area, of variables such as gross national saving rate and real GDP growth rate, before and after the actual financial crisis. Our main findings reveals that there is a significant unidirectional causality between the two macroeconomic variables from real GDP to the saving rate, with a delay of at least four years. This result is in line with the existing literature, which underlines a strong positive connection in the very long run between the two of them in the case of developed economies.

We choose to estimate a panel data models for each country in order to observe the differences in the direction and sense of the causality linkage. Thus, for countries like Cyprus, Greece, Malta and Portugal the intensity of this unidirectional causal relationship from GDP growth rate to the saving rate is low. Possible explanations for this would be that these countries do not have the same structural parameters, like the others Euro-area economies, so the real convergence conditioning hypothesis is valid from the economic development perspective and, also, from the political stability view.

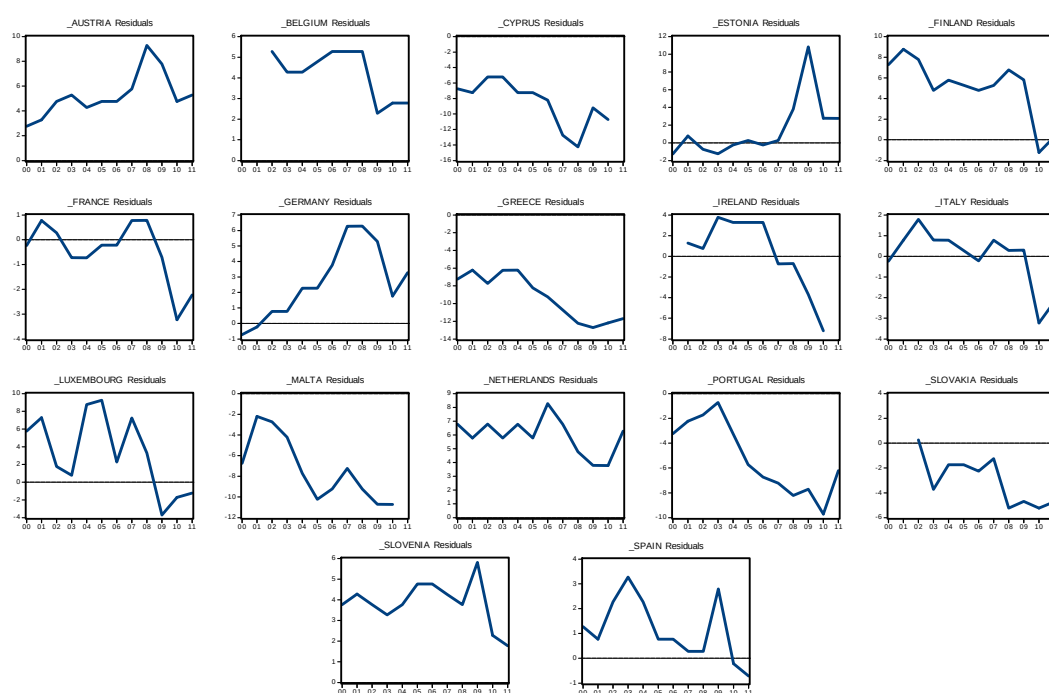


Figure 5. Residual graphs evolutions for Euro-area countries

We did not test *Granger causality in panel data* because this is going to be the next step of our research, when we intend to capture the relationship for all EU-27 economies, before and after the financial crisis, taking into consideration other key determinant of real economic growth, like capital accumulation, population growth rate or technological progress, as well as other methodology, such *Autoregressive and distributive-lag (ARDL) models*.

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Security of M-Commerce transactions

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Abstract. *In this material electronic market are defined. How they are structured. Security in E-Commerce applications is very important both at the administrative level and from the user perspective. The new trend in the field is the M-commerce that involves making purchases through mobile devices. And for M-commerce transactions the security is a very important thing. Here's how to analyze the security of M-commerce transactions and ways to increase security for these transactions taking into account the organization of M-Commerce applications, software used, hardware used and other important issues in the development of these applications.*

Keywords: security; M-Commerce; transactions; mobile devices.

JEL Classification: K22, M21.

REL Classification: 16E, 18B.

1. E-Commerce applications

A business of any kind for prosperous should have the number of clients higher. Thus it is necessary that its potential customers to know its existence. One of the many ways to make a company known work is the World Wide Web, which the company presents its products and customer service. Above both Internet enables customers to order the products and services offered by the company.

According to Lupu, a developed in the online business has some clear advantages compared with traditionally held business by opening a physical office. Benefits are categorized into direct benefits of the company, benefits of company products and services to beneficiaries and benefits society.

The main advantages of the company's activity are:

- help to expand the business, ensuring quick access to local, national, and even international;
- reduce costs company-specific activity, in the case of electronic business some activities are automated through electronic services;
- quick and easy modeling of products and services according to the needs of buyers;
- reduce costs of communication and transportation.

Consumer benefits are numerous, among them:

- consumers' ability to buy or to trade 24/7, indifferent the location;
- the multiple choice options, consumers can compare products from many manufacturers and choose only him corresponding to his needs;
- choice of the lowest prices for products or services;
- fast delivery to the address specified products or services purchased;
- receipt of relevant information in a very short time;
- participate in virtual auctions;
- reduce prices of goods and services due to competition;
- interaction with other users through forums for buyers changing impressions, comparing experiences with the products or services offered by that company.

The advantages of electronic business for the society are:

- reducing traffic and pollution in the city, because buying products and services online but this does not involve the displacement;
- by reducing the price it offers advantages to those with low income, thus contributing to social protection;
- increase efficiency and improve quality of products and services sold.

In addition to these advantages, electronic businesses have a number of limitations. The main disadvantages of electronic business are:

- lack of universally accepted standards for quality, security and trust in electronic business;
- software development tools for conducting electronic business are still evolving;
- be some difficulties in the integration of e-commerce software with some existing applications and databases;
- Internet access is still inappropriate for a large part of world population;
- lack of a developed hardware structure;
- lack of confidence between business partners;
- lack of confidence in the security of electronic transactions;
- overcoming the stereotype of direct meeting with the business partner or customer;
- need to know the common communication language for business partners.

The developed electronic business category is represented by online sales business, E-Commerce.

The difference between e-commerce and online business comes from the fact that electronic business (e-business) is not limited to buying and selling of goods or services, but also include facilities for serving buyers, collaborating with business partners or management of an organization by electronic means, unlike e-commerce is the buying, selling or exchanging products, services or information via computer networks.

According to Zamfiroiu (2010) the *e-business* term was first used by IBM to define the use of Internet technologies to improve and transform key processes in a business. The definition of IBM for e-business is a way to *secure, flexible and integrated business development by combining different processes and systems running core business operations with those that make it possible to find information on the Internet*.

E-business is a new way of doing business, a new way of using technology and a new way of creating companies. There is no secret to anyone that the Internet has revolutionized the business world that is constantly trying to adapt to changing market needs digital.

Due to the complexity of business, there are times when not all processes can be automated.

According to Lupu, e-commerce is closely related to the virtual market, this being the place where buyers and sellers meet to exchange goods, services or information.

Electronic Businesses currently available were divided into several broad categories, namely:

- *Business to Business (B2B)* is a model of electronic commerce between companies or organizations, Figure 1. This type of business uses as a medium of operation of the service vendor extranet.
- *Business to Consumer (B2C)* ecommerce model is the transfer of goods and services through electronic platforms are made from company to individual customers, Figure 1. This model of commerce is based on a Web site which is managed by the company to promote and sell goods and services. One such site is named online market and contains descriptions of products and services of the company. Online markets include functions for searching and viewing products by certain filters, ordered by some criterion, and also enables taking orders and payment by credit card or electronic payment different accounts.
- *Consumer to business (C2B)* is a category of electronic business in which individuals use a particular platform to sell their products or services firms or companies in other cities, Figure 1.
- *Consumer to consumer (C2C)* represents a model in which consumers sell directly to other consumers products and services through electronic platforms, figure 1.
- *M-commerce* or mobile commerce is the business model electronic transactions and activities are carried out through mobile phones or other mobile devices.
- *E-banking* involves conducting online banking transactions, transfer money to bank accounts, electronic payments, bank advice.
- *E-procurement* is used to purchase goods and services to large companies and public authorities. The tender specifications published on the Web reduce both time and cost of transmission, increasing the number of companies taking part in the auction. The system automatically increases competition and lower prices.
- *Government-to-business (G2B)* is an electronic business model in which a government buys or sells goods, services and information to businesses. In Romania the used platform is www.e-licitatie.ro.
- *Government-to-consumer (G2C)* is the specific model of e-government and covering relations between government and citizens at information and

providing public services, www.edirect.e-guvernare.ro. This category includes sites for online payment of taxes, www.ghiseul.ro.

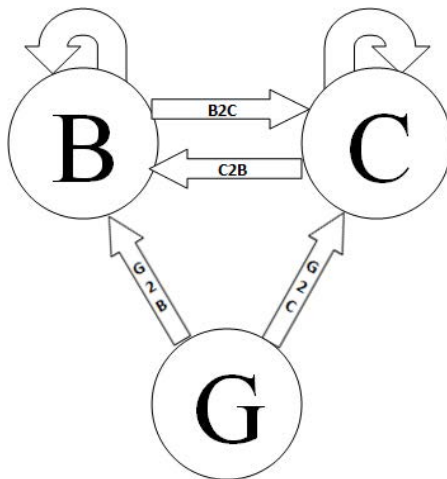


Figure 1. *Commerce categories*

To launch the online environment, a company must undergo a series of steps required to identify positive factors and negative factors involved in marketing their products and services online environment:

- business analysis to be moved in the online environment;
- identify the advantages and the benefits of an electronic business;
- determining the risks involved;
- design online business;
- implementation of all components involved, namely to ensure key requirements necessary trade goods and services online environment;
- identify ways to promote your business online;
- business administration.

Identify the benefits of an electronic business involves:

- determining the type of business and type of customers they address;
- identification of objectives and performance that are intended to achieve;
- identify ways in which products and services will be sold and distributed;
- identify an Internet service provider (ISP), taking into account that will require site hosting and securing it from unauthorized access;

- creation site under conditions of presentation and content website targeting categories of potential customers, it will consider the site to be implemented security features;
- choice of strategy and product promotion site;
- the means and methods to be used for payment of goods/services: checks, credit cards.

To determine if the business is run traditionally claim to be developed and on-line, one should be considered a number of arguments, as:

- there are advantages for online business advantages that benefit both the business and the company's customers recipients;
- implications of defining technology used to conduct electronic business;
- completion of a prototype of business what will be launched in the online environment;
- establishment costs of staff training, maintenance and technical support business doing business;
- calculating business productivity and its comparison with the traditional version.

Moving a business in a market in a classic electronic market involves a number of risks, involving electronic market and some additional risks, such as:

- the competitiveness beyond the local and national market, as in traditional trade;
- existence of a high degree of security of the site that are promoted products and services;
- determine whether the launch of online business, knowing that there are situations when it is not recommended building an electronic business, and if the goods or services are only a certain category of consumers;
- there is a low level of customer involved in purchasing products and services online;
- increasing danger involved in online attacks by hackers or through viruses;
- there is a quite high possibility that existing online business to hide various cases of online frauds.

In order to build a website presenting a positive impact on potential customers to consider a set of rules to build content presentation:

- emphasis on content, on the information provided and the presentation so that the displays to be easily accessible to visitors;

- creating content in real time taking into account the suggestions of those who access;
- building a field to answer the most common questions from people who access the site;
- providing a navigation-oriented product categories and services to help the user to efficiently retrieve searchable categories;
- building a site with a reserved color that does not tire the eye of the beholder;
- ensuring a higher load speeds for website content by using the content stored in small files and providing high speed information processing by the server is stored site.

In order to attract visitors, several policies are applied, such as:

- providing an attractive interface;
- introduction site content free information;
- translation information in their native language or in a language of international;
- ensuring support to meet real-time requirements of site visitors;
- providing real contacts to be made available to users by means of which to be made effective communication.

When analyzes were performed online business involved, the next step is the implementation site. This involves several steps and implementation related technologies, as shown in Table 1.

Table 1. *Technologies for developing electronic business (Lupu)*

Stage	Used technologies
Generate the document at the client side	JavaScript, applets Java, DHTML, DOM
Generate the document at the server side	CGI, PHP, ASP, ASP.NET, ISAPI
Transforming XML data into HTML pages	XSL, CSS
Storing and querying data	XML, XQL, SQL, CGI, ASP, PHP

The next step to be run is to promote the business, this being done in traditional way, by announcements by distributing presentation materials, or publish online advertisements on high traffic websites or sending via e-mail the promotional messages.

To publish the site, the business owner has to find a web hosting provider. The discretion of the supplier, to consider several factors, such as:

- the monthly cost of service (there are providers who offer this service for free),

- existence of a high technical characteristics, both in terms of security of stored data, as well as the implementation of superior software solutions for data access and management and implementation of information;
- bandwidth available for users to access the site.

Next step for online publishing business is the choice of, this being the name that will be accessed the site to publish it on server. In Romania, the organization that manages domain names is Romanian Top Level Domain (<http://rotld.ro/>).

To purchase goods and services or to conduct any business electronic, the most important aspect is the payment mode. There are many payment methods, the most common methods used in electronic business are found:

- credit cards is very common and has been designed to allow customers to immediately buy goods and services they need; the use of credit cards, the risk is transferred from the seller to the financial institution that issued the credit card. This is the most used method of payment;
- gift certificates with a certain value are bought using various systems of payment (cash, credit cards); the certificate is sent to another person (gift), it may make payments (up to the amount stated on the certificate) in many shops;
- electronic checks is a method widely used in electronic business; a consortium of banks, *FSTC - Financial Services Technology Consortium* has created a model of electronic check which is very similar to the classical checks on paper; payer uses a processor to generate and digitally sign a check will be sent by electronic mail or Web; it is sent to the bank or the buyer - who will honor him after verifying the digital signature, sending bank money seller or seller directly - which will verify the signature, sign will turn and send it to his bank;
- PayPal is a software solution for electronic payments (www.paypal.com); transactions are between buyer and seller, they must create a PayPal account;
- SmartCard is the substitute regular wallet; content of a traditional wallet: documents, credit cards, cash, will be replaced by one or more smart cards; from the physical point of view, a smart card looks like a credit card with one or more microcircuits; a smart card can store 100 times more information than a magnetic card, while being more secure; the main benefits of smart cards are: safety, flexibility in application, the possibility of off-line validation; smart cards directly stores the digital equivalent of the amount of money and not behind an account with a bank or a bank loan; when such a card is used to buy something that is effectively equivalent vendor and then further transferred to a financial institution; smart card can be rechargeable or not, in which case the card will be discarded when the amount stated on she was exhausted;

in countries with a tradition of electronic commerce are substantial efforts to adopt smart cards;

- MoneyBookers enables any business or consumer sector that has an e-mail to make and receive online payments safely and effectively - in real time; Moneybookers can be used for:
 - send money from your credit/debit card or bank account, using the e-mail;
 - online shop;
 - receive money using e-mail.

Moneybookers offers an ideal product for small businesses for online merchants, individuals and others currently underserved by traditional mechanisms insufficient payment.

Except payment systems presented, there are other ways of payment counter products bought online, but they must be approved both of the buyer and seller. Knowing that the payment method is a prerequisite for the eventual buyer to apply for goods and services online, it is important for online business that developer to use an approve payment method and commonly used by customers.

In Romania, at the moment, the most common method of payment is cash payment, meaning that the person acquiring products online pay at the time the product is delivered to his home by a courier service.

2. The security of e-Commerce

Data security is of importance due to the fact that online transactions processing personal data, especially data regarding bank accounts and financial resources of the users.

In order to increase the level of security methods there are implemented methods to ensure data privacy and of informations processing. The authentication is to certify that the communicating parties are exactly those that claim to be. The authentication is often performed by a digital signature.

Developing a business in the online environment must emphasize that its role is to market products and services, marketing which, in the first phase, entails the recording of transactions. In this regard, business developers must implement options to certify transactions recorded in agreement.

Another important aspect of security is given to integrity, quality defining keeping the original structure and original meaning they have the data, thereby protecting data alteration.

Internet transaction has three components, each affecting in some way its security, namely:

- user - the person entering the site to buy;
- server - representing business owner;
- connection of the two components.

Any distributed application requires the prior existence of a well-defined target group that ensures efficient use of its resources.

The target group is made up of the heterogeneous elements in relation to a criterion to be considered in a number of subsets of a degree of uniformity control, which fall within a range. Each subset corresponds to a user profile. If the target group G has k subsets: $S_1, S_2, \dots, S_k$, a subset S_i will correspond the P_i profile, component of the profile P defined by $P = \{ P_1, P_2, \dots, P_k \}$.

The literature it is identified by the use of a representative range of applications that present a complete list of vulnerabilities LV .

For a specialized computer application A_h , vulnerabilities that manifest make up the crowd $LV_h \subseteq LV$.

Information security is important in the study of the purchase of data on user behavior, resulting in gross recording inputs, access to resources and vulnerabilities arising:

$$U_i^h = \langle e_{i1}^h, e_{i2}^h, \dots, e_{ni}^h; r_{i1}^h, r_{i2}^h, \dots, r_{nj}^h; v_{i1}^h, v_{i2}^h, \dots, v_{int}^h \rangle,$$

- e_{i1}^h - entries on application h of the user i ;
- ni – number of entries;
- r_{i1}^h - resource r accessed by the user i ;
- nj – the total number of users;
- v_{i1}^h - vulnerabilities generated by the user accesses i .

Vulnerability study is done systematically cover the most important idea of the generation effect vulnerabilities.

Table 2 shows the correspondence between the vulnerabilities identified, their frequencies and the losses.

Table 2. Correspondence between errors and the losses

Vulnerability	Frequency	Losses value
V_1	f_1	Val_1
V_2	f_2	Val_2
V_t	f_t	Val_t
TOTAL		TotVal

values in the Table 2 as ordered by the value of increasing primary and secondary losses after the frequencies of vulnerabilities.

For vulnerabilities that cause the greatest losses are calculated a percentage of the software applications resulting value of each vulnerability, of the total value of losses. If the weight exceeds the threshold of 0.97, this vulnerability is analyzed to identify the causes and ways to improve computer security applications and WCF.

To enhance the security of applications, calculating damages enlarged share combinations of vulnerabilities, such:

$$\frac{Val_1 + Val_2 + \dots + Val_k}{TotVal} \geq 0.97,$$

this defines an architecture of security solutions that includes components that control these vulnerabilities. There are standard procedures to eliminate the causes of producing events associated vulnerabilities, thus building professionals matrix associated vulnerabilities identified those security components that reduce or control the effects of these vulnerabilities.

Based on security matrix there will be implemented those components that mitigate vulnerabilities identified.

Table 3. Security matrix

	CS_1	CS_2	...	CS_N
V_1	*	*		
V_2				*
...		*		
V_M			*	*

* representing that the vulnerability identified in the table line is rectified security component identified in the table column.

Building security matrix that leads to the identification of security solutions, that is unique and best of economically solves optimal computer application vulnerabilities affecting.

3. Security particularities of M-Commerce applications

M-commerce or mobile e-commerce represents the using of mobile devices for communication and implementation of electronic commerce transaction or any transaction with monetary value achieved through mobile devices. M-commerce appeared due to the rapid evolution of the mobile devices and connection among internet became more accessible regardless of the geographical location of the person who connects to the Internet.

According to Rannu et al. (2010), an estimate on mobile devices for 2018 is realized. This estimate is made on based on the analysis of 1998-2008 decade.

Table 4. *Evolution of mobile devices*

	1998	2008	2018 (estimated)
Mobile penetration	5%	55%	96%
Main applications	SMS, calls	SMS, calls, browsing, search, music, video navigation, enterprise	
Networks	1G and 2G	Especially 3G	Mostly 4G, 5G
3G+ penetration	0%	18%	90%
Network speed	<50kbps	>2Mbps	>1Gbps
Smartphone penetration	1%	10%	40%
Average battery life	2 hours	2.5 hours	24 hours

If in 1998 the power of mobile penetration was only 5%, it increased in 10 years to 2008 to 55% in the mobile market and will increase to 96% or more in next period. Of these shares only a small part represents smartphone, the rest being normal mobile phone for people who just want to make calls and send messages, applications used especially in 1998, when the penetration power of smart mobile devices was very low. In 2008 the applications used on mobile phones have become more diversified, and the power of penetration of smartphones increased. In addition to making calls and sending these devices users listen to music, viewing video clips, internet browsing and other specific business. For 2018 we do not know what applications will be used but certainly those used today will be used and other new applications, strength of smartphone penetration reaching 40%.

Communications networks used until now are divided into four distinct generations:

- 1st generation (1G), designed to provide a single service, the voice appeared starting in 1980; currently one generation systems are out of service in many countries they have worked;

- 2nd generation (2G) was originally designed to provide voice services, while having a limited capacity for data transmission services with relatively low speed; by using packet data transmission through GPRS process, data transmission speed can be up to 172 kbit/s (compared to speed of 14.4 kbit/s offered in phase 1 development); it becomes possible to make multimedia transmission;
- 3th generation (3G) increased transmission speeds of up to 2 Mbit/s (in some versions up to 8 Mbit/s) and the multiple possibilities for quality multimedia services and to operate in different environments; entry into service of the first 3G systems was conducted in 2001-2002;
- 4th generation (4G) can offer download speeds of up to 100 mbps.

Evolution of network generations is shown in Figure 2.

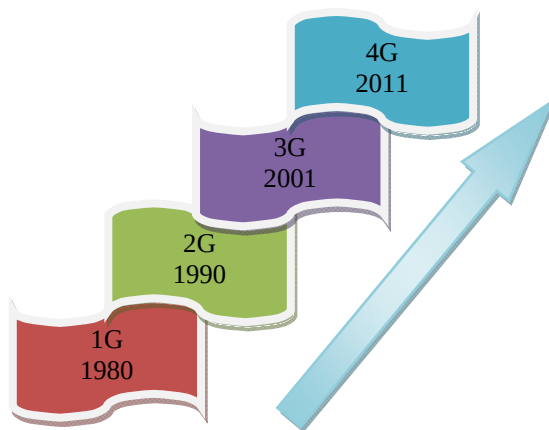


Figure 2. *The evolution of communications networks generations*

In the paper of Cole et al. (2009) it is given an ecosystem to create electronic wallet for mobile phones. A prototype electronic wallet is described, smart mobile devices based on an architecture designed to demonstrate the concept. The simplest action to demonstrate the using of this wallet is when a person goes to shopping but forgot money and cards at home. How people do not ever leave the phone next to them, it certainly is in the possession of the person went shopping. And after he purchases he realizes the payment by mobile phone process similar with credit cards payment.

The most important roles in such ecosystem are:

- user wallet is the most important part of the ecosystem because it controls the transactions;

- content providers such as banks or other financial service providers that can provide user accounts credit or debit card, digital coupons or discount offers;
- content consumers are entities that extract content from electronic wallet and POS stations in stores;
- host of wallet is the entity that implements electronic wallet used by ecosystem services such as banks or other financial service providers;
- electronic wallet service providers are entities that provide users the ecosystem services provided by content providers.

M-Commerce applications are obtained by the two methods:

- supplement or extend existing applications, which involves the addition of new tools to improve more efficient the access to E-Commerce applications existing through mobile devices;
- innovative requires the development of new services and new applications for M-Commerce to facilitate access through mobile devices; in this category of applications are not used old e-commerce applications; new applications are designed from the beginning.

Security for mobile devices and applications for these devices is provided in the following aspects:

- authentication found in the M-Commerce applications with virtual identity verification (Ivan et al., 2012), the request of personally identifiable information and checking them with the information previously provided in the registration; according to (Marian, 2009) authentication is the process of establishing or confirming the accuracy and reliability of information relating to the identity or origin of an entity. The authentication process is divided into two parts:
 - the first part is to identify the entity that is done by presenting an identifier associated with the entity that authenticates;
 - the second step is the verification and validation entity that authenticates.

In the M-Commerce applications used is that user authentication. The user authentication involves the two steps in sequence:

- user identification;
- claimed identity verification and validation.

These steps are similar to the steps identified in the authentication process. Such user authentication satisfies the conditions of the authentication process. Also all mobile applications which are components of authentication must acknowledge these restrictions and authentication process to meet. In all applications, the authentication process must submit these steps.

- communication and sending text messages is one of the core activities of mobile phones and also transactions; so this is a very important segment where security is vital to protect users of mobile devices; in paper of Boja et al. (2011) SMSEncrypt application is presented for the people who want a secure communication through SMS service; SMSEncrypt software is composed of two parts: first part of sending encrypted with specified key and the second allows receiving messages and decrypt the secret key that the message receiver must know.

Encryption key and decryption key are identical and are known only to the sender of the message and its receiver.

Figure 3 presents the steps that are taken in order to send an encrypted message and steps taken to read it to reception.

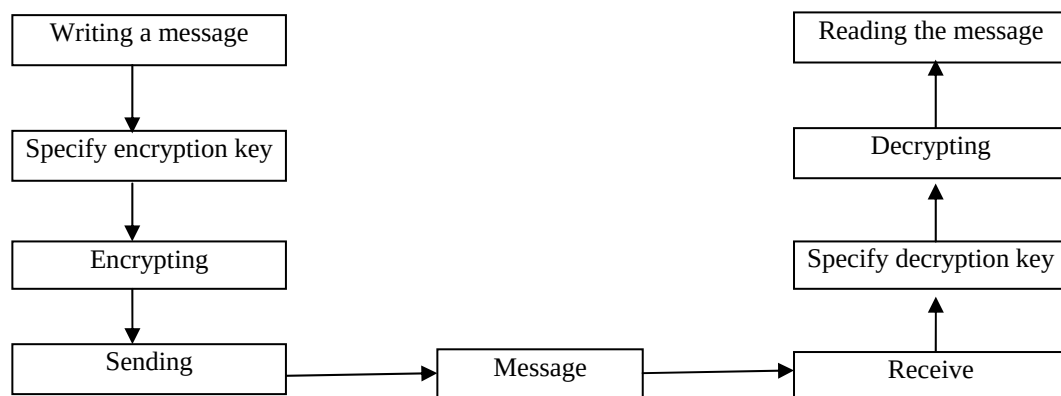


Figure 3. Stages of communication through encrypted messages

- information is stored remote or on a server as a backup in case of damage to mobile; in the internal memory of the mobile device the user store pictures taken with this device, text messages used to communicate with other people, emails, contacts or other persons contact list; all this information in the event of damage or destruction of the mobile device is lost, and their recovery is impossible or very difficult; it is recommended to keep a backup copy on a server or other device;
- encryption of locally stored information in case the device is lost or stolen by other people, such as personal information available to them; so that the previous recommendation information is saved in a backup on the server are

stored on your device but are protected by a password, access to which is allowed only by specifying the encryption key.

These aspects are very important in developing mobile applications and should be considered so that the quality of the application is increased by the security offered to the user.

4. Ways to increase the security in M-Commerce

According to Gheorghe (2001), to increase the security of m-commerce transactions a series of aspects should be considered:

- Is necessary the exchange of information, data and knowledge about the vulnerability of different software systems, between M-Commerce platforms and users;
- It is necessary to build a platform which provides services to M-Commerce, a responsibility to ensure cooperation between different groups active in the operation of critical infrastructure;
- Infrastructure protection capabilities necessary to build integrated into the various institutions dealing with making M-Commerce transactions;
- It is necessary to achieve a culture of safety, appropriate both to users and to the persons administering M-Commerce Platforms;
- M-Commerce platforms administrators must consider the potential impact of cyber dangers and accordingly covered;
- It is necessary initiation and management of research activities to address vulnerability and security platforms for M-Commerce.

The most important aspect when making the M-commerce transaction is security and safety is ensured as users or buyers online, so that they trust services through mobile devices. So, to attract as many users it is necessary to increase the security services and increase confidence in these services. According to Kwok and Chi (2006) the problems encountered in mobile commerce are:

- Coordination and interoperability between existing technologies and protocols in the M-Commerce environment;
- Security of the authentication process in the site, you need to keep safe the information provided by the user to increase users' confidence;
- User privacy and trust sites M-Commerce to increase the collaboration and the number of transactions;

- Payment must be made on a secure channel, preferably involving private and secure minimum exposure to information about the user who made the payment.

According to AV Security (2013), in 2013 attackers will aim, in greater measure, users of mobile devices, especially the amount of malware developed for phones and tablets will increase.

In terms of hardware to increase security in M-Commerce there are physical devices used to secure online accounts.

Currently many mobile users use saving passwords in browsers and if lost or stolen mobile device user access to old accounts is done with great ease. To do this is recommended that for electronic shopping made via mobile devices to be used a new method of authentication or a new level of security and request a new password that is not stored in the mobile device browser.

Conclusions

Increasing the number of users who choose to order products and services online led to the implementation of new methods and concepts of online business.

Mobile ecommerce solutions increase the number of users and thus increase the number of potential customers. However, an increased number of potential mobile users in the field of online commerce are also a growing number of potential people to be victims of cybercrime.

Therefore, the implementation of mobile services to ensure access to the ecommerce options must take into consideration the security of these services, so the transfer of data with personal character and especially of bank accounts accessing data on is to be achieved only by people legal owner.

Identifying vulnerabilities and their control or eradication increase trust that users give mobile commerce services.

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A model for measuring value for money in professional sports

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Abstract. *Few to almost none sports teams measure the entertainment value they provide to fans in exchange of the money the latter ones spend on admission fees. Scientific literature oversees the issue as well. The aim of this paper is to present a model that can be used for calculating value for money in the context of spectating sports. The research question asks how can value for money be conceptualized and measured for sports marketing purposes? Using financial and sporting variables, the method calculates how much money, on average, a fan had to spend for receiving quality entertainment – defined as won matches – from his favorite team, during the last season of the Romanian first division football championship. The results only partially confirm the research hypothesis, showing that not just price and sporting performances may influence the value delivered to fans, but other factors as well.*

Keywords: sports marketing; football; value for money; fans; relationship.

JEL Classification: A12, D29, M31.

REL Classification: 5K, 14G.

Introduction

Relationship marketing has earned a well-deserved place in football management over the last couple of decades (Clowes, Tapp, 1998). The economic improvements in sports and the technological advances witnessed shortly have allowed football clubs to build on a more business-like approach (Conn, 1997). The emergence of narrow-casting technologies made it possible for clubs to dig into the liaison with supporters, changing the grounds of sports marketing. The aim of pricing, product or communication strategies in football is now to improve the tie between club brand and fan loyalty.

However, researchers and practitioners alike have been all but none interested in studying the “value for money” proposition football clubs make to their fans. Correlations between the money spent to buy and consume a sports offering and the value received instead have been largely ignored. The rationale behind this research paper is to develop a theory widely overlooked by sports clubs: linking monetary value and entertainment value in order to determine client satisfaction.

The purpose of this paper is to present a model for calculating value for money in the context of professional sports, also known as spectating sports. Although sorts of similar research have been carried out by foreign journalists – mostly concerning the English Football Premier League and the value its squads yield to ticket holders – few but none investigations have had a scientific character. The research question asks: “How can value for money be conceptualized and measured for sports marketing purposes?” In spite of existent overseas information, few investigations have concerned domestic sports, which makes Romanian professional sports a prolific and promising land for research. This research has chosen the teams of Liga 1, the top tier of the Romanian football league system, as cases based upon which the research question would be answered.

The objectives of the research are:

- a) Assessing the economic efficiency Romanian football clubs supplied their fans with during the previous season, by comparing cost and value of following matches from the stands;
- b) Creating a “league table” of the football clubs on behalf of the economic efficiency (value for money offered to fans);
- c) Finding out which club of the local football championship offered most value for the money fans spent on watching it play.

The research has the following hypothesis:

H1: Athletic success is directly proportional with value for money – the most successful teams offer the most value and will sit at the top of the table, while the

least successful teams offer least value. Else told, the sporting classification will place teams in similar positions as the value for money table will do.

For solving the purpose of the paper and for testing the hypothesis, a sports-specific “value for money” model will have to be presented. This will be done in the methodology section, which will be preceded by a literature review on the broader issue of “value for money”. After the results section, the paper will discuss and analyze the outcomes of the research, while, in the end, some conclusions and limitations will be introduced in order to set the grounds for further research.

Literature review

Relationship marketing, Grönroos (1997) believes has to offer long-term value to customers for satisfying their needs as close as possible. Value is one of the key concepts in business: a main concern of economists, in general, and marketers, in particular, is to supply their customers with value (Berger, Nasr, 1998). Thereby, value becomes a determinant of customer loyalty: the higher the value, the closer the customers may stand to the business (Parasuraman, Grewal, 2000). Increased competitive pressure in the last couple of decades made bidders consider their value proposition even more seriously for not losing their clients. The challenge nowadays is to match customer demands with highly valued offerings, which makes value to be also a performance indicator (Glimore et al., 1999).

Therefore, customer satisfaction through superior value is now closely linked to the entire economic effectiveness of the business. Offering Value for Money became an imperative for businesses looking to keep their customers (satisfied) and to maintain market share (Woodruff, 1997). Since value earned such an important place, the need emerged for a more accurate measurement of the value businesses delivered to the market. Hence the idea of Value for Money Assessment.

Value for Money is an all-embracing form of economic estimation (Robinson, 1993). Assessing Value for Money requires a correlative analysis of the cost that a customer has to support for buying a product and the quality he receives instead (Salize et al., 2009). For the analysis to find place, financial values have to be assigned to both intakes (cost customer has to bare) and outputs (benefits gained from consuming the offer) (Robinson, 1993).

Traditionally, Value for Money has been particularly linked to services suppliers, evidence that much of the existing literature on this topic stems from the healthcare industry (Pearson, Rawlins, 2005). Still, due to its munificent character, Value for Money has no comprehensive measurement methods, which

leaves researchers with space to design their own models. The models vary in depth, depending on the type of product used as reference.

In what concerns football, financial valuation studies have been usually carried out for clubs (Deloitte, 2013). Nevertheless, such studies scale the monetary value of football clubs or their brands, by assessing revenue performance (Deloitte, 2012). The analyses measure revenue streams and their total financial input to the accounts of the clubs. Although providing relevant information regarding the financial value of football clubs, these studies do not offer insights into the value supporters attain from following the matches of their favourite teams. Hence, value in football – also a service, like some researchers might argue (Desbordes, Richelieu, 2012, van Riel et al., 2013) – is mostly regarded from financial and accounting perspectives, but less with marketing purposes. A marketing Value for Money analysis model will most probably have to compare the cost of admission to the stadium (ticket price) with the benefits of delivery (benefits a fan gains from watching a football game, expressed in financial value). Assigning monetary values to sporting results helps identify which sports supplies bring most value to customers. In what concerns spectating sports – like professional football matches, that are produced by football teams and consumed by fans – a value for money analysis helps pinpointing which team of all the ones entering a competition offers the most value to its fans for the money they have to spend on watching the team's games.

Methodology

This study takes the form of a historical research, which aims at explaining existing conditions based on data about past events. For doing this, a Value for Money analysis model for professional sports settings has been designed. The model assigned monetary value to sporting results. This helped identify the football clubs that offered most value to their fans.

The aim of the model was to show how much money, on average, a fan had to pay for receiving entertainment from his favorite team during the last season of Liga 1. Sporting and financial variables were used in the research, respecting Robinson's (1993) suggestion that both inputs and outputs have to be part of the analysis. The sporting variables used were "matches won" and "goals scored", while the financial variable was the "average season ticket price" at a team. In what concerns the sporting variables, only positive variables ("matches won" and "goals scored") were taken into account, as fans pay to go to the stadium in order to see their team score and win matches; the study starts from the assumption that results other than victories – i.e. lost or undecided matches – do not meet the expectations of fans, hence, do not provide value to them.

Historical research tries to fulfill the research purpose through collecting and analyzing data already available in secondary sources. The two types of data needed here were collected from the world wide web. Raw data about the athletic performance was gathered from the standings presented by the official website of the Romanian Professional Football League, while data concerning season ticket prices was collected either from the official websites of the football clubs, or from the news in the local press.

After being collected and stored in Microsoft Excel worksheets, some of the data had to be rectified in order to match the designed model. Both sporting variables concerned only the performance on home ground: each of the teams used in this model played 17 matches on home ground. Away matches were excluded as season tickets are only sold for home matches. Matches won and goals scored have been chosen as sporting variables, as they are a measure of the entertainment value a football team offers: the more a team wins and the more it scores, the higher the entertainment value a fan receives from watching the team's games.

While sporting variables were used as given, financial variables needed several adjustments. The "Average season ticket price" variable was calculated as a means of all the season ticket price categories a team offered, excluding the VIP tickets. Only the standard ticket prices were used, which ment ruling out the special offers at reduced prices for pupils, students, or pensioners. The reason for removing VIP tickets and reduced tickets from the study was that these two variables could have easily distorted the significance of the market prices, being priced either very high or very low.

Then, a second adjustment was also needed: while some football clubs sold full season tickets, which ment they offered a price for the entire season, others, marked with (*) in Table 1, only sold half-season tickets. As the study concerned the full season tickets, for the clubs in the latter case, the price of the tickets was multiplied by two, so that it was brought at the same unit with the other clubs. The prices of the season tickets used the Romanian currency "Lei" and its monetary division "Bani", so that the indicators have been computed in the same currency.

Last but not least, a difficulty encountered was that four of the eighteen teams used in the study did not sell season tickets or did not provide information regarding the commercialization of these. The "Discussions" section of the paper first interpreted the results without taking the four teams into account. Nevertheless, an average season ticket price at the level of the entire league was then computed by using a means of the fourteen average season ticket prices in the league. An average season ticket price per league of 235 Lei resulted, and it was then attributed to and correlated with the athletic success of the four teams which did not sell season tickets (marked with ** in Table 1). Hence, those four

teams also entered the study, albeit the validity of their information is fully questionable.

After data was stored and adjusted, it was verified for one last time, and, as no errors occurred, it proved ready for being analyzed. Historical research interprets past information in order to supply “new understanding of the past and its relevance to present and future” (Cohen et al., 2005). A complementary goal is to provide solutions to existing problems or requirements. The relationship marketing with fans done by local football clubs is lacking quality, and this study identified a need of measuring how much value clubs offer to their fans. A model had to be created in order to provide an answer to this challenge. Using the “Average” function in Microsoft Excel, the model calculated how much money, on average, a fan had to pay to see a victory of his favorite team, during the 2012/2013 season of the top tier Romanian football championship. Moreover, a “money per scored goal” indicator was also computed, so that the paper worked with both a major (money per victory) and a minor (money per goal) value for money indicators, that, in the end, were averaged for a third indicator: “average value”. Nevertheless, the “money per scored goal” and the “average value” have been calculated more as to provide additional information. The main indicator used in interpreting the results was “money per victory”. Once the results of the computations have been displayed, the historical research finished by interpreting these results.

Results and discussions

Table 1 shows the results of the computations. The football clubs are displayed in ascending order, based on the “Lei/victory” indicator (money paid by fans to see one single unit of victory; hence, how much money on average fans had to pay to buy entertainment value). As can be seen, a couple of additional information were used. Eventhough the percentage of home matches won and the average goals scored at home were not regarded in the calculations, these statistics may offer insights to readers about the entertainment value of teams.

The research hypothesis is confirmed only to some extent. The standing showing the sporting results and the standing indicating the value offered by clubs for the money paid by fans to purchase a season ticket are partially correlated. The clubs placed at the top of the sporting standing offer the most value to their customers, while the bottom-clubs offer the least value. Nevertheless, exceptions can be found. The best Value for Money is offered by a club placed fifth in the sporting standing, while a team that finished third from bottom in the sporting league (Turnu Severin) offers the third-best value for money.

Table 1. Value for Money indicators for Romanian football clubs during the 2012-2013 season

Club	ASTP	%HV	HV	GS	Av. GS	Lei/goal (1)	Lei/victory (2)	Av. (1), (2)
Vaslui	163	12	70	33	1.94	4.94	13.58	9.26
Pandurii	175	11	65	40	2.35	4.38	15.91	10.14
Turnu Severin	107	5	29	20	1.18	5.35	21.40	13.38
Gaz Metan	200	8	47	26	1.53	7.69	25.00	16.35
Dinamo	250	10	59	30	1.76	8.33	25.00	16.67
Petrolul	290	10	59	35	2.06	8.29	29.00	18.64
CSMS Iași	150	4	23	15	0.88	10.00	37.50	23.75
Rapid*	320	8	47	23	1.35	13.91	40.00	26.96
Ceahlăul*	400	9	53	25	1.47	16.00	44.44	30.22
CFR Cluj	225	5	29	28	1.65	8.04	45.00	26.52
Oțelul*	346	7	41	19	1.12	18.21	49.43	33.82
U Cluj	331	6	35	20	1.18	16.55	55.17	35.86
Viitorul*	200	3	18	19	1.12	10.53	66.67	38.60
Gloria Bistrița	138	2	12	11	0.65	12.55	69.00	40.77
Average	235							
Steaua**	235	15	88	41	2.73	5.73	15.67	10.70
FC Brașov**	235	11	65	30	1.76	7.83	21.36	14.60
Astra Giurgiu**	235	10	59	42	2.47	5.60	23.50	14.55
Concordia**	235	3	18	12	0.70	19.58	78.33	48.96

Legend: ASTP = Average Season Ticket Price, in Lei; HV = Home Victories; %HV = percentage of home matches won; GS = Goals scored at home; Av. GS = Average of goals scored at home; Lei/goal = Lei paid on average to see a goal of the team; Lei/victory = Lei paid on average to see a victory of the team; Av (1), (2) = average of Lei paid to see a goal and Lei paid to see a victory; * Only sold half-season tickets; ** Did not sell season tickets at all; were made part of the study by using a League's average price which was applied to these four teams

The results show that FC Vaslui managed to offer the highest value for money during the last season of the Romanian football league. The team priced its season tickets well beneath average, the fourth cheapest in the league. It is interesting to note that the teams which have offered lower prices than Vaslui were the ones that have ended in the last three places of the table, being relegated at the end of the season (Gloria Bistrița, Turnu Severin and CSMS Iași). Vaslui offered a price similar to the ones used by the bottom-table teams, while finishing fifth, a top position: a low price was used at a relatively good sporting performance. As a matter of fact, Vaslui is the team with the second most victories on home ground in the league, which narrowed down the cost of an average victory at round 14 Lei. Hence, while monetary value was guaranteed from the very beginning, sporting value followed, the two creating a great overall value for money. Nevertheless, in spite of having such good price and product policies in their marketing mix, Vaslui only attracted an average crowd of 3,618 at the 17 matches played at home, meaning a filling ratio of just 24% of the stadium.

Steaua Bucharest and Pandurii Târgu Jiu did not only finish the season in the top two places of the table, but they also compete for the second-best "value for

money” bidders in the league, with a slight advantage of 0.24 Lei for Steaua. The fact that Steaua find itself in such a position should not surprise, as the team were crowned champions of the league, while managing the highest home victories percentage of all (88%) and a mean of more than 21,000 fans at home games. What’s more, it is widely acknowledged that the club enjoys the highest popularity in the country. However, Steaua Bucharest was placed in this study only on behalf of calculating an average ticket price at the level of the league, as the club itself did not market any season tickets at all. So, Pandurii Târgu Jiu might well regard itself as sitting right behind Vaslui. The team played its best season since it was established, in 1963. Solid investments in the playing squad, in the dugout and in infrastructure helped the team achieve an impressive footballing performance, all at a relatively low season ticket price (fifth smallest, following the one practiced by Vaslui).

A particular case is Turnu-Severin. Eventhough it played only for the first time in the top-tier of Romanian football and saw itself relegated at the end of the season, the team offered the third-best value for money in the league. This performance is due to a inspired pricing strategy. Having a small fan-base and a young history, and not one of the best playing squads in the league, the team priced its season-tickets corresponding to these realities, hence, low. At the other end, teams with similar backgrounds priced their season tickets relatively high, at an average between 200 and 235 Lei, which badly influenced their value offering.

Given the relatively fable spending power of Romanian consumers, the football clubs exceeding the average limit of 30 Lei per victory might need to undertake some changes in their marketing mix. A couple of ideas would be to either set lower season ticket prices (like Turnu Severin did), or improve game quality through optimal invetments in the playing squad (like Vaslui and Pandurii Târgu Jiu did). Such optimizations of the marketing mix might allow the football clubs to set season ticket prices better related to the conditions they offer.

Conclusions and further research

This study managed to offer an answer to the research question, to fulfill its objectives and to test the research hypothesis. It could even be said that FC Vaslui and Pandurii Târgu Jiu have sold the cheapest victories of last season’s Liga 1. Nevertheless, many issues remained undebated. The study only took into consideration the sporting results as the output variable for the money fans have paid to follow their beloved teams. Other factors that might have influenced prices and values, such as stadia facilities or performances in related competitions, have

been neglected. Moreover, the study failed to show whether there is any correlation between season ticket prices and fans' satisfaction. Further research might therefore take a closer look into these issues, in order to provide a more detailed picture of how Romanian football clubs offer value to their fans.

Another limitation of this study is that it was completed in the lack of comparable preceding research in Romania. The absence of resembling research papers did not allow comparing the findings of this study with similar content-related results. This negatively impacted upon the reliability of the findings. Moreover, the solidness of the analysis model might be questioned, as no similar designs have been attempted before this one. Last but not least, lacking evidence for some of the football clubs involved in the study did not permit having a complete picture of the exact value for money setting in Romanian football. Nevertheless, this paper is only an aborning research for the many others that might, hopefully, succeed.

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The influence of modern epistemological streams. The case of epistemological anarchism

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Abstract. *The rationale of this research goes into the origins of the history of economic science but is willing to underpin new coordinates in methodology of science. An unusual account about this aspect shows the fear of some economists that overrating the role of methodology of science could bring scientific chauvinism out. Nor were these problems of recent origin; they were rooted in deep epistemological debates over time. Considering the theoretical evidence analyzed in this paper work, this approach of modern epistemological streams puts forward new highlights of economic methodology.*

Keywords: science methodology; tyranny of science; epistemological mainstream; induction; scientific chauvinism.

JEL Classification: B20, B41, B49, B50.

REL Classification: 1A, 2B.

Introduction

Most appropriate way to introduce a controversial epistemological topic is through the one of the most controversial epistemologist's outlook credo, Paul Feyerabend, by the appearance of a logo where are to be found underpinning keywords of the mainstream: "Science is overall an anarchic quest: theoretical anarchism is more human and more entitled to encourage progress rather than law-and-order alternatives". This work represents a methodological approach of economic thinking through one epistemological stream which is not depleted of all the answers to economic science challenges.

Short epistemological outlook on evolution of science

History of science does not contain only facts and conclusions derived from facts, but ideas too, interpretation of facts, conflict problems from misunderstandings and the like. Scientific facts and outcomes are not only Godless, apolitical, feeling and moral less, but idealized. They are obtained acting from different perspectives. Therefore, history of science will be as complex, as chaotic, as full of mistakes or as entertaining as the ideas contained, which will have at their own the same properties as the ones of the minds of their thinkers. That is precisely why "objectivity" of science implies uniformity, abstracted approach and simplification, when people intend to narrow reality they study in theoretical frameworks. Scientific education of present days is engineered on this very coordinates, trying to simplify science by simplifying science participants profiles (Feyerabend, 2010, p. 3). Simplification tends to develop itself after the following steps:

- At the beginnings is defined a research field, being designed a methodological definition area;
- The field is after that isolated from the other disciplines, giving the field a logic approach and purpose by its own;
- Crystallization of the research program;
- Embedding the coordinates of school of thought;
- Gaining theoretical background for the field scientist, essential stage within the uniformity process. One might try to eliminate the personal influences of religion, humor, emotional intelligence, personal preferences, cultures, habits. A hard core consequence of this stage is the narrowing of the imagination background. Imagination will be injured, and the language along with it. Language will cease to be genuine, natural and will be slowly removed by the scientific one.

It has to be out there an anarchic methodology, to match an anarchic science. Conversely to social state of anarchy, whose synonym is the lack of authority,⁽¹⁾ decreasing the power of law and order in scientific field will not lead to chaos at all, but to the existence of some primordial conditions of new ideas, just as the chemical and physical primordial conditions have maintained life on Earth.

1. Anything goes

“The only principle which does not inhibit progress is: anything goes” is the Paul Feyerabend’s (2010, p. 7) phrase which has shocked the community of scientific knowledge. His *Anything goes* is the symbol of methodological anarchism. Anything goes, anything is possible, are nothing else but soft encouragements to act, to discover, to innovate. *Anything goes* makes the shift from *idea* to *action*. Between *idea* and *action* scientific progress follow a wrong path under the rigor of laws: birth of an idea, or a problem, then action, discussion, critics, giving up. A better alternative would be the following of children intellectual evolution. First of all they assume their parents’ vocabulary or other adults’ from their proximity. Even they would not completely understand the meaning of those words they use, they keep playing with them until they tend to discover meanings beyond their understanding until then. The main idea is that a joyful entertainment activity might be an essential stage in understanding process. More than this, there are no prior issues to underpin the cease of this mechanism for adult intellectual development (Feyerabend, 2010, p. 10). On the same methodological trend could be analyzed as well the scientific theories:

- First of all an opposite body of ideas challenges the mainstream and the contemporary experience of society;
- This new faith is spreading, winning supporters and followers, and, along with them, is about to win support from other rebel and controversial or contested theories;
- The research is already rejected out from the common channels already used by *mainstream*, but this is helpful for the new faith, because it is redirected to insufficient known and developed areas, hence the opportunity to make use of new ideas, methodology, instruments and experiments. Eventually, having all these, a new ideology might occur. Its initial strong points are mobility and adaptability;
- As the ideology proves able to self sustaining through arguments independent of *mainstream*, so grows the chances to embedding a new opposite doctrine to *mainstream*. Theories get clearness only after disparate and incoherent parts of it have been used for about some time. Apparently worthless and meaningless at the beginning, theories are like toys whose use is out of methodology, but

very useful as essential pre requirement for the later empiric success. Paul Feyerabend (2010, p. 11) has synthesized this by saying that „without frequently misused of language, there won't be achieved any discovery through progress”. Paul Feyerabend takes *anything goes* as a milestone for his thesis according to which „anarchism is helpful in gaining progress in any meaning some might choose”.

2. Scientific chauvinism

The *anything goes* principle can be explained analyzing the consequences of “counter-rules” which oppose the laws, with official records in scientific research. An opposite rule is opposite action to current outcomes. The rule is the control key used by an institution in order to systemized its data, nothing else than empirics precondition of research. As empiricism is underpinned by induction, Paul Feyerabend (2010, pp. 13-28) put up for explanation for its *anything goes* principle, *the counterinduction*. This will lead to the following questions:

- Does counterinduction use better arguments than induction?
- Is there any circumstances to recommend and favor its utilization?
- Which are the advantages of using it?
- Which are its limits and weak points?
- Is counterinduction always preferable to induction?

The question list could go on, but the general outlook is that scientist should neither contest any rule, nor use them as anchors, because scientific methodologies, however strong they are through their outcomes, should be used under the restriction of their limit in time, whenever this might happen. Without this attitude, scientist will force the fall of theories under the power of *scientific chauvinism*. A good example is the traditional Communist Chinese medicine resurrection. A great country underpinned by great traditions has imported Western scientific principles, due to intellectual superiority. The science became to be imported as well, taught and spread by force shifting the traditional knowledge. Scientific chauvinism wins if anything considered having poor match to modern science is considered expandable as well, therefore suitable to be removed. The most well known victims were herbal medicine and acupuncture. But once Communist gained power, bourgeois elements were considered to underpin Western modern medicine, hence the u-turn to ancient values. Paul Feyerabend (2010, p. 31) has indeed admitted, it was a force majeure case, but tyranny of scientific chauvinism within Chinese modern medicine was to bring anything but hard countermeasures of the Communist party. The main idea is that scientific chauvinism is to be countered by forces outside scientific world, hence the origins of political intervention.

Science is one of the multiple instruments invented and perfected by men in order to smooth their interaction with roundabout reality. Therefore it is neither unique, nor ineffable. Meanwhile it has been awarded with enough authority to become powerful and dangerous left out of sight. It is not only about threat of nuclear technology control by hostile forces to peace and liberty, but intellectual pollution as well, able to counteract to further evolution of civilization to some extent. This could happen through educational system. Using marks and grades inducing the fear of school failure – and virtually social failure – teachers can undermine their pupils imagination, willing to accept imposed frameworks in order to pass the exams. Paul Feyerabend (2010, pp. 164-165) has proposed education to be left out of the teachers' jurisdiction. Marks constraints, competition, periodically exams should be removed by a learning process for specialized objectives. A thing must be avoided by all cost: special standards for special persons who will control special professions. This should not be allowed to breach into the educational system. Universal education should be able to train people to choose between standards, or to find their place in a society shaped by different groups, able to adhere to different standards, but without abiding standards of a special group.

Scientists are a special group. They are able to make precise and correct analysis. This is not equivalent with the powerless of ordinary people to do analysis as well. Scientist get better in their ability to see aspects, whereas ordinary people are able to register mainly things instead of aspects. This ability to see the truth from different perspectives was given by education and supported by courage to break the limits of the patterns. As example, Egyptologists decoding hieroglyphs on the Nile Valley, even they had clues about the messages from those drawings, they have not entirely understood the meanings until they have changed the perspective of plane geometry reading to space geometry approach. This example is a checkpoint for a brand new scientist, one who search progress and avoid pitfalls of scientific chauvinism.

Countering back scientific chauvinism might be the anthropologist research method. Two aborigine tribes from different continents seem closely related on the first sight, but it is more. Research on them is to be made after the following algorithm: first contact, exploring communication channels and language. Then anthropologists observe art and common every day habits. One might suppose that almost "savages" mainly fish or hunt for food, but what they effectively eat and the way the hunt is conducted could be very different. After fishing and hunting, anthropologists inquire on spiritual issues, social, economic matters. Researching over the one tribe's habits through the previous other tribes' habits brings the research under the shadow of scientific chauvinism and inductivity errors. Science is to be approached just as the anthropologist approach the field of healers as the medical department of the tribe. Most of charms of the tribe's healers are

matching on modern medicine, at least as outcomes. Therefore scientists should be prepared to analyze apparently meaningless and irrational things (for current status of modern science), and to ac with lack of logic in order to understand the meanings.

3. Fighting back to the tyranny of science

Perception on science should be open and friendly. In *The Tyranny of Science* Paul Feyerabend (2011, p. 9) made a very interesting approach on science from the market perspective. Market not only provides goods for consumers, but also is signaling over hidden needs which consumers are not aware of. Therefore science, religion, art could be taken as *spiritual markets*, with different departments linked one to another. Market offer new items too, not only tested item through previous experiences, hence the supposition that science was not based necessary on experience. Yet, a specific boundary is to be set between empirics and experience. The last is the sum of all people's five senses, when new worlds comme into the light. Empiricism is an experience based philosophy, as a very useful tool to get clear perspectives over the world when properly used (Feyerabend, 2011, p. 40).

The tyranny of scientific chauvinism is underpinned by several limitations of unity of science, resumed in the following sentences:

P1: Scientific progress (from its champions' perspective) depends on the people's openness to new doctrines, which inflicts with other people's totalitarian and rigid doctrines.

P2: Ideas and doctrines are hard to be taken for granted, requiring sometimes long time until fully recognition.

P3: Principles underpinning scientific knowledge within society are not universal, keeping the probability (and normality) for every society to define its own standards of normality.

P4: New perspectives on doctrines could inflict with *mainstream*, yet they won't ever contest the methodology of science, rationalism.

Sometimes people have a hard time understanding the future and the progress to come along with it. Superior utility of current consumption underpins Paul Feyerabend's faith in empiricism of economics. A good example is Bill Clinton's choice on his economic board. Professors and Ph.D. great economists were waiting for the president's call, but, as hardly most people expected, none of them was summoned. The president chose average economists with the touch in every day current economic issues, whose experience was more valued than abstract scientific papers.

In time science shifted to laboratory science. Science was to study reality, whereas laboratory science has the purpose to mainly smooth disturbances, volatility through its experiments. Apparently nature abides to simple principles, because nature hides many side effects. Therefore nature is to be adjusted, along with its side effects stages, yet the simple principles have to be amplified up to a clear understanding peak. This is the very reason scientist try hard to change what they study through abstracted knowledge and artificial outcomes. This approach is sustained by a specific attitude of contemporary scientific community. First of all, is to be assumed that nature does not reveal willingly all it secrets, hence the reason to force it to do it. Main laws are hidden by false presumptions and material obstacles entitled to be removed in order to gain objectivity and scientific righteousness. Second, a scientist who knows universal laws can analyze a particular case from his desk within a laboratory, without being necessary to work on the open air. After all, universal laws are the same everywhere. Some few more questions are required for additional data to fill the blanks in tables, patterns and IT programs to have their precious outcome, scientific predictions. This is the reason of shifts within educational system, which made polytechnic learning to remove competencies on engineering kills by engineering, which made medicine to remove interest for handy medical intervention by molecular biology. Assessing on the labor market, scholarships, medical procedures and marriages became to depend more on some test paper statistics instead on debate and discussion between participants (Feyerabend, 2010, pp. 43-46). Written test are good for objectivity of assessment, and for a brand new definition for it: *that assessment some has not to check personally*. Data filled in patterns and tables allow assessor to stay cozy at home. The patterns are underpinned by math and best empirical data gained. This data are to be processed under laboratory design principles, not on field designed principles. At this stance, Paul Feyerabend (2011, p. 47) used to say that “we are miles away from problem, while it lies there, in the nature, along with its plants, its clouds, insects, men, rodents, worms, etc. We are almost on another planet.”

Conclusions

In this new status-quo solutions found will be efficient only from the perspective of laboratory efficiency definition. Improvement of economic indicators will not necessary lead to improvement on quality of life, supported by feelings, traditions, engagements and patience in forming the generations.

The current problems of society are far to important to be left to scientists. Final calls are under the governments’ control, just as previously the Church had the final approve in science discoveries. When Fayerabend (2011, p. 55) invited four

colleagues to make dissertations on the influence of science over religion, the Catholic and the Protestant said “We have already been burned. We do not want to happen again.”, whereas the Muslim and the Jew expressed their interest in any form of knowledge. This is only a new embedding of the fact that through scientific knowledge there is no absolute path to be followed, but only a particular case of knowledge.

Note

⁽¹⁾ From Greek *an* + *arkhe*, without authority.

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From a holistic approach of public policy to co-governance

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Abstract. *In the context of the current paper, the holistic approach means the extrapolation of the concept of citizen towards the level of co-participant in public policy process.*

The paper is focused on the transformation of public policies in the holistic perspective, as well as on the creation of conditions favourable to such approach.

It means to emphasise issues linked, on the one hand, to how prepared the political representatives and public authorities are to accept both the direct involvement of citizens in decision-making and sharing of accountability in public policy process, and, on the other hand, the direct citizens' involvement. In other words, the paper attempts to identify possible responses to key matters for the holistic approach: On the one hand, are the members of community aware of the importance of commitment? Are they truly motivated to take part in such a structure? On the other hand, how are prepared the political representatives and public authorities to accept co-operation with different categories of stakeholders?

The researches in Romania reveal that unfortunately the actual context is not favourable to the holistic approach. The current conditions are just at minimal level, the policies will be further made behind closed doors and the citizens' consultation will be mainly formal.

Keywords: the holistic approach; the public participation; citizen-centric vision the public trust; the co-governance.

JEL Classification: H11.

REL Classification: 13C.

Introduction

The pragmatic perspective of solving several complaints expressed increasingly by the European states' citizens emphasises the need of profound transformations, able to rebuild the citizens' trust in the main democratic institutions on national and European level. The response to those turbulences means to formulate a new vision concerning the role and importance of government actors in governance, thus implying new paradigms of thought and behaviour. Building such a new vision is based on assuming strategic approaches focused on strengthening the governing actors' efforts towards renouncing at the traditional rigid hierarchies that are generating corruption in favour of innovative, flexible structures, where the citizen will play an active role. More authorised voices both in academia and at the level of international bodies, EU, OECD support the replacement of the traditional model of public *policies formulated behind closed doors* and acceptance of new, innovative models, situating the citizen in the centre of policymakers' considerations, not just as target, but also as agent. The aim is to develop policies and to design services that respond to individuals' needs services relevant to their circumstances. This core transformation in public policy approach involves the government's active support for building the problem-solving capacity and encouraging citizens' participation in civil society organisations.

1. Toward a holistic approach

The new holistic approach is characterized by an integrative vision provided by transforming the citizen into co-participant to public policies. The new view of policy reflects that belief that the outcomes policy makers want to achieve often cut across different areas.

To achieve their goals, they must share expertise and information and work together to solve problems. This implies a new emphasis on horizontal collaboration between departments, levels of government and the private sectors and citizens.

Thus, in view of the holistic approach, the accountability of citizens' security should belong mainly to the community. According to this approach, for example, the authorities are not able to solve the problems of the vulnerable groups just by allocating various support forms, in general financial ones. The vulnerability of those persons represents the outcome of a mix of factors (education level, health problems, cultural attitudes), and the policies developed should take into consideration all those factors. The community active involvement in this type of policies represents a winning strategy.

A good policy in the field of health means a vision centered at least on maintaining and of course on improving the population health status. We are speaking about a proactive approach, opposite to the reactive approach, characterising the traditional approaches of the public policies focused on treating the diseases and prescribing compensated prescriptions.

Although, at first sight, the prevention of a disease seems easier than its treatment, in reality, the problems are more complicated. Maintaining the health status means sport, healthy food, positive thinking, clean environment, entertainment and so on.

All those factors should be taken into consideration in health policy-making, which is possible only by transferring a share of this policy responsibility towards community and citizens.

The holistic approach means *governmental agreements*, established among various groups of citizens in society, thus reflecting the shift from traditional hierarchical relations between a governance center and a governed system towards new, more complex relations, and a variety of *interdependent centres*.

2. Networks as innovative forms

The transformation of the traditional hierarchy into a network structure leads to the creation of some common places in view to express the problems and look for solutions, thus expressing a variety of ideas. In these “genuine battle fields” a sufficient number of actors are involved, each one representing different objectives, visions and interests. The degree of attendance and action methods of every actor participant in the network is different. Thus, compared to the unitary organizations or the classical hierarchies, these structures are characterized by flexibility.

We shape our world through public policy. The public policy is made not only by politicians, but also by thousands of civil servants, the tens of thousands of women and men who address petition to parliaments and ministers, who join interest groups, comment through media or represent unions, corporations and community movements. All of them have a stake in public policy. The entire community is affected by public policy (Bridgman, David, 2004, p. 1).

Such participation is influenced in multiple ways and at various levels, from informal local and community settings, through incorporated entities, NGOs and core bodies, to key institutions such as legislatures, courts and the public services.

Networks have emerged due to the interdependent orientation in public and private organization. An increasing number of organizations can no longer be structured like “medieval kingdoms, walled off and protected from hostile forces” (Powell, 1990, p. 298)

Lipnack and Stamps (1994, p. 3) conclude that “the network is emerging as the signature from organization in the information age, just as bureaucracy stamped the industrial age, hierarchy controlled the agricultural era, and the small group roamed in the nomadic era”. In the past decade of the last century, the network structure was also promoted at the level of governing systems as an opportunity to involve “the voice of community” but also other entities participating in the process of public policy-making, as Francis Fukuyama stated (2004).

Networks approaches can legitimate difficult choices by involving the citizens who are affected. Governments find it increasingly difficult to develop and to implement “top-down” controversial policy choices.

In the public's mind, there is a simple but powerful connection between government's willingness to involve citizens directly in decisions and their willingness to accept that a difficult decision is necessary.

Networks approaches can support to legitimize such decisions precisely because they involve citizens in choice-making.

In addition, a strategy in view to achieve many goals requires the citizens to be involved in implementation. For example, a wellness strategy may require that community members change their diet or exercise regularly. Involving citizens to participate through community-based approaches encourages them to take personal responsibility for success. It gives them a direct stake in the project and thereby puts pressure on them to change their own habits in ways that could make a key contribution to overall effectiveness.

The model of the network structure is completely different from the bureaucratic-democratic organization in which the power source is unique, the principles of hierarchy of functions and different authority levels imply a methodical system of domination and subordination and a strict supervision from the superiors.

The development of an efficient system of communication between the groups that compose the network leads to a potential gain for the governing act, expressed not necessarily in “to do more”, but rather in the ability to master the challenges of a complex and dynamic environment.

The informational flow between the elements of the network is vital for the effectiveness of the strategic directions, and the informational systems are considered the main assets of the network. The electronic communication and

reduction of the costs for the remote communication make possible the quick dialogue within the network, in every direction and the facility of sending messages from every location to all members of the network. Thus, the premises of the interaction between all the actors of the network are created. This opportunity comes closer to reality due to the entities of the network triggering firmly towards autonomy.

3. Public participation

There is a strong link between this new approach and the existence of levels of participation.

Public participation represents the deliberative process by which interested or affected citizens, civil society organisations, and government actors are involved in policy-making before a political decision is taken. By deliberation we mean a process of thoughtful discussion based on giving and taking reasons for choices. Public participation in this meaning is intended to complement conventional modes of policy-making in which elected representatives take decisions based in part on their perception of their constituents' preferences. It can be argued that public participation matters most in those decisions in which there are strongly opposed interests, but social harmony or the commitment of resources requires a collective response. For other decisions, political participation can be limited to voting for representatives, influencing public opinion and protesting.

Public participation as an addition to representative processes may provide an antidote to national political elites or technocrats. It can counter the over weighted influence of powerful lobbies. It may also offer an effective way to overcome a citizen's sense of futility and powerlessness in the face of these larger forces (European Institute for Public Participation in Europe: an International perspective, 2009, http://www.participationinstitute.org/wp-content/uploads/2009/06/pp_in_e_report_03_06.pdf).

Participation is the highest order of public engagement. In public participation information is exchanged between the sponsors of participation processes and the participants. The term participation etymologically and conceptually refers to "being part of" and "taking part in" and carries an active component within it.

Consultation and participation share the goals of improving the quality of decisions through bottom-up flows and creating "opportunities to shape public policy" (Lukensmeyer, 2006, p. 9). Instrumental arguments for public participation are geared towards making use of citizens' wisdom and knowledge. This contributes to better regulation and factually higher quality decisions.

It might even – as a consequence – use fewer resources as implementation is likely to meet less resistance (European Institute for Public Participation in Europe: an International perspective, 2009, http://www.participationinstitute.org/wpcontent/uploads/2009/06/pp_in_e_report_03_06.pdf).

According to the European Institute for Public Participation (EIPP), there are three main requirements for successful public participation:

- A clearly defined constitutional framework for public participation. Only through an explicit, shared understanding between politicians and citizens can confidence be developed and public participation realise its democratising potential;
- A systematic approach to public participation methods to help organisers of public participation processes choose the most suitable and effective methods;
- Rigorous and challenging evaluation of public participation in practice to develop a culture of learning about participation and advance the systematisation of participatory methods (European Institute for Public Participation in Europe: an International perspective, 2009, p. 4. http://www.participationinstitute.org/wp-content/uploads/2009/06/pp_in_e_report_03_06.pdf).

Citizens may be well or poorly disposed to engage depending on many things—the urgency of their own concerns, the relevance of the matter being addressed, the nature of their previous engagements with government (if any) and their ‘habits of heart and mind’.

The kind of engagement usually envisaged between civil servants and citizens typically requires from citizens a somewhat demanding set of attributes. Ideally, if reasoned and respectful public dialogue is to be ensured, citizen as participants should be well-informed contributors—independently minded but showing the self-command and restraint that facilitates the contributions of others. They require the courage to articulate and defend their views (and change them where justified), the civility to listen to and consider contrary views, and the reasoning ability to weigh evidence and assess claims. They should possess the capacity to defer immediate needs or personal preferences in the interests of longer term benefits or outcomes or the public good.

Gradually, even though once the network centre held supremacy, it can no longer totally control the entities of the network. In these circumstances, governance has a larger meaning being all the network actors’ political effort to cooperate, unlike the traditional model in which governance is considered the main character. This fact points out the debate on the position of the central administration and the other actors of the network.

Similar to organizations, the political systems in network can be seen as mixed structures of vertical and horizontal interdependence (Popescu, 2007).

The expansion of the role of other actors participating in the network does not imply the reduction of the role of the administration, but the development of some supplementary decision-making forms as a reply to the increase in complexity and interdependence. In this context, the meaning of the concept of political decision receives extremely complex dimensions. The decision-making process follows a model of communication, accession, coordination, negotiation, compromise, exchange, delegation and leaves the decision-making to the groups involved. As a result, these governmental processes are more vague, abstract and complicated; and somehow less efficient than in the case of the traditional hierarchical governance (Popescu, 2011).

An advantage of the network system is that it can be used to direct attention towards a larger interdependent structure. Instead of assuming that influences manifest through direct and visible interactions (such as personal relationships, relations between the representatives of the institutional interests), the approach through the network structure facilitates the examination of the way an enlarged structure has effects on the individual characters' behaviour, the contents of the decisions and the efforts to implement the public policies.

The functions of the governance network differ from those of other types of network. In the networks created by companies, the dominant functions are the transactional and co-operational ones. The processes of the network policy-making support the processes of exchange and cooperation at the operational level. In these cases, the emphasis on the horizontal interdependence is stronger than in the administrative vision.

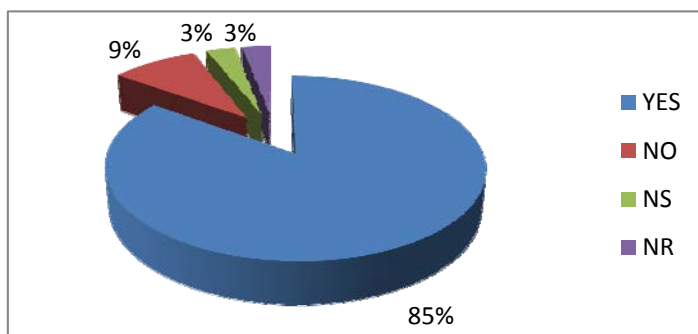
Pragmatically, the achievement of such a structure implies overcoming a variety of challenges.

From this perspective, the efforts of those responsible in Romania are minimal. Romania has adopted two relevant laws in this respect, i.e. Law No. 544/2001 on the free access to information of public interest, and Law No. 52/2003 on the decision transparency in Public Administration. And, even in these circumstances, not all civil servants have enough information about the existence of these laws and their contents.

I present the analysis of a research survey based on a questionnaire addressed to 296 officials who agreed to respond, in 2010, officials from 67 municipalities situated in the south of the country.

Q1. Have you heard about the Law No. 544/2001 on the free access to information of public interest?

At this question, 85% responded Yes, 9% responded No, 3% did not know (NS) and 3% did not respond (NR).

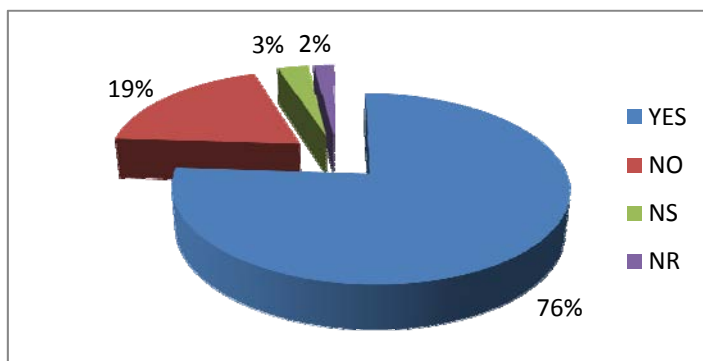


Source: the author.

Figure 1. Survey on Law No. 544/2001 on the free access to information of public interest

Q2. Have you heard about the Law No. 52/2003 on the Decision transparency in Public Administration?

At this question, 76% responded Yes, 19% responded No, 3% did not know (NS) and 2% did not respond (NR).



Source: the author.

Figure 2. Survey on Law No. 52/2003 on the decision transparency in Public Administration

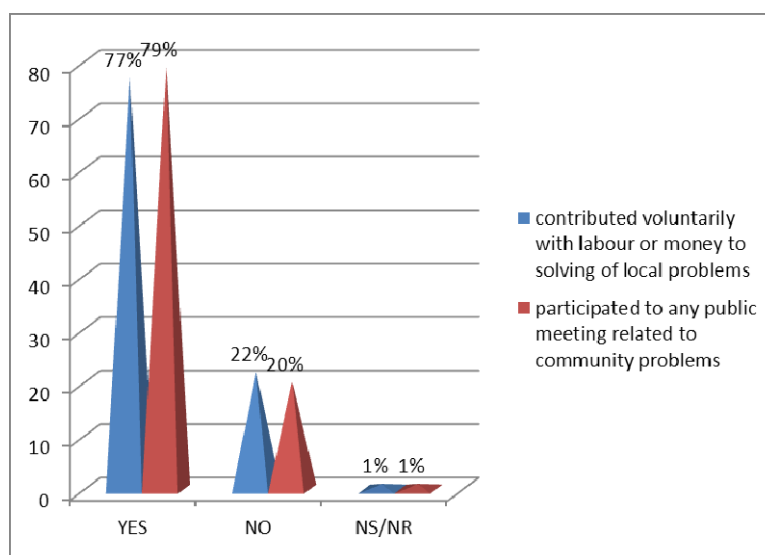
Only 76% respondents have heard about Law No. 52/2003 on the decision transparency in Public Administration. Law No. 544/2001 is more known by the civil servants as 85% are aware of this law.

In conclusion, despite the net benefits of a holistic approach, the efforts of the authorities in Romania are at least so far minimal.

From the view of the citizens' interest to be involved in the public policy process, the answer is also unsatisfactory.

The empirical analysis also signals the presence of another negative factor: weak participation of citizens within initiatives or projects that have as goal the general interest of the community. In this sense, I present relevant figures, according to the information from the Agency for governmental strategies (2007).

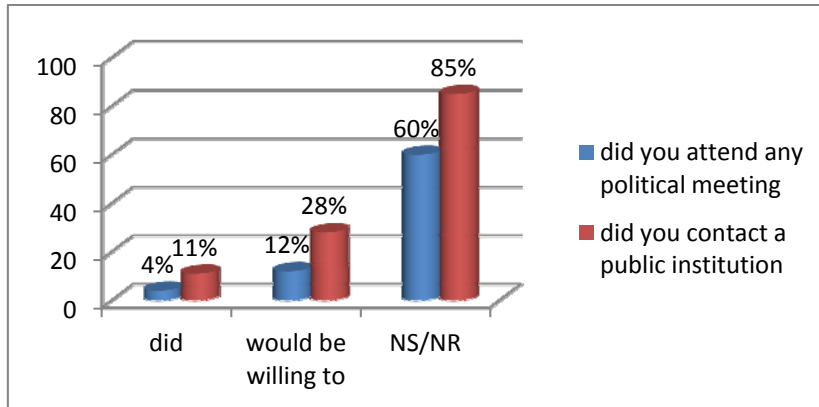
For the first survey the respondents had to answer if they have been involved in contribution voluntarily with labour or money to solving of local problems, during the last year



Source: author based on the information from the Agency for governmental strategies (2007).

Figure 3. Survey on participation in public meetings to address community problems

In the second survey, the respondents had to answer if they had performed any action in order to influence decisions, laws or policies that affect them or their community.



Source: author based on the information from the Agency for governmental strategies (2007).

Figure 4. Survey on attending meetings to influence public policy decision

One of the reasons contributing to the persistence of this factor is the mistrust of citizens in political effectiveness.

The strong presence of this factor will contribute to the occurrence and consolidation of another factor with negative effects on social capital, namely authoritarianism in solving social, political and economic conflicts.

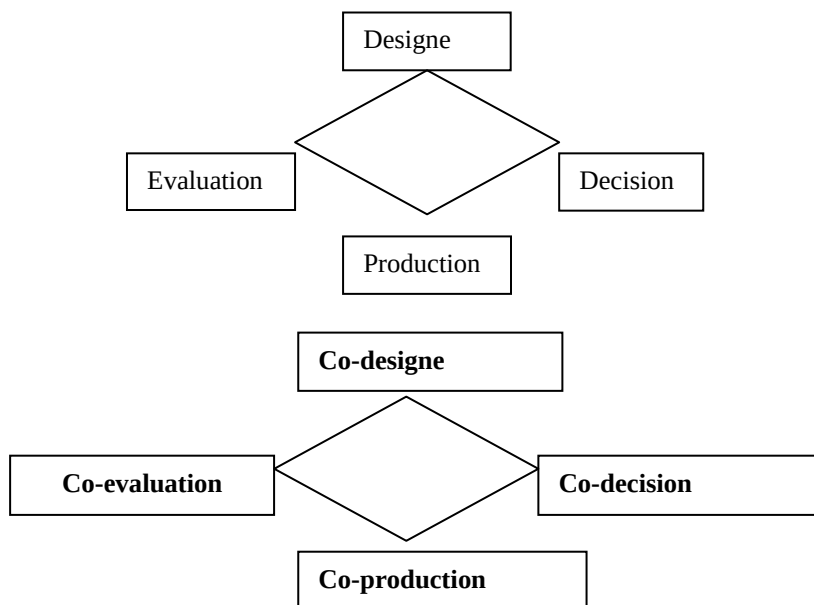
5. A next step: from partnership to co-governance

Peter Shergold has been a passionate advocate of what he calls the “participation society”, with its “twin pillars of trust and engagement”, and whose realization is “the holy grail of public and social innovation” (Shergold, 2009, p. 141). He insists that there are “forms of architecture governance that can enhance the development and delivery of public policy by engaging citizens in more engaging ways”, resulting in “a more inclusive and civil society, strengthened by new manifestations of social capital and marked by renewed interest in diverse varieties of social innovation” (Shergold, 2009, p. 142).

“Cooperative solutions are required, not only in the form of co-operation between governments but also through co-operation between governments (centrally, regionally, locally), civil society associations and other stakeholders such as media and business” (Pollitt, Bouckaert, Löffler, 2006, p. 3).

As Pollitt and Bouckaert stated (1995, p. 11), “the blurring of roles between service providers and service consumers has been paralleled by role shifts within provider organizations”.

In Figure 5 one can see the result of this deep change determined by the principles on which the holistic approach develops; from the traditional type where the citizen/consumer was “stopped at the gate of the organization” to the new one where he becomes *co-participant* throughout: *co-design*, *co-decision*, *co-produce* and *co-evaluation* (Pollitt, Bouckaert, Löffler, 2006).



Source: (C., Pollitt, G., Bouckaert, E., Löffler, Making Quality Sustainable: Co-Design, Co-Decide, Co-Produce, and Co-Evaluate, Report of The 4QC Conference, Tampere, 2006, p. 7).

Figure 5. The shift to co-designe, co-decision, co-production and co-evaluation

Co-production essentially redefines the relationship between public service professionals and citizens from one of dependency to mutuality and reciprocity. On such an account, citizens are conceived as resources of value to, and collaborators in animating, the system, rather than as mere beneficiaries of it. That is, users of public services are not defined entirely by their needs, but also by what they might contribute to service effectiveness, and to other users and their communities through their own knowledge, experience, skills and capabilities.

Since then, the desire by many democratic governments to promote social inclusion, to build social capital, to encourage more personal responsibility in matters such as health and retirement income security, and to broaden governments' capacity to address so-called "wicked problems", has created a very favourable political and social climate for involving citizens in the co-production/co-design/co-creation of public services.

According to recent studies, successful co-production of public services appears to meet people needs better, and to strengthen their personal and civic capabilities, "so [services] are more efficient, effective and sustainable. To the extent that 'public administrations are vehicles for expressing the values and preferences of citizens, communities and societies' co-production seems to be an eminently suitable concept for guiding reforms in public administration (Bourgon, pp. 390-404).

Achievement means giving up old paradigms and acceptance of the holistic approach in which services beneficiaries/users are, at the same time, co-participants in the innovation of the public service they benefit from. This holistic approach is a political problem where changes are connected to government activity and, in the end, to society. This implies that public organizations evolve:

- From a closed, self-centred service provider to an open networking organization which public trust in society through transparent process and accountability and through democratic dialogue;
- From an internal (resources and activities) focus to external (output and outcome) focus;
- From a classical design-decision-production-evaluation cycle to an involvement of stakeholders in general, and citizen (as customers) in particular *at each and every stage*. Activity (Pollitt and, Bouckaert, 1995, p.12).

That means the development of a new type of relationship between governors and governed is necessary. In other words, policy is now seen as the negotiated outcome of many interacting policy systems, not simply the preservation of policy planners and top decision-makers. Similarly, the delivery and management of services are no longer just the preservation of professionals and managers-users and other members of the community are playing a larger role in shaping decisions and outcomes. This is a revolutionary concept in public service. Finally, it demands that politicians and professionals find new ways for the interface with service users and their communities (Bovaird, 2007, p. 846).

Because co-production entails a different division of power between public service agencies, private sector entities, civil society actors and citizens, questions of governance are especially important. New forms of accountability (which, like power, is also increasingly dispersed) are required, and must be made robust

through governance arrangements that are suited to non-hierarchical, networked collaborations.

Governance means how society makes decisions on issues of public concern, how citizens are given a voice in decision-making, and how social partners work together to create public goods. Increasingly, *government* provides the leadership, change agenda and democratic institutions, and *governance* is how the work gets done. This process is characterized by a broad dispersal of power and responsibilities in society. No one controls all the tools or possesses all the levers to address the complex issues that people really care about.

Conclusions

The adoption of a citizen-centric vision in policymaking and service design is a manifestation of the fundamental commitment to citizens' participation in governance that characterises a democratic polity. At its broadest, the commitment is reflected in efforts by activists and political theorists to promote what has been variously labelled "deliberative", "direct" or "participatory" democracy. At a more prosaic level, the commitment is reflected in the local and practical initiatives that various governments have pursued to ensure citizens' involvement in decisions that affect them

The new holistic approach through which is encouraged the participation of citizens and non-state actors to the public policy process contributes to the abandonment of *government in favour of governance*. We must note that the opening towards the community and the preoccupation for the *exploitation* of this resource is characteristic only to mature and sophisticated public institutions.

The achievement of these significant changes means the giving up of the bureaucratic model so much contested in the last decades. Firstly, the political control is inadequate and illogical; secondly, the bureaucratic structure ceased to present the universal model of technical efficiency; and thirdly, bureaucracy is increasingly more perceived as a barrier against liberties, as well as against economic efficiency.

The traditionally conflict relationship between the governors and the governed is replaced with a creative cooperation and collaboration relationship between the governance actors.

As main beneficiaries of public services, citizens must be involved along the entire public service provision process. Or this new government philosophy requires new arrangements, expressed in a new institutional design, of a nature to stimulate the citizens' involvement (Lowndes, Wilson, 2001).

The institutionalization of participative governance, by comprising even certain „pedagogical processes”, generates trust, encourages the existence of a set of values unanimously shared by the community/society members and contributes to the creation of a cooperation climate at the level of the community/society.

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Reference vectors in economic choice

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Abstract. *In this paper the introduction of notion of reference vector paves the way for a combination of classical and social approaches in the framework of referential preferences given by matrix groups. It is shown that individual demand issue from rational decision does not depend on that reference.*

Keywords: choice; rationality; referential preferences; social approach; vectors.

JEL Classification: C62, D40, D00.

REL Classification: 2B, 10J.

Introduction

A very important motive of economics has been the explanation of choices and decisions of agents in real life situations. To prove why there is equilibrium in free market where supply and demand are regulated by prices (Arrow, Debreu, 1954), or to explain failure of economic system during crisis and why it give rise to unemployment and recession (Taouil, 2004), one have recourse to the microeconomic approaches of consumers and producers decision.

To formulate logic consistent and practical model of free exchange market and to explain preferences and actual decisions of agents, utility functions and their derivatives have been mathematically useful and efficient during past decades. In such model, hypothesis of perfect rationality is assumed, in the sense that all agents tend to maximize their utility functions subject to budget constraint (Balasko, 1998). But despite its convenience and theoretical success, the concept of rationality was not able to integrate all complexities and diversities of agent's behavior. Some new ideas like information asymmetry, bounded rationality and uncertainty were developed in order to furnish a more realistic description of human actions involved in the economic world which is in perpetual expansion and transformation. At the same register, many approaches for exploring social and psychic dimensions in economic activity were elaborated (Simon, 1986, Keizer, 2007).

In this paper we establish a connection between classical and social approaches in the mathematical framework defined by referential preferences presented in previous work (Goucha, 2012). In the first paragraph we introduce the notion of reference vector which serves as a tool of comparison and assessment of commodities, and we analyze in the second how the choice of such vector may affect individual behavior. This analysis has allowed to build bridge between social and rational points of view of economic activity.

1. Referential preferences and vectors

A first definition of referential preferences (*RP*) was given by Goucha (2012). This new approach consists to classify bundles of commodities represented in R_+^l by using matrix action's on the vector space. In fact, it is easy to check that any matrix subgroup $G \subseteq GL(l, R)$ induces an equivalence relation on R^l defined as following:

$$\forall x, y \in R^l, x \sim y \text{ iff } \exists M \in G \text{ st } M \times x = y.$$

In microeconomics, equivalence relations determines indifference set of consumption, but since this is not sufficient to give a totally (complete) preorder on R_+^l which is necessary to define preferences, some other conditions are needed.

Axiom 1. Let G a matrix subgroup of $GL(l, R)$ with a globally invariant action on R_+^l .

For all $x \in R_{++}^l$, there is a unique $v_x \in R_+$ and $M_x \in G$ such that $x = v_x(M_x \times I)$, where $I = \begin{pmatrix} 1 \\ \vdots \\ 1 \end{pmatrix} \in R^l$.

We can deduce a preference relation on R_{++}^l if axiom 1 is verified for some group G . Indeed, we say that x is more desirable than y when $v_x > v_y$, and they are equivalent if $v_x = v_y$.

We simply note that $v_x = v_y \Leftrightarrow \exists M \in G$ such that $M \times x = y \Leftrightarrow x \sim y$.

Definition 1 (Referential preferences). We say that a preference relation on R_{++}^l is of reference type, or referential, whenever it is given by a matrix subgroup G which satisfies axiom 1.

In many examples, axiom 1 is available for all $x \in R_+^l$ and the above definition can be extended to all commodities in R_+^l . If this is not the case we assume that all $x \in R_{++}^l$ are preferred to anything on the boundary.

The above axiom is not only a new mathematical formulation of a well-known notion, but it express an economic point of view which asserts that when an agent has to choose between two commodity bundles, he compares them to a third one which is familiar to him and more simple to estimate. This bundle represents a

kind of personal reference value and is given by: $v \times I = \begin{pmatrix} v \\ v \\ \vdots \\ v \end{pmatrix}$.

Other information about preferences given by axiom 1 reveals that the value v_x attributed by agent to the bundle $x \in R_+^l$ depends on his proper vision of intrinsic relations between the l commodities. For example, if he considers that $\begin{pmatrix} t & 0 \\ 0 & 1/t \end{pmatrix} \begin{pmatrix} 1 \\ 1 \end{pmatrix} \sim \begin{pmatrix} 1 \\ 1 \end{pmatrix}, \forall t > 0$, then he attributes **1** (1 as one unity of value) to the bundle $\begin{pmatrix} 2 \\ 1/2 \end{pmatrix}$. But if he believes that the matrix group $\left\{ \begin{pmatrix} t & 0 \\ 0 & 1/t^2 \end{pmatrix}, t > 0 \right\}$

is more adequate to describe relations in the consumption set, then he attributes to the same bundle the value $\sqrt[3]{2}$ since we have: $\begin{pmatrix} 2 \\ 1/2 \end{pmatrix} = \sqrt[3]{2} \begin{pmatrix} \sqrt[3]{4} & 0 \\ 0 & \frac{1}{\sqrt[3]{16}} \end{pmatrix} \begin{pmatrix} 1 \\ 1 \end{pmatrix}$.

This remark suggests that referential preferences lead to deduce values of bundles from the existing symmetries between commodities⁽¹⁾. Among these symmetries naturally given by matrix subgroups of $GL(l, R)$, agent decides to choose one to formulate his preferences. At this record, Marin Dinu emphasizes in recent editorial the importance of internalization of symmetries intentionality in the configuration of economic reality (Dinu, 2013).

The role of symmetries being mentioned, we return with the following statement to the main theme of this paper which is obviously the reference vectors. We will show that if axiom 1 is valid for a group G , then it may be formulated with any other vector $X \in R_{++}^l$ instead of $I = \begin{pmatrix} 1 \\ \vdots \\ 1 \end{pmatrix}$.

Proposition 1. Let G be a matrix subgroup which verifies axiom1 and a vector $X \in R_{++}^l$. Then for all $Y \in R_{++}^l$, there is a unique $v_y^x \in R_+$ and $M_y^x \in G$ such that $Y = v_y^x (M_y^x \times X)$.

Proof: By axiom1 there is $v_x, v_y \in R_+^*$, and $M_x, M_y \in G$ such that $X = v_x M_x \times I$ and $Y = v_y M_y \times I$. But since all matrices in G are invertible, then we have $I = \frac{1}{v_x} M_x^{-1} \cdot X$. This leads to the following equality:

$$Y = v_y \left(M_y \left(\frac{1}{v_x} M_x^{-1} \times X \right) \right) = \frac{v_y}{v_x} (M_y M_x^{-1} \times X),$$

or equivalently $Y = v_y^x M_y^x \times X$

where $v_y^x = \frac{v_y}{v_x}$ and $M_y^x = M_y M_x^{-1}$.

To prove the uniqueness, suppose that there is $u > 0$ and $M \in G$ with $(u, M) \neq (v_y^x, M_y^x)$ and $Y = u(M \times X)$. Consider the relation $X = v_x M_x \times I$, we obtain that $Y = u \times v_x (M \times M_x \times I)$. By axiom 1 and uniqueness of v_y and M_y , we deduce that $u \times v_x = v_y$ and $M \times M_x = M_y$ which states that $u = \frac{v_x}{v_y} = v_y^x$ and $M = M_y \times M_x^{-1} = M_y^x$.

The previous proposition suggests the new formulation of axiom 1:

Axiom 1. Let G be a matrix subgroup with globally invariant action on R_+^l and a vector $R \in R_{++}^l$. Then for all $x \in R_{++}^l$ there is a unique $v_x \in R_+^*$ and $M_x \in G$ such that $x = v_x(M_x \times R)$.

Referential preferences described by Axiom 1' are given in a same manner as axiom 1. We say that x is more desirable than y when $v_x > v_y$, and they are equivalent if $v_x = v_y$.

Corollary. Axioms 1 and 1' are equivalent.

Proof: According to proposition 1, axiom 1 implies axiom 1', and the converse follows by applying the latter to $I = \begin{pmatrix} 1 \\ \vdots \\ 1 \end{pmatrix}$.

In the light of what preceded, the following definition becomes not only possible but also well justified:

Definition 2. A vector $R \in R_{++}^l$ which verifies axiom 1' for some group G is called a reference vector (RV), or more simply the referential.

At present, referential preferences are not only given by matrix subgroup G , but, unless to prove its neutrality in the decision process, it is also specified by a referential $R \in R_{++}^l$. The role of R in the determination of individual demand and agent behavior will be the subject of the second paragraph.

2. References and choices in economic exchanges

For Simon, rationality in classical economics is viewed in terms of the choices it produces; while in the other social sciences it is viewed in terms of the processes it employs (Simon, 1986). What we make an attempt to give some answer here, is the relationship between the final choice and the process of decision in the case of individual demand. More precisely, how the reference vector which takes his place in the process can affect or not an agent's choice. To obtain a "first estimation" of response (term which come across further), let us compute and

compare demand of three consumers having the same matrix subgroups of preferences and budget constraint, while their reference vectors are different.

Example: Consider a market with two commodities, $p = (\frac{1}{4}, \frac{3}{4})$ the price vector and $w=200$ the budget of three consumers with RP given by the matrix subgroup $G = \left\{ \begin{pmatrix} t & 0 \\ 0 & 1/t \end{pmatrix}, t \in \mathbb{R}_+^* \right\}$ and by, $R_1 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$, $R_2 = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$, $R_3 = \begin{pmatrix} 1 \\ 1/2 \end{pmatrix}$, as respective RV .

Since the preorder on the consumption set is given by $v = v_x$ where $x = v_x \times (M_x \times R)$, then the following problem determines consumer demand:

$$\begin{cases} \text{Maximize } v_x \\ \text{subject to the constraint } \langle p|x \rangle = w \end{cases}$$

Consumer 1. For all consumption bundle $x \in R_{++}^I$ there is a unique $v_x > 0$ and $M_x \in G$, such that $x = v_x \times (M_x \times R_1)$. Then to determine demand we have to resolve the following problem: Max v_x such that $\langle \begin{pmatrix} 1/4 \\ 3/4 \end{pmatrix}, v_x \begin{pmatrix} t & 0 \\ 0 & 1/t \end{pmatrix} \begin{pmatrix} 2 \\ 1 \end{pmatrix} \rangle = 200$ or equivalently, find Max v_x such that $v_x \left(\frac{t}{2} + \frac{3}{4t} \right) = 200$.

A simple calculus gives that at $t = \sqrt{3/2}$ the maximal value of v_x is reached and it is equal $v_{max} = \frac{200}{\sqrt{3/2}}$. With these data, we obtain that the demand of the first consumer is:

$$X_1 = \frac{200}{\sqrt{3/2}} \begin{pmatrix} \sqrt{\frac{3}{2}} & 0 \\ 0 & \frac{1}{\sqrt{\frac{3}{2}}} \end{pmatrix} \begin{pmatrix} 2 \\ 1 \end{pmatrix} = \begin{pmatrix} 400 \\ 400/3 \end{pmatrix}$$

Consumer 2. In a similar manner, we have to resolve the following problem of maximization: Max v_x such that $\langle \begin{pmatrix} 1/4 \\ 3/4 \end{pmatrix}, v_x \begin{pmatrix} t & 0 \\ 0 & 1/t \end{pmatrix} \begin{pmatrix} 1 \\ 3 \end{pmatrix} \rangle = 200$ or equivalently: Max v_x such that $v_x \left(\frac{t}{4} + \frac{9}{4t} \right) = 200$. We obtain that $Max v_x = \frac{400}{3}$ given at $t = 3$ and the demand of consumer 2 is equal to:

$$X_2 = \frac{400}{3} \begin{pmatrix} 3 & 0 \\ 0 & \frac{1}{3} \end{pmatrix} \begin{pmatrix} 1 \\ 3 \end{pmatrix} = \begin{pmatrix} 400 \\ 400/3 \end{pmatrix}$$

Consumer 3. We have the following problem of maximization: $\text{Max } v_x$ such that $\langle \begin{pmatrix} 1/4 \\ 3/4 \end{pmatrix}, v_x \begin{pmatrix} t & 0 \\ 0 & \frac{1}{t} \end{pmatrix} \begin{pmatrix} 1 \\ 1/2 \end{pmatrix} \rangle = 200$ or equivalently: $\text{Max } v_x$ such that $v_x \left(\frac{t}{4} + 38t \right) = 200$. For $t = 32$, the maximal value of v is reached and we have $\text{Max } v_x = 400 \sqrt{\frac{2}{3}}$ and the demand of consumer three follows as:

$$X_3 = 400 \sqrt{\frac{2}{3}} \begin{pmatrix} \sqrt{\frac{3}{2}} & 0 \\ 0 & \frac{1}{\sqrt{\frac{3}{2}}} \end{pmatrix} \begin{pmatrix} 1 \\ 1/2 \end{pmatrix} = \begin{pmatrix} 400 \\ 400/3 \end{pmatrix}$$

In these three cases, individual demand remains the same what seems to suggest that referential has no impact on optimal choice of agent. We observe also that optimal value of v_x took three different values. Economically speaking, agent satisfaction given by $\text{Max } v_x$ depends inter alia on its reference vector, but it is not, and more precisely, it should not be the case of its demand. However, since this observation is only based on examples, we first need a more general result proving the neutrality of RV in the optimization of individual choice. Actually, according to Goucha (2012), existence of demand function in the referential preference setting given by matrix subgroup G and $I = \begin{pmatrix} 1 \\ \vdots \\ 1 \end{pmatrix}$ as RV is subject to the following condition:

Axiom 2. There is a unique matrix $\bar{M} \in G$ such that: $0 < \langle I | \bar{M} \times I \rangle < \langle I | M \times I \rangle, \forall M \in G$.

It follows that demand function take this form: $f(p) = \frac{\langle p | e \rangle}{\langle I | \bar{M} \cdot I \rangle} P^{-1} \times \bar{M} \times I$,

where $p = \begin{pmatrix} p_1 \\ \vdots \\ p_l \end{pmatrix}$ is the price vector, $e = \begin{pmatrix} e_1 \\ \vdots \\ e_l \end{pmatrix}$ the initial endowment of agent and P is a diagonal matrix with entries $P_{i,j} = \delta_{ij} p_j$ and P^{-1} its inverse.

Proposition 2. The demand function of an agent with referential preferences giving by a matrix subgroup $G \subseteq GL(l, R)$ which verifies axiom 2 does not depend on the choice of reference vector $R \in R_{++}^l$.

Proof: At level price $p \in R_{++}^l$, and initial endowment $e \in R_+^l$, agent has to maximize v_x such that $\langle p|x \rangle = \langle p|e \rangle$ where $x = v_x (M_x \times R)$. Since all terms are positive, and since axiom 1 implies that there is a unique $v_p > 0, v_r > 0$ and matrices M_p, M_r in G such that $P = v_p (M_p \times I)$ and $R = v_r (M_r \times I)$, we have then to minimize $v_p \times v_r \times \langle I | M_p \times M_x \times M_r \times I \rangle$ for $M_x \in G$. In virtue of axiom 2, this minimum which is clearly equal to $v_p \times v_r \times \langle I | \bar{M} \times I \rangle$, is reached when $M_p \times M_x \times M_r = \bar{M}$ or more precisely, when $M_x = M_p^{-1} \times \bar{M} \times M_r^{-1}$. From this we deduce that $\text{Max } v_x = \frac{\langle p|e \rangle}{v_p \times v_r \times \langle I | \bar{M} \cdot I \rangle}$ and the demand vector is $X = f(p) = \frac{\langle p|e \rangle}{v_p \times v_r \times \langle I | \bar{M} \cdot I \rangle} M_p^{-1} \times \bar{M} \times M_r^{-1} \times R$. By simply noticing that $I = \frac{1}{v_r} (M_r^{-1} \times R)$ and $\frac{1}{v_p} M_p^{-1} = P^{-1}$, we recover the expression $f(p) = \frac{\langle p|e \rangle}{\langle I | \bar{M} \cdot I \rangle} P^{-1} \times \bar{M} \times I$ which is independent from the choice of reference vector R .

Despite that proposition 2 incites to consider reference vector as neutral entity in the choice process, results of example suggest to examine the details of proof. In fact, we have seen that for a given price p and a reference vectors $R \in R_{++}^l$, agent's demand is given by the bundle $X = \frac{\langle p|e \rangle}{v_p \times v_r \times \langle I | \bar{M} \cdot I \rangle} M_p^{-1} \times \bar{M} \times M_r^{-1} \times R$.

Maximal reached value is, by consequence, a decreasing function of v_r . Stated otherwise, the less the reference is evaluated, the more the satisfaction or the feeling of satisfaction will be higher.

In the daily business practice, most buyers, especially professionals and intermediaries, tend to convince and persuade the seller (often without business experience) of the poor quality of its own merchandise. In doing so, they increase "margin of appreciation" while they seek to buy at the lowest price. We recover here the analysis of economic psychology where framing, which is here the final price to be reached, results from a modelled and well-intentioned impression (see Keizer, 2010, pp. 34-35). This influence is often exerted by referring to other goods which are both readily identifiable and having some proximity and resemblance to goods and services to be acquired or to sell. It is a kind of legitimization of the suggested price that one seeks rather to impose by the recourse to reference frames which have a certain recognized value. In all markets we often hear phrases such that: Sir, the apartment of your neighbour is on sale since three years... or, your car, Madam, is older than the YZ sold for less than \$1000, etc.

That practice is also very common in the labour market where pressure on wages is justified by minimizing the contributions of employees and the value of their labour intake by some typical arguments in reference to other situations: we can earn more if we relocate our company or more explicitly: our direct competitors have cut year-end bonuses by half.

Accepting by someone the reference proposed by the other is equivalent to take as given a certain interval in which the amount of transaction will be located. Inspired by the social approach (Keizer, 2010, pp. 34-35), we can say that the framing is coming from impression or first estimate which one agent attempts to impose to other one. Whether the impression comes from some real data of market, or is just a sales tactic to increase gain, it does not fit into the topic of this paper. One of the main ideas expressed in this paper is the identification of referential as source of impression which we have also called the first estimate. The framing resulting from reference vector R depends of the value $v_r \in R_+^*$ where $R = v_r M_r \times I$.

To conclude this brief discussion it should be noted that we just made some simple observations about the nature of RV and its potential role in the choice process and effective decision made by economic actors. A more elaborate work should be conducted to improve our understanding of preferences and reference vectors and their impact on market exchange mechanisms. In agreement with proposition 2 and its interpretation, the starting point would be to look at rationality as an extreme hypothesis nuanced in practices.

Conclusions

In this paper we establish a connection between the assumption of perfect rationality of economic agents, and other approaches that postulate psychic and social aspects. This connection established within the referential preferences framework allowed the identification of reference vectors as a common base of substantive and procedural analysis. Preliminary observations made in this article should be more clarified with other mathematical propositions and a deeper understanding of their economic and social interpretations.

Note

⁽¹⁾ This remark remains true if we consider relative value instead of the value itself.

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The economic and communication implications of tourism in Romania

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Abstract. *The tourism in Romania is based on diversity of relief forms, on the natural landscape, on the specific customs and on history and rich tradition, having also an important contribution to the economy. Tourism is considered one of Romania's economic sectors characterized by dynamism. So it is that the statistical data records data upon which we can support that tourism in Romania is, despite weaknesses, developing and with a high potential for expansion. In the present paper we propose a comprehensive analysis of tourism, based on statistical data obtained from specialized institutions, at the same time aiming to capture its impact on the economic level.*

Keywords: tourism; economic implications; communication implications.

JEL Classification: A1, F6, L83, M3.

REL Classification: 4C.

Introduction

It is known that Romania has the chance to enjoy varitate forms of relief, a great historical and cultural heritage, the existence of natural monuments, unique nature, some being placed in UNESCO heritage. In this context, Romania has the opportunity to develop many forms of tourism. Of course we can not overlook the negative aspects, but there are many positive aspects that can be scored. Thus, we can state that the Romanian tourism is an economic sector that is not yet sufficiently exploited but can become a source of attraction for tourists and investors, because it has all the necessary premises for sustainable tourism development.

The analysis of strengths and weaknesses in terms of economic and communication perspective

Tourism activity, through its economic effects it produces (after commerce, tourism is the second important branch of the service sector), is considered to be one of the most dynamic and perspective areas of development. According to estimates World Travel and Tourism Council, Romania ranks fourth among the countries in which the tourism has grown rapidly, with annual increase tourism potential of 8% from 2007 to 2016. Income registered, creating new jobs, foreign investments are just some of the economic effects caused by the tourism activity. From this derives the importance that should be given to this sector.

We intend to continue to carry out an analysis of this activity from the perspective of two ways: *the economic terms and in terms of communication*.

From an *economic perspective*, the Romanian tourism has some positive aspects worthy of note:

- The variety and complexity of landforms have a high potential for capitalization planning, economic development and tourism;
- The last decade has brought to Romania the consecration of agro tourism, some of the most significant being in the Centre region;
- High degree of urbanization – the highest level is registered in the Bucharest-Ilfov area, West area and Center, according to data provided by the Ministry of Economy, Trade and Business Environment;
- Important tourist flow. In 2010 Romania has attracted 1.34 million foreign tourists, up from 2009 and the expenses incurred by them were made both for business and private purposes, according to money.ro. Foreign tourists spent 886 million Euros, an increase of nearly 20%, according to the National Institute of Statistics. Those who spent the most money were German tourists, with a contribution of over 113 million. In second place among foreigners spending stands the Italian tourists who have spent a little over 95 million,

third place is occupied by French tourists, who spent 83.1 million Euros, while British tourists spent 65 million, according adevarul.ro;

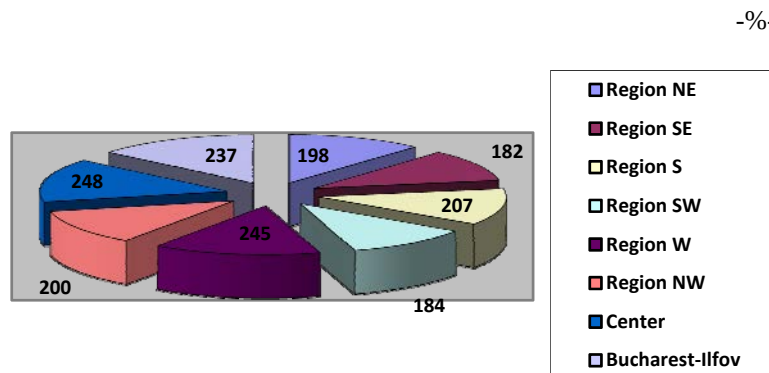
- Investment in services, so we mention the possibility to practice different winter sports, due to modernization and investment in places where they are (ski slope, technical stuff). One of the most recent investments is in Bușteni: investment in ski lift produced in Italy, in snow cannons, the asphaltting of the piste to the DN1 and the connection to gas, sewage and drinking water of the locations all around Kalinderu ski slope costed 5.2 million Euros, money obtained through structural funds Phare, according to official data;
- Development and implementation of EU-funded projects aimed at improving key issues facing the Romanian tourism, contributing to the sustainable development of important tourist areas should be a strength point. Unfortunately, it should be noted that the level of these projects is not very good, Romania facing with a weak absorption rate of EU funds. The failure reflected by the distance at which we are still against the European average in terms of regional development is the failure of adequate absorption of European funds available (Romanian Academic Society, *Annual Report*, 2012). In terms of number of projects, a detailed statement of both completed and financing contracts signed for the Priority Axis *Sustainable development and tourism promotion* can be seen in Table 1.

Table 1. Completed projects and signed financing contracts for Axis 5 Sustainable development and tourism promotion

Indicators	Target for 2015	Obtained in 2010
5.1 Projects in Tourism (no.)	100	47
5.1 Jobs created/maintained (no)	200	0
5.2 Projects in Tourism (no.)	300	61
5.2. SMEs supported (no)	350	49
5.2 Tourists arrivals in rehabilitated accommodation (no)	400,000	0
5.2 Overnights accommodation in rehabilitated infrastructure (no)	800,000	0
5.2 Jobs created/maintained (no)	800	12
5.3 Campaigns to promote tourism brand (no)	10	48
5.3 National Centre for Tourism Information and Promotion (no)	10	1
5.3. Guests at the National Centre for Information and Tourism Promotion (no.)	1 million	0
5.3. Web visitors (no)	1, 5 millions	0

Source: Ministry of Regional Development and Tourism, *Annual Implementation Report for POR 2010*, May 2011.

Regarding how high the request of European funds is, the situation is as follows: applications submitted for the *Accommodation and recreation tourism* domain register a high level of 231% by March 2012 and applications submitted for the *Promoting tourism potential* domain register a level of 122% by March 2012. Regarding the situation on these funds by Regions, for all Priority Axes, this situation can be observed in Figure 1.



Source: Graphic developed based on the information taken from Ministry of Regional Development and Tourism, *Stage of the POR implementation*, March 16, 2012.

Figure 1. The request number of grant applications filed by Regions (March 2012)

We therefore conclude by claiming that all regions experienced a high level of demand in general (as can be seen in Figure 1), and this high level persists for applications in the domains of *Accommodation and recreation tourism* and *Promoting tourism potential*. In this situation, the Northwest Regional Development Agency suggested that it would be appropriate to make a prioritization between projects submitted and the evaluation to concentrate primarily on projects that are likely to be funded (Romanian Academic Society, *Annual Report*, 2012).

Regarding the degree of contraction of EU funds on areas and regions the indicators show a worrying statistic: in general, the total percentage of contraction is delayed within *Axis 5 – Promoting the tourism potential*. (Romanian Academic Society, *Annual Report*, 2012).

Regarding the *Promoting tourism potential domain* by the end of 2010, 590 applications were submitted for funding, totaling 131.6 million EUR, of which EU contribution amounts to 93.1 million Euros, the degree of access to funds European allocated to this key area of intervention is 73%. By the end of 2010, there was contracted about 8% of the total amount allocated to this area of intervention, because of the 49 financing contracts signed with a total value of 15.08 million EUR of which 10.33 million EUR were European funding grants. Bucharest-Ilfov and Centre have the highest rate of contraction for this area of intervention, with values of 31.1% and 15.3%, while the worst rates are found in South West (2, 3%) (Ministry of Regional Development and Tourism, *Annual POR Implementation Report for 2010*, May 2011).

Regarding the *Accommodation and recreation tourism* domain, until the end of 2010 there was contracted about 53% of the total amount allocated to this key area of intervention, because of the 61 financing contracts signed with a total value of 231.7 million EUR, of which 122.4 million EUR were European funds grants. North-East and Centre contracted over 70% of the amount available for this area of intervention, while the weaker contracting rates are found in the South (25.9%) and Bucharest-Ilfov (8.5%). (Ministry of Regional Development and Tourism, *Annual Implementation Report for POR 2010*, May 2011).

In this situation with the help by the European Commission, the Government has taken steps to improve administrative capacity, with results expected later this year when a target has been set, extremely ambitious in relation to the absorption today. The latest battle plan to remedy the situation of European funds, generally, is the Priority Action Plan, under the coordination of Structural Instruments Coordination Authority (Romanian Academic Society, *Annual Report*, 2012). The overall objective aims the blocks already known: addressing problems and deficiencies affecting mostly the implementation of Structural and Cohesion Funds, in order to eliminate or significantly reduce the barriers of absorption. (<http://www.fonduriue.ro/>) This was approved in 2011 but has not yet felt the impact, which is noticeable also in tourism.

The Romanian tourism however is not only faced with this problem, there are also other weaknesses that we have to take into account:

- The instability of the government institutional framework responsible in developing the policy and the strategy in tourism and the lack of cooperation between tour operators, according to data provided by the Ministry of Economy, Trade and Business Environment;
- The tourism offer is unevenly developed at regional level. Network of tourist accommodation units are unevenly spread;
- Poor infrastructure at national level, European and national roads overuse, access infrastructure to some areas with tourism potential is poor;
- Prolonged economic crisis has had a significant effect on tourism flow, recording decreases in the number of tourists;
- The high percentage of old accommodation structures, according to data provided by the Ministry of Economy, Trade and Business Environment;
- Last but not least, we can not neglect one important aspect, namely that Romania is threatened by the loss of foreign investment potential and the loss of a significant number of foreign tourists because of the tourism development in neighboring countries, Hungary and Bulgaria, the latter remarking both on the sector of the summer tourism and winter tourism. These countries were able to encourage this sector both by coherent policy of promoting and through consistent fiscal policy (Romanian Academic Society, *Annual Report*, April 2009).

Combining economic aspects with the communication is very important. Therefore we plan also an analysis of tourism which also captures aspects of communication; therefore among the strengths in activity of tourism, *in terms of communication*, we mention:

- exploiting the tourist potential and increasing the flow of tourists through a larger number of measures to promote than in previous years:
- Current promotion to all the sights and fairs organized by foreign tour operators. Note the reintroduction of Romania in the tour operator's options among Germans, especially by ITS Reisen; its plans are to expand the promotion for Romania in 2013, by a country brochure dedicated to Romania and distributed in Germany, Austria and Switzerland, according to data from the Ministry of Regional Development and Tourism. ITS Reisen is part of REWE Group's tourism division, which ranks second among German travel conglomerates, depending on income, and holds over 2,500 own travel agencies, franchise or in cooperation with other travel agencies;
- Development of promotional materials such as: catalogs, brochures, leaflets, posters and booklets, various prints, tourist guides and maps, panels, photo albums, reportages, animation and documentaries tourism, audiovisual materials, tapes, films typical tour, CDs and DVDs, tourism protocol objects, sending promotional material and protocol at home and abroad, according to data taken from the The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products;
- Internet marketing, social networking and other electronic means, including the development and management of tourism information portal, on a competitive basis, supporting the full cost (required for both hardware and the creation of software), including the development and management ones, based on budgetary funds, and other marketing and promotional activities via the Internet and other electronic means, according to data taken from The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products;
- Promotion and advertising through the major airlines and airports in Romania and abroad, consisting of advertising inserts in promotional material by airlines and airports, distribution of promotional TV clips, movies, travel advertising, promotional materials at airports and in aircraft and other promotional and advertising activities in collaboration with airlines or airports, according to data taken from The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products;
- Promotion through advertising inserts in newspapers and general interest magazines, travel catalogs and other specialized publications (guides, maps,

brochures, flyers) made by tour operators, travel companies with business associations, employers and NGOs working in the tourism sector, local authorities and central government and other entities related to the activities in tourism that promote on the target markets of interest the destination of Romania, travel products and travel packages within Romania, according to data taken from The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products;

- Promotion through TV stations, radio and online broadcasts performing tourism programs or other programs with impact in the increasing tourist traffic in Romania, increasing the awareness of Romanian destinations or understanding the importance of the Romanian tourism, according to data taken from The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products;
- Conducting promotion and advertising actions, part in increasing awareness of the Romanian tourism destinations and products through personalities with national and international recognition from different fields, such as art, culture, sport, science and other similar, as vectors to promote Romanian tourism brand, according to data taken from The multiannual program of marketing and tourism promotion and The multiannual program for the development of tourism destinations, shapes and products.
 - The existence of a rich offer, with high tourist, history and culture importance, which may be subject for a country branding campaign: Braşov, Prahova Valley, Sibiu (European Capital of Culture in 2007), Sighisoara, Maramures, Bucovina, Moldavia Monasteries , Danube Delta;
 - The existence of areas with a strong tourism brand (Transylvania, Sibiu - European Cultural Capital in 2007);
 - The diversity of tourist objectives and their correct promote can lead to the development of business tourism and thus to attract investment.

When we realize this analysis we should also point the negative aspects that can not be ignored:

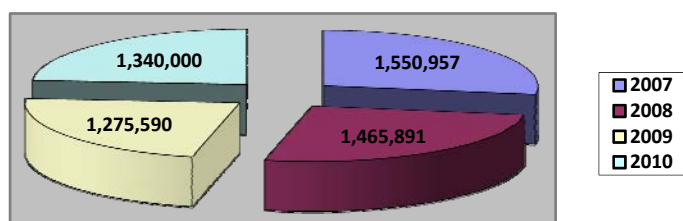
- Insufficient tourism information and promotion for a long time;
- Lack of a country brand that can be promoted, especially abroad, and controversial country brand campaigns carried out over time, among which we mention three campaigns:
 - In 2001, the campaign *Made in Romania* took place. Its aim was to promote Romania, leaving of anonymity, dropping the label “no name”; the objectives were: to promote Romanian products, domestic productivity growth, reduce unemployment, raise living standards. The communication tools used were: promotion through a website, buying advertising space in the monthly magazine suggestively named “Made in Romania”. Also, this campaign has

resorted to PR techniques especially for promotion of IT domain in Romania. Such techniques can include conferences, seminars thematic roundtables organized by the Ministry of Communications and Information Technology, in collaboration with the professional organizations in the field. This campaign was not successful being invoked as a reason the lack of sustained promotion and lack of information (Dolea, Tarus, 2009);

- In 2007, the campaign *Fabulospirit* took place. Through this campaign, the Foreign Ministry aimed positioning Romania as a country with spiritual people who enjoy life, a nation defined by inner wealth and fabulous spirit. But criticism of this campaign was numerous. Even Foreign Minister at the time, Adrian Cioroianu, said publicly that the entire campaign needs to be reconsidered, which triggered press accusations toward authority, which would again show a lack of competence and waste of public money. The slogan *Fabulospirit* was himself criticized, which some advertising experts have considered artificial and inappropriate. Although it has been allocated a considerably budget, amounting to 3 million, the campaign did not even come to be implemented (Dolea, Tarus, 2009);
- The most recent and perhaps most controversial campaign was *Romania - Explore the Carpathian Garden*, whose famous logo is the green leaf which according to data presented by the media would cost only \$ 250 but officially it costs 890,000 Euros according to information taken from Antena 3. The total value of the promotional campaign was 4,960,000 Euros, VAT, reimbursable European funds through the Regional Operational Programme 2007-2013, Axis 5, the operation “Creating a positive image of Romania as a tourist destination by defining and promoting the national tourism brand”, according to data from the Ministry of Regional Development and Tourism. The campaign was to be conducted on three TV channels worldwide coverage: CNN, Euronews and Eurosport. The choice of these international broadcasters has been achieved having as a criterion the audience (unique viewers per week) among people with incomes above the average, traveling both for business as well as for pleasure, at least six times a year, according to data of European Media and Marketing Survey (EMS) for 2010, taken by the Ministry of Regional Development and Tourism.

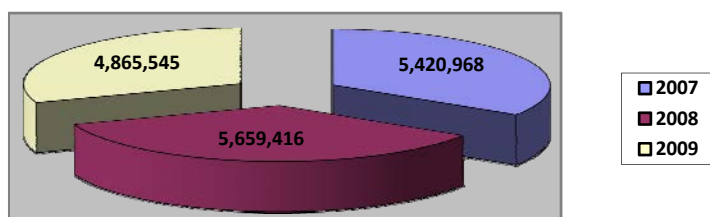
Although Romania has had numerous promotional campaigns, statistics show that the number of tourists decreased. Paradoxically, although tourist's accommodation capacity has been continuously increasing from 2007 to 2009, the number of tourists decreased. The year 2007 brought 1,550,957 foreign tourists, the year 2008 only 1,465,891 foreign tourists and in 2009 the figure was 1,275,590 foreign tourists (Figure 2) Autochthonous tourists chart follows the same curve downward: 5,420,968 Romanian tourists recorded in 2007, year 2008

records a figure slightly increased, of 5,659,416 tourists, and in 2009 the figure registered a high decrease, 4,865,545 tourists (Figure 3) (National Institute of Statistics, *Statistical Summary - Romanian Tourism*).



Source: Graphic developed based on information taken from National Institute of Statistics, *Statistical Summary - Romanian Tourism*, 2010.

Figure 2. Number of foreign tourists recorded during the period 2007- 2010



Source: Graphic developed based on information taken from National Institute of Statistics, *Statistical Summary - Romanian Tourism*, 2010.

Figure 3. Number of domestic tourists recorded during the period 2007- 2009

- The lack of effective communication and collaboration between the environment of research, business environment and decision-making environment blocks identifying and developing the best solutions in the process of sustainable development at the regional level, according to data provided by the Ministry of Economy, Trade and Business Environment.

Based on this detailed analysis whereby we tried to present the most important strengths but also weaknesses of tourism in Romania, at present we can state that tourism is an important component that requires special attention, an analysis of the points of the current development stage, but also coherent and sustained measures, capable to place Romania on the map of countries with tourist importance. Tourism has become a strategic priority for economic development, is one of the services that need to be involved in sustainable development. Currently, tourism should be analyzed and ranked as the potential that, operated after a laborious strategy, to generate the best results, measured in profit and development (Dragomir, 2009).

Conclusions

When talking about tourism, we must take into account it's economic and communication valences. An analysis of these two approaches allows us to make a true and accurate assessment of the situation at the moment of the Romanian tourism, and how tourism can affect a country's economy. Foreign investors, attracting foreign tourists, creating and maintaining jobs in the industry are just some of the economic effects that come as a result of communications efforts directed towards creating a strong country brand, able to attract a growing number of visitors and investors.

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