

INNOVATION PERFORMANCE FACTOR OF ECONOMIC ENTITIES

Prof. Univ. Dr. Pirvu Gheorghe
Ph. D Performance in economy. A microeconomics and
macroeconomics approach.
University of Craiova
Faculty of Economics
Craiova, Romania
Spiridon Cosmin Alexandru Ph. D Student
University of Craiova
Faculty of Economics and Business Administration

Abstract: Innovation is the base of economic growth and there for it must be sustained with research and development. The economic enterprises to survive on market, they must became competitive and generate performances there for they have to be innovative. In Romania the innovative entities are unevenly distributed and in time the number of them has growth. There for in this work the inovative entities are treated from the standpoint of economic regions (macroregions 1, 2, 3, 4), years (2002-2006) and economic activity or branch.

Keywords: innovation, performance, economic entities, development, research, economic regions

1. INTRODUCTION

Innovation is an activity from which result a product (good or service) new launched or significantly improved on market, or shows the introducing of a signifier new improved process in their own enterprise. Innovation is based on the results of new technologies, technological development and new combinations of existing technology or by using other knowledge obtained by the enterprise. Innovation of product means the introducing of a good or service new or significantly improved with respect to its characteristics on the market, such as improved software, user-friendly introduction to elements, components or subsystems. Innovation of process corresponding to the implementation of a production process, to a method of distribution or to a new or significantly improved auxiliary activities. Innovation (new or improved) must be new to the enterprise, but do not have to be new for the activity sector or market. No matter where innovation first appeared in respondent company or other companies.

2. OBJECTIVES

Successful innovators are entities that have introduced or implemented at least one product or innovation process.

Innovative companies are companies that have launched new or significantly improved products. Innovations are based on the results of technological developments, on new combinations of existing technology or other knowledge required by the economic entity.

The term covers all types of innovators, product innovators, of process, and companies with innovation or abandoned and relates to active entities.

Enterprises that have unfinished or abandoned innovation are companies that have unfinished or abandoned innovation to develop or introduce new or significantly improved products (goods or services) or implement new processes, including research and development.

Innovation expenditures include the costs of innovation completed and those for

unfinished or abandoned innovation. The main components of expenditure on innovation activities are:

1. Research and development (R & D) includes internal and external R & D:
 - Internal R & D includes creative activities undertaken systematically across the enterprise, to increase the stock of knowledge and their use in pursuit of products (goods or services) and new and improved processes (including software development);
 - Foreign R & D includes research and development activities made by other companies or research institutes.
2. Acquisition of machinery, equipment and software includes the purchase of advanced machinery, equipment, hardware or software for the production and / or of new or significant improved processes.
3. Acquisition of other external knowledge include the acquisition of licenses, patents and unpatented inventions, know-how and other knowledge from other companies or organizations.

Public funding of innovation includes financial support under the form of grants, loans, grants and loan guarantees. Organizational innovations represents the implementing of a significant change in company structure or management methods to improve using the knowledge gained, quality of goods and services and work flow efficiency.

Marketing innovations relate to the implementation of concepts or methods of selling new or significantly improved to increase demand for goods and services or to enter on new markets.

Innovation cooperation means active participation in joint research and development and other innovation projects with other enterprises or institutions.

Innovation cooperation means active participation in joint research and development and other innovation projects with other enterprises or institutions. Of this cooperation is not necessarily required that both partners have common immediate commercial benefits. Contracting works without the active collaboration does not mean cooperation.

3. METHODOLOGY

One based on research and development innovation in the business sector is developed within islands of excellence, knowledge economy puts in the center of the innovation system the innovative enterprise, whose investment decisions in technology or knowledge, and behaviors are true engines of economic growth (Soete, 2004). The innovative enterprise weighs the expected benefits of undertaking from innovation determined based on perceptions of consumer preferences with the cost of producing traditional goods to the average profit rate on a given market, and initiate the process of innovation based on market strategies. Innovative companies should not therefore be regarded as passive applicants of knowledge, but rather that its designers.

An important distinction must be made it pursues the distinction on previous research innovation with and without research. A company can be innovative without having a research department. Those who have such a department, as shown above, are automatically included in the innovation system, assuming that research findings are put into practice. Companies research practices between branches are often seen as components of system alignment with companies and generators of the dissemination of knowledge networks, except that the dominant market model that is not organized around the cluster centers knowledge (such as universities or research institutes and development).

Modernization and reconstruction of enterprises in the knowledge society is dependent on their management capacity to ensure their sustainability, competitiveness and innovative power.¹

Innovation is the dissemination of new creations of economic and social system, including product innovation, service, technological and organizational.² Innovative firms are considered those which practice innovation systematically, deliberately, provoked successful and beneficial.³ If innovative firms dominate the market for a product (service), they generate changes in the activity.⁴

Regarded as human action, innovation is an activity from which will result a new launched product (service) or significantly improved on the market. However, innovation is the introduction of a new process or significantly improved in own company. On the basis of new technologies and innovation are the results of existing technological developments, otherwise combined, and the practical use of new knowledge by the enterprise. Therefore, two objectives are guided by innovative enterprises: innovation of product and process innovation.

At European level, 51% of productive enterprises are technologically innovative.

Significant issues regarding the current state of innovation in Romanian companies are reflected in the survey „Romania - An Assessment of the Lisbon Scorecard”, developed by the Romanian Society of Economics in 2004, as follows:

- Low costs remain the main source of competitiveness and innovation of products and technologies;

- The vast majority, or import new technologies from foreign direct investment and through local effort;

- Most enterprises are assembly-oriented activities, the regime under contract and not advancing to the production of own brands. Of innovation survey conducted in 2008 by NIS for the period 2002-2007, according to Eurostar methodology (CIS III), at country level and development regions has revealed that:⁵

- a) innovative enterprises in 2002-2004 represented 19.9% of active enterprises in the economy, the turnover of innovative enterprises accounting for 42% of the total turnover of the active enterprises;

- b) innovative enterprises in 2004-2006 represented 21.1% of active enterprises in the economy.

Increased number of innovative enterprises in industry and services as the absolute value and as share of total business, is a positive phenomenon, but its intensity was not encouraging as soon as in six years, the specific weight of that type of business increased only 4 percentage points, but we maintain these rates, we need almost three decades for innovative enterprises to play a significant role in industry and services.

Structure of innovative enterprises has the following characteristics:

- in the period 2002-2004 in terms, size: 86% are small and medium enterprises (55.20% and 30.89% small medium) and 14% are large enterprises, in terms of their core activity: 67.48% in industry and 32.52% in services (14% trade, 12% research and development, transport and communications 6.5%). Public funding (budget) innovation is very low, only 15% of innovative companies receiving funding.

¹ Roșea Glie. Ion, Cotigaru Beniamin, Petrescu Viorel, Popescu Constantin, „Reconstrucția structural-instituțională a întreprinderilor, cerință a dezvoltării durabile în societatea cunoașterii”, Editura ASE, București, 2006, p. 262.

² Drucker Peter, „Inovația și spiritul antreprenorial”, Editura Enciclopedică, Buucurești, 1993., p. 24.

³ Drucker Peter, „Inovația și spiritul antreprenorial”, Editura Enciclopedică, Buucurești, 1993., p. 24.

⁴ Oscar Hoffman, „Sociologia organizațiilor”, Editura Oros, p. 189-190

⁵ Data from the Statistical Yearbook of Romania - 2008.

- in the period 2004-2006 in terms of size: 89.12% are small and medium enterprises (58.59% and 30.53% small medium enterprises), and 10.88% are large enterprises, in terms of core business: 63% industry and 37% services (15% trade, 14% research and development, 8% transport and communications). Public funding (budget) innovation is very low, only 13.3% of innovative companies receiving funding. Accordingly, it finds that:

- a) main source of innovation in business is the importation of innovative technology and equipment, and not the activity of research and development;
- b) at regional level, after the Bucharest-Ilfov region (which concentrates the largest potential resources and capacity for innovation), the next innovation activity developed region is South Region, whose volume of expenditure on innovation activity are currently 11 % of total expenditures at country level;
- c) economic fields, which has the largest share of innovation costs are: transport and communications, electricity, gas and water, food and beverage, furniture and other manufacturing, metallurgy, mining, machinery and equipment, road vehicles.

TABLE NO. 1 SHARE OF INNOVATIVE ENTERPRISES IN INDUSTRY AND SERVICES

Period	Number of innovative enterprises by economic activity			Share of innovative enterprises:	
	industry	services	entire	industry	services
2000-2002	2907	1076	3983	73%	27%
2002-2004	3489	1682	5171	67%	33%
2004-2006	3789	2224	6013	63%	37%

Source: Romanian Statistical Yearbook 2008, p. 558.

Most of the innovative companies operates in the industry during 2000-2002 (73%) and only 27% in services sector. During 2002-2004, the share of innovative enterprises in service marked increase in the level of 33% and in 2004-2006, their share was as observed in Table 1, 63% to 37% in industry and services.

4. ANALYSES

Innovative firms are active companies that have launched new or significantly improved products, companies that develop technologies, combined in another way using existing technologies or other knowledge than those used previously by the company. Innovative business term captures all types of innovators: product, process, and companies with innovation unfinished or abandoned. Successful innovators are enterprises which, during the reporting period, have introduced or implemented at least one product or process innovation.

In a national economy, in addition to innovative companies and companies with innovation unfinished (abandoned), there are non-innovative firms in innovative activity is absent.

TABLE NO. 2 TYPOLOGY OF INNOVATORS

Types of innovators	Number of enterprises during			Share the number of total enterprises (%)		
	2000-2002	2002-2004	2004-2006	2000-2002	2002-2004	2004-2006
Whole companies of which:	23.404	26.024	28.488	100	100	100

I. Innovative enterprises in industry and services of which:	3983	5171	6013	17	19,9	21,1
A. Successful innovators of which:	3963	5136	5970	16,9	19,7	21
- product only innovators	582	472	525	2,4	1,8	1,9
- process only innovators	413	1203	1169	1,8	4,6	4,1
- innovative product and process	2968	3461	4276	12,7	13,3	15
B. Enterprises with unfinished innovation and / or abandoned	20	35	43	0,1	0,2	0,1
II. Non-innovative enterprises	19421	20853	22475	83,0	80,1	78,9

Source: *Statistical Yearbook of Romania 2008*, p. 555.

Successful innovators are part of the same trend, their weight increased only by 4.1 percentage points. The most important innovators are firms that were once innovative products and processes, which occupies three quarters of successful innovators, innovators and product innovators only process only takes each of her eighth of the total number of innovators successful.

Enterprises or abandoned innovations are few in number and have a negligible share in total innovative enterprises successful (about 0.1-0.2 percentage points).

Concern is the large share of non-innovative enterprises in all enterprises in industry and services (80% in 2006), although 6 years is the trend of slow decline (4.1 percentage points).

4.1 CRITICAL

Innovative enterprises, by economic activity and size class, experienced few changes over the period 2000-2006:⁶

- a) in the period 2000-2002, the total number of innovative firms, about 53.7% were small, and medium enterprise 29.7% and 16.6% large firms;
- b) in the period 2004-2006, of all innovative enterprises (businesses with less innovation or abandoned), small innovative companies had a 58.6% share, innovative medium-sized enterprises accounted for 30.5% and large enterprises account for 10.9%;
- c) in industry were concentrated in 2000-2002, about 73% of innovative enterprises (approximately 71% the overwhelming finding is in manufacturing), and services 27% of innovative enterprises;
- d) in the period 2004-2006, the number of innovative enterprises in industry had a share of 63% and 37% in services;
- e) in the context of the growing number of innovative enterprises in the national economy has decreased the share of innovative enterprises in industry (from 73% to 63%) and increased the share of innovative enterprises in services (from 27% to 37%), manufacturing continued to have the most innovative companies in the national economy;
- f) small innovative firms in the industry have increased numbers (from 1411 in 2000-2002 to 1931 in 2004-2006) and as a share of the number of innovative enterprises in industry (from 48.6% to 51.3%), increasing innovative medium-sized enterprises in industry (from 909 to 1310) was accompanied by increasing their share in total number of

⁶ Romanian Statistical Yearbook 2008, p. 556.

innovative enterprises in industry (from 31.3% to 34.8%) share of innovative enterprises in industry decreased (From 20% to 14%), showing that large companies do not always manage them in relation to innovative small and medium enterprises.

As seen from the above data, during 2002 -2004 19.9% of total innovative enterprises, the highest percentage, 13.3% of returns both companies have innovated products and processes, and the lowest percentage - 1.8% returns of product innovators, and in 2004-2006 21.1% of all innovative enterprises, the highest percentage, 15% belonged to companies that have innovated both products and processes, and the smallest percentage - 1.9% of product returns innovators.

The largest expenditures were made for the purchase of equipment and devices under Romanian Statistical Yearbook - 2008 (62% over the period 2002-2004 and 75% in the period 2004-2006, the volume of expenditure) trend justifying business and industry call services to new technology. The same phenomenon occurs in all types of businesses, more prominent in small and medium enterprises. Service businesses are more concerned with research and development costs to industry.

TABLE NO. 3. TYPOLOGY OF INNOVATORS ACTIVITY AND SIZE CLASS DURING 2000 -2006

	Entire			From which:								
				Only product innovation			Process innovation only			Product and process innovation		
Period	2000-2002	2002-2004	2004-2006	2000-2002	2002-2004	2004-2006	2000-2002	2002-2004	2004-2006	2000-2002	2002-2004	2004-2006
Entire	3963	5136	5970	582	472	525	413	1203	1169	2968	3461	4276
Small	2126	2834	3506	344	266	330	201	739	699	1581	1829	2477
Medium	1178	1585	1817	172	148	155	138	343	365	868	1094	1297
Large	659	717	647	66	58	40	74	121	105	519	538	502
Industry	2901	3464	3764	357	315	291	315	780	692	2229	2369	2781
Small	1411	1677	1931	202	154	157	142	436	374	1067	1087	1400
Medium	909	1172	1310	107	111	113	109	231	230	694	830	967
Large	581	615	523	48	50	21	65	113	88	468	452	414
Mining and quarrying	23	32	44	1	-	-	1	14	12	21	18	32
Manufacturing of which:	2828	3378	3651	355	313	288	299	741	659	2174	2324	2704
Small	1406	1666	1902	202	154	156	142	430	362	1062	1082	1384
Medium	879	1149	1275	107	110	113	104	221	223	668	818	939
Large	543	563	474	46	49	19	53	90	74	444	424	381
Electricity, gas and water	51	54	69		2	3	15	25	21	35	27	45
Services	1062	1672	2206	225	157	234	98	423	477	739	1092	1495
Small	715	1157	1575	142	112	173	59	303	325	514	742	1077
Medium	269	413	507	65	37	42	30	112	135	174	264	330
Large	78	102	124	18	8	19	9	8	17	51	86	88

Source: Romanian Statistical Yearbook 2008, p. 558.

TABLE NO. 4. INNOVATION EXPENDITURE RATIO BY SIZE CLASS, ECONOMIC ACTIVITY AND COMPONENTS

Period	Expenditure on innovation:					
	Research and Development Activity (%)		Purchases of machinery, equipment and software (%)		Acquisition of other external knowledge (%)	
	2004	2006	2004	2006	2004	2006
Entire	19,4	22,7	62,2	74,9	18,4	2,4
Small	27,9	26	67,3	71,6	4,8	2,3
Medium	29,5	35,7	69,2	61,4	1,3	3
Large	15,1	17,9	59,3	79,8	25,7	2,2
Industry	17,5	15,1	80,5	82,8	1,9	2
Small	20,3	15,2	72,4	80,4	7,4	4,3
Medium	19,6	11,4	79,4	86,1	1	2,4
Large	16,5	15,9	81,8	82,3	1,6	1,7
Mining and quarrying	53,4	32,8	45,5	67,2	1,1	-
Manufacturing	17,2	11,9	80,7	86	2,1	2,1
Small	20,5	15,6	72,1	80	7,4	4,4
Medium	19,7	11,9	79,3	85,5	1	2,6
Large	15,8	11,6	82,4	86,6	1,8	1,8
Electricity, gas and water	9,8	17,4	89,6	78	0,5	4,5
Services	22,6	38	30,8	58,8	46,6	3,2
Small	36,1	32,7	61,9	66,2	2	1,1
Medium	50	60,8	48	35,6	1,9	3,5
Large	12,5	24,4	20,6	71,8	66,9	3,8

Source: Romanian Statistical Yearbook 2008, p. 560.

Information sources for innovation (required for initiating new innovative projects, to complement existing innovation projects or use the intellectual property right) are grouped into:

- a) internal sources within the company / group companies;
- b) market sources (suppliers of equipment, materials, components, soft-ware, clients / customers, competitors or other companies in the same sectors, consultants, laboratories, research institutes - private development);
- c) institutional sources (universities, government institutions, public research institutes);
- d) other sources (conferences, fairs, exhibitions, magazines and other publications, professional associations and industrial).

For the years 2004 - 2006 on all businesses, the most important information sources for innovation, in descending order were: information inside the enterprise or group of companies, suppliers of equipment, materials, components and software, customers / buyers, magazines and other scientific publications, conferences, fairs and exhibitions, competition and businesses in the same industry, private research and development, industrial and professional associations, and higher education, public research institutes and development.⁷ From this hierarchy is clear how necessary for Romania increased role for public research, and private higher education and professional associations as sources of information for innovation.

During 2002-2004 the share of enterprises with organizational innovation was 30% in total innovative enterprises. Size classes, large companies have introduced the largest

⁷ Romanian Statistical Yearbook 2008, p. 559

proportion of organizational innovation. The services share of enterprises that have introduced organizational innovation was slightly higher (34.8%) than in industry (27%).

In the period 2004-2006 the share of enterprises with organizational innovation was 32% in total innovative enterprises. Size classes, large companies have introduced the largest proportion of organizational innovation. The services share of enterprises that have introduced organizational innovation was slightly higher (33.4%) than in industry (31.6%).

TABLE NO. 5. SHARE OF ENTERPRISES WITH ORGANIZATIONAL AND MARKETING INNOVATION IN ALL INNOVATIVE ENTERPRISES, BY SIZE CLASS AND ECONOMIC ACTIVITY

	Share of firms with organizational innovation (%)		Share of enterprises with marketing innovations (%)	
	2002-2004	2004-2006	2002-2004	2004-2006
Entire	29,6	32,3	5	4,7
Small	30,9	31,8	6	5,7
Medium	27,8	33,7	3,6	3,2
Large	28,4	30,4	3,9	3,1
Industry	27	31,6	5	5
Small	28,9	31,4	6	6,6
Medium	24,1	31,9	3,7	3,4
Large	27,5	31,7	4,5	3
Mining and quarrying	36,8	54,5	-	-
Manufacturing	26,6	31	5,1	5,2
Small	28,8	31,1	6,1	6,7
Medium	23,6	31,5	3,8	3,5
Large	26,3	29,4	4,6	3,3
Electricity, gas and water	47,2	50	3,7	-
Services	34,8	33,4	5	4
Small	33,7	32,4	6	4,6
Medium	38,3	38,2	3,3	2,5
Large	33,7	25,2	-	3,3

Source: Romanian Statistical Yearbook 2008, p. 562.

Marketing innovation has implemented concepts and methods to new or significantly improved sales results for production to increase demand for goods and services that businesses or enter new markets.

During 2004-2006, over 32% of innovative enterprises in industry and service innovations practiced corporate and 4.7% of them were concerned with marketing innovation. Share of industrial enterprises with organizational innovation was 3.1% of total innovative enterprises and professional services 33.4 percent. Medium sized companies have the best innovation in organizational behavior, compared with small and large enterprises. Share of enterprises with marketing innovations, not only is reduced to the requirements of market modernization of Romania, but showed a decreasing trend, both per total innovative enterprises and innovative businesses in the service.

With regard to enterprises that have introduced innovations in the market (marketing innovation), the share was between 2002-2004, 5%, both in services and industry, share of enterprises with marketing innovations was 5 % and in 2004-2006 the share of enterprises with marketing innovations was 4.7% and in industry for 5, 7% and 4% in services.

Cooperation in innovation requires active participation in joint research and development and innovation with other enterprises or institutions. The total number of 3,983 enterprises with innovation activity, only 892 companies said they were cooperative, which represents only 4% of the total population (the same weight is for industry and services).

During the period 2002-2004: in cooperation with various partners, as their location, the service is better cooperation recording up to 25% percent of all enterprises with innovation activity. Most units are in the country by 19% followed by European countries 10%.

Industry share is lower, registering a 19% for all types of cooperation and manifested the same trend as in the service sector, the cooperation in the 15% and 8% in European countries. There is a little cooperation with the U.S. and Japan both in industry and in services, less than 5%.

In the period 2004-2006: big changes are not only further reveals that poor cooperation with the U.S. and Japan, both in industry and in services, with a share below 5%.

TABLE NO. 6. SHARE OF INNOVATIVE ENTERPRISES THROUGH COOPERATION IN ALL INNOVATIVE ENTERPRISES, BY SIZE CLASS, ECONOMIC ACTIVITY AND TYPES OF PARTNERS

Period	Entire cooperation (%)		From which partners:					
			Romania (%)		European countries (%)		U.S. and other countries (%)	
	2002-2004	2004-2006	2002-2004	2004-2006	2002-2004	2004-2006	2002-2004	2004-2006
Entire	19	17,3	14,9	17,3	7,9	8,5	2,2	2,8
Small	16	14,9	13	14,9	5,6	5,1	0,5	2,1
Medium	19,3	17,4	14,3	17,2	9,0	10,3	3,8	2,2
Large	30	30,6	23,6	30,4	14,6	21,4	4,8	8,7
Industry	16,3	17,4	12,8	17,3	6,8	8,7	1,5	2,1
Small	12,1	15	11	15,0	4,1	4,9	-	1,6
Medium	16,5	15,9	10,9	15,5	8,1	9,5	2,3	0,6
Large	27,6	30	21,3	30,0	11,8	20,9	4,3	7,4
Mining and quarrying	43,4	11,4	27,4	11,4	4,7	2,3	4,9	-
Manufacturing	15,9	17,1	12,5	17,0	6,9	8,7	1,5	2,1
Small	11,9	15,2	10,9	15,2	4,0	5,0	-	1,6
Medium	16,4	15,7	11	15,4	8,3	9,6	2,3	0,6
Large	26,6	28,3	20,1	28,3	12,6	21,0	4,4	8,1
Electricity, gas and water	27,9	35,7	25,9	35,7	1,7	15,7	-	-
Services	24,4	17,3	19,1	17,3	10,2	8,0	3,4	4,1
Small	21,7	14,7	15,9	14,7	7,5	5,4	1,3	2,7
Medium	27	21,2	23,7	21,4	11,7	12,5	8,1	6,2
Large	44,2	33,1	36,5	32,3	29,8	23,4	7,7	14,5

Source: Romanian Statistical Yearbook 2008, p. 565.

Domestic distribution allows innovative enterprises know how macro included innovation and developing regions, economic activity and size categories of enterprises and the business of innovation is harmonious in territorially dispersed or concentrated in

certain areas, other Occupying an area peripheral.

Product only innovators in 2000-2002 were distributed on macroregions and regions as follows: 8.4% in macroregion 1 (1.9% in the Northwest region and 6.5% in the Central Region), 23.7% in macroregion 2 (14.8% in Node-East region and 8.9% in the South-East), 57% in macroregion 3 (46.7% in Bucharest-Ilfov region and 12.4% in South-Muntenia) and 10.9% in macroregion 4 (3.3% in the South-West Oltenia and 7.6% in Western region), in 2004-2006, the distribution was: 26.7% in macroregion 1 (10.7% Northwest region and 16% in Central region), 36.2% in macroregion 2 (17.9% in the Northeast region and 18.3% in the South-East), 32.2% in macroregion 3 (18.3% in Bucharest-Ilfov region and 13.9% in South-Muntenia) and 4.9% in macroregion 4 (2.6% in the region South-West Oltenia and 2.3% in Western region).

Process only innovators had in 2002 following territorial distribution: 9% macroregion 1 (8.0% in the Northwest region and 1% in Central region), 46.5% in macroregion 2 (12.1 % in Northern Region 34.4% in East and South region is 35.3% in macroreion 3 (24.7 % in Bucharest-Ilfov region and 10.6% in South-Muntenia) and 9.2% in macroregion 4 (3.9 % in the South-West Oltenia and 5.3% in Western region). In 2004-2006, only process innovators distribution was: 24.4% in macroregion 1 (9.4% in the Northwest region and 15.0% in Central region), 44.7% in macroregion 2 (16.3% in the Northeast region and 28.4% in the South-East), 21.7% in macroregion 3 (12.3% in Ufov Bucharest region and 9.4% in South-Muntenia) and 9.2% in macroregion 4 (4.4% in the South-West Oltenia and 4.8% in Western region).

TABLE NO. 7. TYPOLOGY OF INNOVATORS (ENTERPRISES), CLASS SIZE, MACRO ECONOMIC AND DEVELOPMENT ACTIVITIES, 2000-2006

Size class Macroregions economic activities	2000-2003			2004-2006		
	Innovative only product	Innovative only process	Innovative product and process	Innovative only product	Innovative only process	Innovative product and process
TOTAL	582	413	2968	525	1169	4276
small enterprise	344	201	1581	330	699	2477
medium enterprise	172	138	868	155	365	1298
large enterprise	66	74	519	40	105	501
industry	357	315	2229	291	692	2781
services	225	98	739	234	477	1495
MACROREGION 1	49	37	1106	140	285	1282
small enterprise	20	28	634	85	169	766
medium enterprise	26	5	295	44	88	372
large enterprise	3	4	177	11	28	144
industry	43	24	825	81	203	968
services	6	13	281	59	82	314
MACROREGION 2	138	192	670	190	523	1448
small enterprise	84	95	368	144	339	908
medium enterprise	41	65	188	33	149	418
large enterprise	13	32	1.14	13	35	122
industry	93	159	533	86	323	880
services	45	33	137	104	200	568
MACROREGION 3	332	146	755	169	254	1126
small enterprise	198	64	357	88	142	562
medium enterprise	88	51	247	68	83	387

large enterprise	46	31	151	13	30	177
industry	176	94	494	108	941	630
services	156	52	261	61	60	496
MACROREGION 4	63	38	437	26	107	420
small enterprise	42	14	222	13	49	241
medium enterprise	17	17	138	10	46	120
large enterprise	4	7	77	3	12	59
industry	45	16	377	16	72	303
services	18	22	60	10	35	117

Source: Romanian Statistical Yearbook, 2008, p. 572.

Product and process innovators, in 2000-2002, saw the following territorial dispersion: 37.3% in macroregion 1 (13.0% in North-West region and 24.3% in Central region), 22.6% in macroregion 2 (15.8% in the Northeast region and 4.8% in the South-East) -25.4% in macroregion 3 (16.2% in Bucharest-Ilfov region and 9.2% in South-Muntenia) and 14.7% in macroregion 4 (7.1% in the South-West Oltenia and 7.6% in Western region). After four years, the territorial structure of product innovators and process this way: 30% macroregion 1 (17.3% in North-West region and 12.7% in Central region), 33.9% in macroregion 2 (13.4% in the Northeast region and 20.5% in the South-East), 26.3% in macroregion 3 (17.3% in Bucharest-Ilfov region and 9.0% in South-Muntenia) and 9.8% in macroregion 4 (3.7% in the South-West Oltenia and 6.1% in Western region).

5. CONCLUSIONS

Romanian enterprises innovative activity in industry and services is not only poor but also disproportionate national territory. Macroregion 3, Bucharest-Ilfov development regions and South-Muntenia, are best placed focusing only 32.2% of product innovation, the innovation only 35.3% and 25.4% of the innovation process so process and product. The gap between macroregion 1 and macroregion 3 is 4.5 percentage points less product innovation (ie, made only 8.3% of the product innovation Macroregion 3), minus 10.9 percentage points in the innovation process (69 % of the innovation process of Macroregion 3) plus 4.6 percentage points simultaneously product and process innovations (achieved 118% compared with 100 macroregion 3).

Gap between macroregion 2 and macroregion 3 are favorable to macroregion 2 at product innovation (4.2 percentage points) and simultaneous innovation process and product (8.5 percentage points) and its detrimental to the innovation process (-26.3 percentage points).

Gap between macroregion 4 and macroregion 3 are detrimental for macroregion 3 to all categories of innovation, they turned the discrepancies: the innovation of the product - 27.3%, the innovation process - 26.1% and product innovation and the process of -10.7%.

Detach macroregion 2 (Nord-East and South East) which holds first place in innovative enterprises of all categories of innovators. Macroregion 1 ranks second only to the innovative process and product innovators and process, and third place at only product innovators. Macroregion 3 ranked first in innovative products and only the third to only process innovators and product innovators. Macroregion 4 ranks last in all categories of innovators.

For economic development to become innovative should be strengthened national innovation system⁸, representing a network of public and private sector institutions whose activities and interactions of the innovative process perpetuates and enriches society: the research-development institutions (institutes and centers research, innovative business enterprises, universities), government funding for research and innovation programs, the national flows supporting innovation (financial flows, legal and strategic ties, flows of technological and scientific information, social flows).⁹

REFERENCES

1. Andronic B. C. Performanța firmei, Ed. Polirom, 2000
2. Bogliolo F. La creation de valeur, Ed. D'Organisation, 2000
3. Drucker Peter Inovația și spiritul antreprenorial, Editura Enciclopedică, 1993
4. Freeman Ch. The Economic of Industrial Innovation, Penguin Books, Ltd., 1974
5. G. Mirela
Mariana Inovarea și procesul creării societății informaționale în România, Editura Universitaria, Craiova, 2004
6. Kaldor N. A Model of Economic Growth. Economic Journal, 1957
7. Roșea Glie. Ion, Reconstrucția structural-instituționalistă a întreprinderilor, cerință a dezvoltării durabile în societatea cunoașterii”, Editura ASE, 2006
Cotigaru
Beniamin,
Petrescu Viorel,
Popescu
Constantin
8. Sandu S. Inovare, competență tehnologică și creștere economică, Editura Expert, 2002
9. *** Data from Statistical Yearbook of Romania, 2008

⁸ Gagi Mirela Mariana, „Inovarea și procesul creării societății informaționale în România”, Editura Universitaria, Craiova, 2004, p.64.

⁹ Sandu S., „Inovare, competență tehnologică și creștere economică”, Editura Expert, Buucurești, 2002, p. 125.