

DEVELOPING IT&C DOMAIN PREMISE OF SUSTAINABLE DEVELOPMENT IN ROMANIA

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ABSTRACT:

In the information society, economic fields with advanced technology represent the main vector of development in consonance with the sustainable development of human society. The paper examines the evolution of economic sectors with high technology as the main component of the information society in Romania compared to EU countries, both in terms of number of companies and also production value, value added at factor cost, gross operating surplus, etc.. It is used to analyze statistical data from the years 2008-2012 from Eurostat databases, Undata and the National Institute of Statistics.

Keywords: Information society, IT&C, High technology

JEL: E29

1.Introduction

The information society is the stage of human development in which the role of information and knowledge is essential to economic and social development and the high-tech economic sectors are key drivers of development, supported by a technology infrastructure mainly consists of computers and computer networks and communications. The origin of human evolution to the information society is situated increasing complexity of socio-economic systems, emphasis needs to know and intelligent action on them, as reflected in the unprecedented requirements, volume, diversity and sophistication - on communication and information processing and knowledge (Dobrota N., 1999)¹.

In the information society, economic fields with advanced technology represent the main vector of development in consonance with the sustainable development of human society. In this context, the research-development activity is one of the important factors to increase competitiveness, targeting the economic environment and its needs (Zaharia M. & Balacesu A., 2012).

The paper examines the evolution of economic sectors with high technology as the main component of the information society in Romania compared to EU countries, both in terms of number of companies and also production value, value added at factor cost, gross operating surplus, etc..

It is used to analyze statistical data from the years 2008-2012 from Eurostat Databases, Undata and the National Institute of Statistics database (TEMPO series).

2. Evolving economic statistics on high-tech industries at the national level

In this chapter we will analyze the dynamics of high-tech industry in Romania and surrounding countries, in the period 2008-2011, based on data taken from the Eurostat database, high-tech sector (from 2008 onwards, Eurostat database, NACE Rev. 2). According to Eurostat²:

- ‘Statistics on high-tech industry and knowledge-intensive services’ (sometimes referred to as simply ‘high-tech statistics’) comprise economic, employment and Science, technology and innovation (STI) data describing manufacturing and services industries or products traded broken down by technological intensity³.
- The level of Research & Development (R&D) intensity served as a criterion of classification of economic sectors into high-technology, medium high-technology, medium low-technology and low-technology industries. The sectoral approach is an aggregation of the manufacturing industries according to technological intensity (R&D expenditure/value added) and based on the Statistical Classification of Economic Activities in the European Community (NACE)⁴.

High tech industry includes the following:

- manufacture of electronic, computer and optical products;
- manufacture of air and spacecraft and related machinery;

¹ Niță Dobrotă, coordonator, *Dicționar de economie*, editura Economică, București, 1999, pag. 435

² http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=htec_eco_sbs&lang=en

³ http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/htec_esms.htm

⁴ ibidem

- manufacture of basic pharmaceutical products and preparation.

High-technology sectors (high-technology manufacturing and knowledge-intensive high-technology services)
It will analyze the evolution of high-tech sector in terms of number of enterprises⁵.

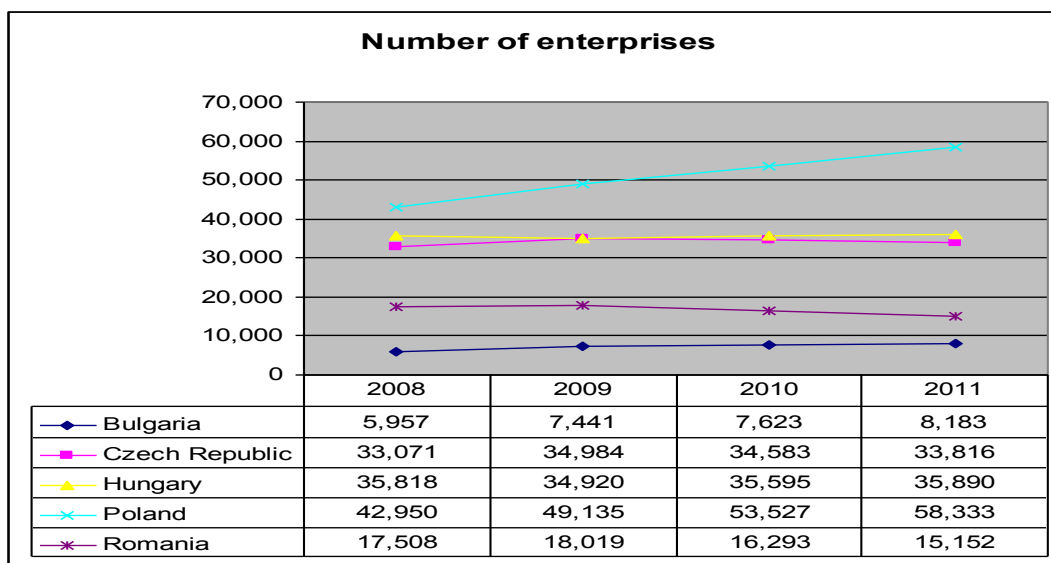


Fig. no.1

Data source: Eurostat

- If in Poland and Bulgaria, the number of companies increased continuously even during the crisis by 37% in Bulgaria and 35.8% in Poland (2008 versus 2010), in Romania after a slight increase of 2.8% (2008 compared 2009), there was a decrease of 9.5% (2009 versus 2010) and 7.5% (2010 compared to 2011).

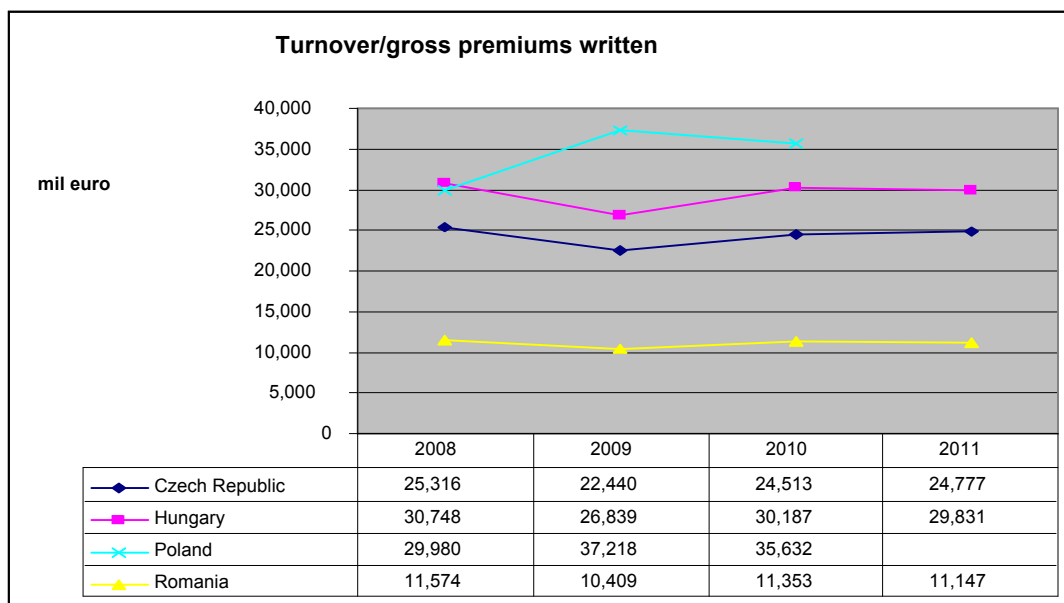


Fig. no.2

Data source: Eurostat

- In Hungary and Czech Republic the number of companies did not change significantly.
- Note the difference in size of number of enterprises between countries. So, if the Czech Republic and Hungary have a number of companies very close in absolute value, the absolute leader is Poland, which has a number of companies about 50% higher than the second but with values more than 3 times from Romania and 7 times the Bulgaria.
- In terms of turnover, most countries have varied with a decrease of 12.7% Hungary, Romania to 10% (2008 compared to 2009) and then returned to values close to those in 2008.
- Poland had a different pattern, with increases of over 24% , followed by a slight decrease of 4%.

⁵ http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=htec_eco_sbs2&lang=en

- Romania, although with a population of two times that Hungary has a turnover of 2.6 to 3 times less!

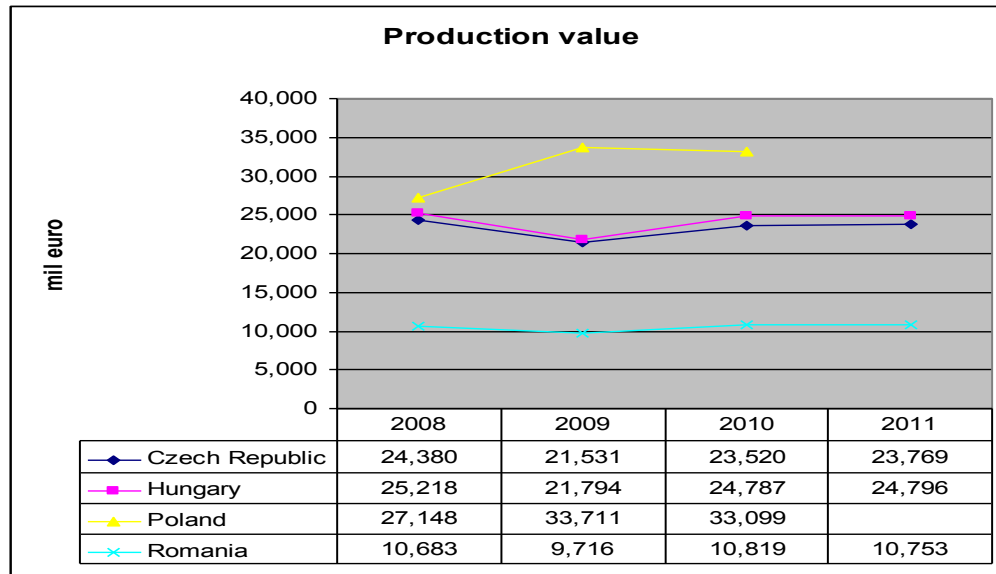


Fig. no. 3
Data source: Eurostat

In terms of production variation is observed following figures:

- All countries had a decrease in production in 2009 compared to 2008 with values between 11.6% Czech Republic, Hungary 13.5%, and 9% Romania.
- Since 2010 production has returned to values close to those of 2008, but no significant increases only stalled.

Note that Romania, although with a population of two times that Hungary has a production value 2.5 times smaller!

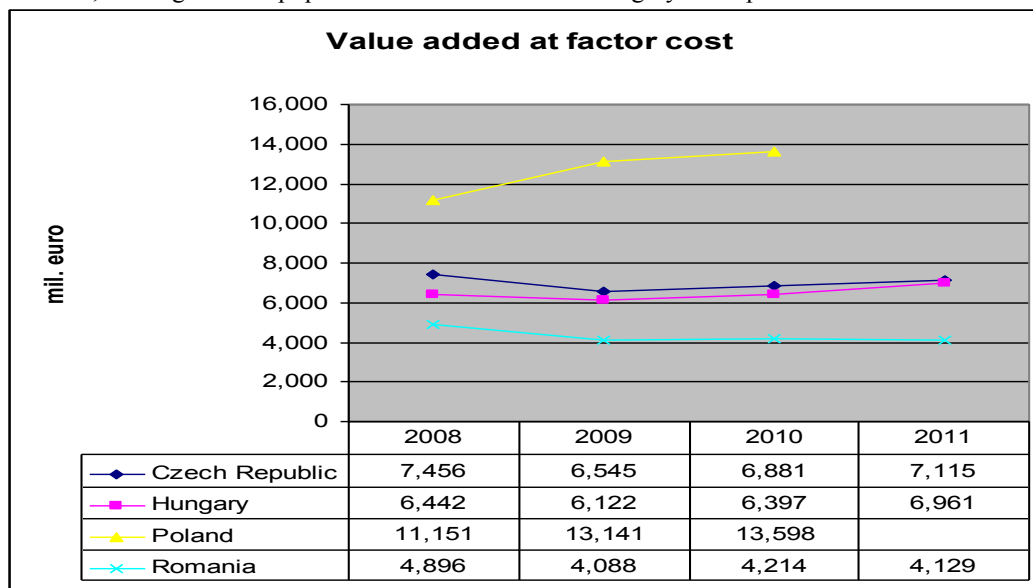


Fig. no.4
Data source: Eurostat

Evolution of value added at factor cost show a slightly downward trend for 2009 compared to 2008, followed by a slight increase in 2010 and 2011, except Poland which has only an uptrend.

3.Evolution of the Romanian IT&C industry by region, in the period 2008-2010

Evolution of Turnover

The graphic shows the evolution of turnover in the IT&C industry in the years 2008-2010, on regions of the country. It were plotted separately developing regions as follows: Region Bucharest-Ilfov and totally Romania and other regions separately because they are orders of different magnitude.

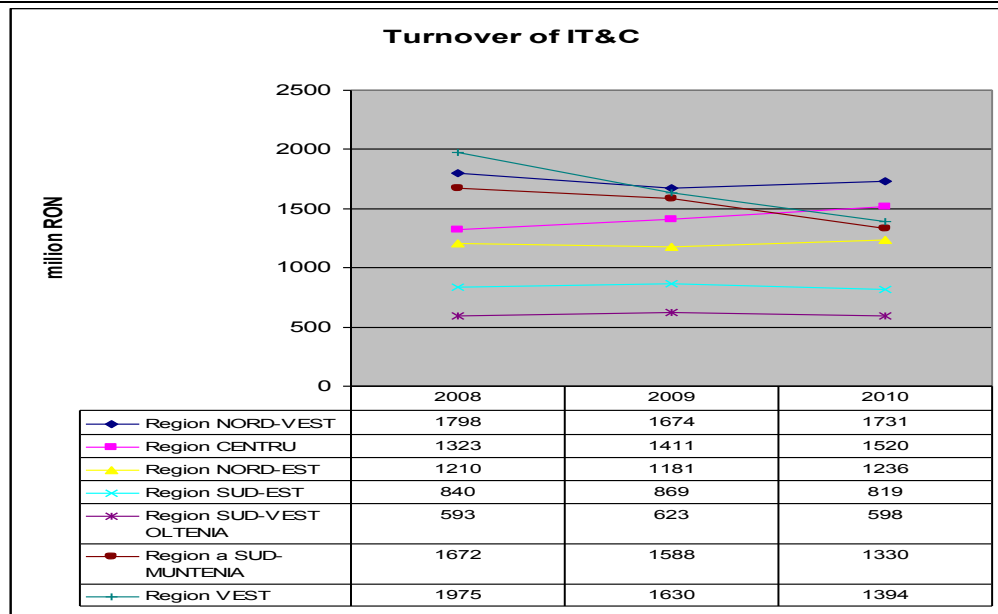


Fig. no. 5

Source: TEMPO Series, National Institute of Statistics⁶

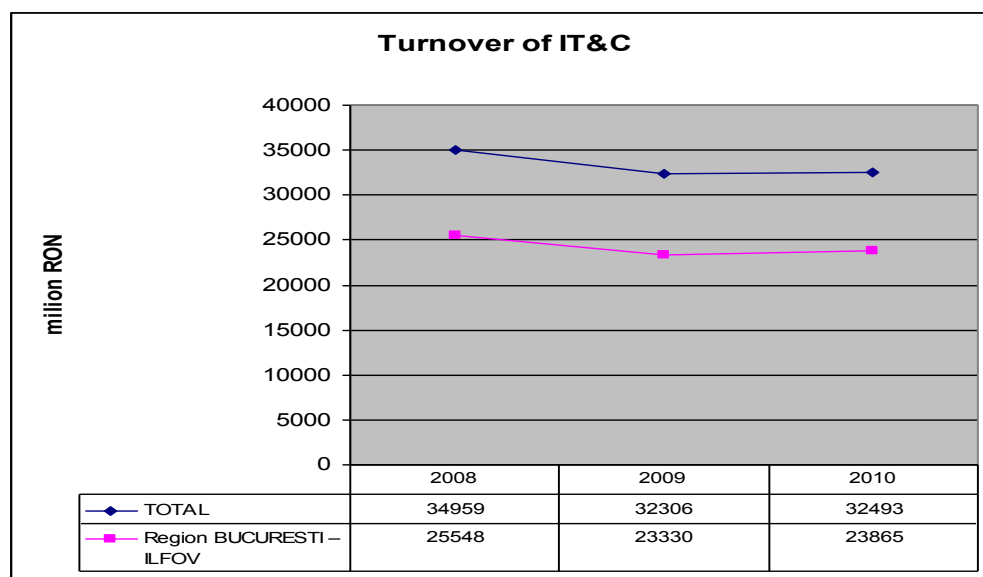


Fig. no.6

Note that the South West region is the last among regions of the country and at a great distance even of the latest classes. Compared to the turnover of Bucharest-Ilfov area is 40 times smaller!

In absolute values, the analyzed region less notable differences recorded in 2008-2010, with a minor increase in 2009.

Gross investment in tangible goods from local ICT units in 2008-2010 indicates, besides the general downward trend due to the crisis, some interest of investors in this sector.

⁶ http://www.nord-vest.ro/Document_Files/Planul-de-dezvoltare-regionala-2014-2020/00001310/bvd0x_Societatea%20informati%20noiembr%202012.pdf

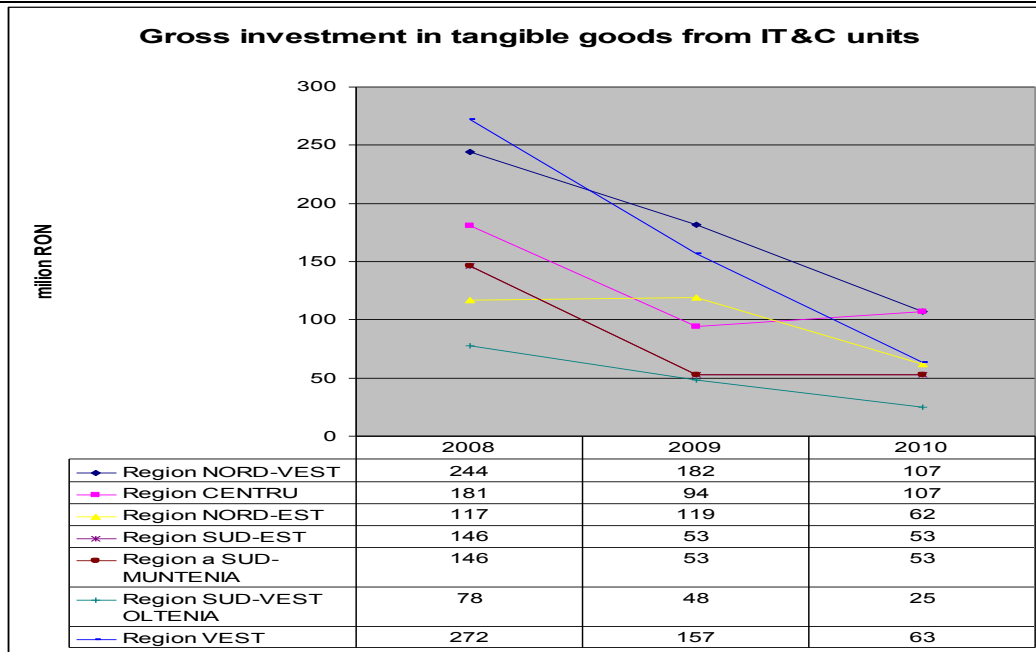


Fig. no.7

Note that the South West region is the last, and in terms of gross investment in tangible goods and variation is dramatic drop, 3 times in 2010 compared to 2008.

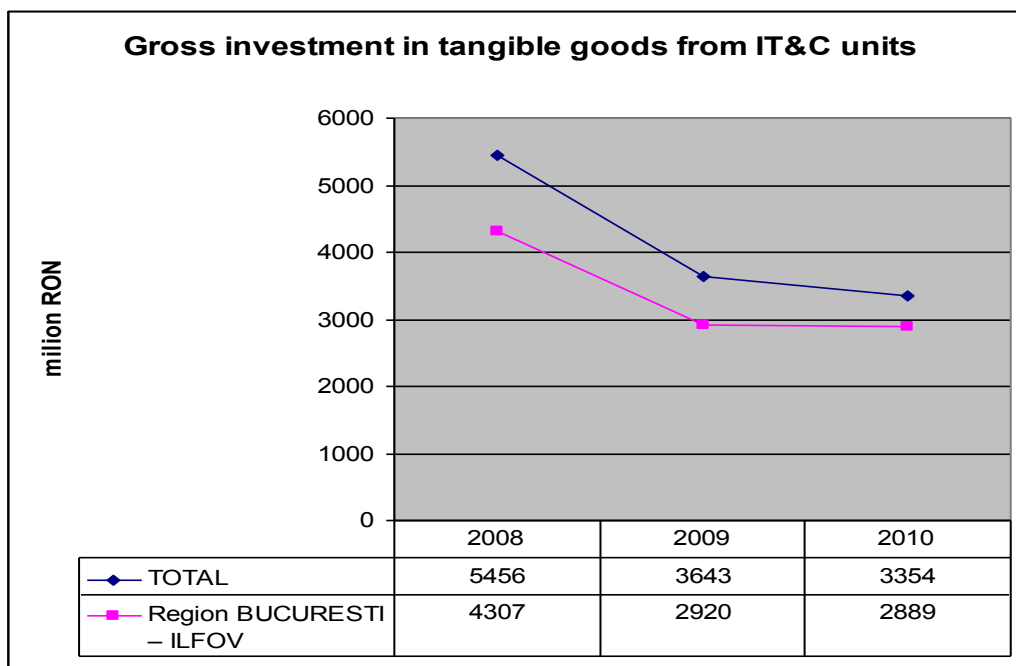


Fig. no. 8

Source: TEMPO Series, National Institute of Statistics⁷

Note that the Bucharest-Ilfov concentrates over 79% (2008) .. 86% (2010) of the total gross Investments!

Conclusions

The crisis triggered in 2007 makes its presence felt even in the ICT sector.

Thus, we are witnessing a decrease in Turnover and a considerable decrease even of Gross investments in tangible goods.

⁷ http://www.nord-vest.ro/Document_Files/Planul-de-dezvoltare-regionala-2014-2020/00001310/bvd0x_Societatea%20informatiionala%20-%20noiembrie%202012.pdf

Although the Bucharest-Ilfov region polarizes IT&C industry, the crisis can be seen in halving gross value Investments, given that Romania is still the last in terms of overall development of the field.

In addition, although other countries look easy return to an upward trend in Romania turnover and production etc. have continued a downward trend showing that we have not passed the crisis.

Hopes are placed in investment and foreign capital inflows, Romania having the best specialists in the field but unfortunately an appetite still very low for real investment in the field.

Since most workers in the field are freelancers and Romania is only poor plate for a well-qualified workforce and so cheap.

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