The Impact of Information Piracy and Intellectual Property Rights on the Economic Development

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Abstract: - Without any doubt, in the last years, the impact of intellectual property rights has played a very important role in the promotion of innovative processes and indirectly in the process of economic growth. This situation is the more important in the developing countries, where a stronger protection of intellectual property rights needs to stimulate the economic growth by means of increasing the profit of innovations and offering thus incentives for innovation.
The research may focus either on the causes underpinning this mass phenomenon or on the effects produced by its impact. The effects are hard to quantify since many a time the barrier between the negative consequences and the positive ones is extremely fragile.
As a conclusion, the negative impact produced by disregarding the intellectual property rights on economic growth influences: the phenomenon of creating and disseminating information; encouraging the promotion of inventions and innovations; the costs of processes of information and dissemination; locating the invention and innovation patents only in the economically developed regions which offer a higher protection in the field; commercial exchanges, flows of foreign investments and technological transfers.

Key-Words: - privacy, intellectual property rights, economic growth

1 Introduction

All the countries expect that the impact of investments on ICTs and knowledge should be the pillars of sustainable economic growth, improved productivity and social welfare [Blomstrom, Kokko, 1998; Eamon, 2004]. Certainly, this situation is not the same in all the world's countries and moreover, it differs from one period to another, from one year to another. We cannot have the same expectations from a country such as Ethiopia for instance where the rate of Internet users is of 1.1%, in comparison with Germany where the rate is around 83%. This major technological difference unfortunately reduces to a great extent the effect of network externalities, be it technological or knowledge-related and therefore we can speak of the so-called "virtual inequality" [1]. In other words, even the impact of ICTs is influenced to a certain extent by the "national features" (existing infrastructure, legislation or the education level of the population).
There are numerous factors with a major impact on the adoption of the New Information and Communication Technologies, but in short the most important are the following|:

- Economic factors – The technologies offer new opportunities for the educational phenomenon, reduce distances and shorten the costs over time. An important role in potentiating the economic effects is held by factors such as: GDP size, expected return of investments, implementation period, risk size;
- Social factors – We believe that the most important are: insufficient education, opacity to new ideas, and lack of adequate security of the electronic environment. While the education area cannot be easily replaced, insufficient security can be supplied by means of stricter standards concerning the data confidentiality;
- Other factors which can influence to a smaller extent the access to technologies: existing enforced legislation, environment factors, religion, political system.

In one of his outstanding books, Common Wealth: Economics for a Crowded Planet, Jeffrey Sachs, suggested that sustainable development in the "era of networks" is based on the following different elements, all coming from the Information and Communication Technologies [2]: the ubiquitous connectivity of regions through the ICTs to the

global politics and culture; the efficient division and allocation of labour force at local and global level, through the coordination of activity by means of the Internet; unlimited and handy communication ways enabling communication between networks at global level; the Information and Communication Technologies will have the primary role of providing a platform which will ensure the responsibility, monitoring and evaluation of economic activities, medical care as well as other human and organisational activities; the mediation of exchange relationships between buyers and sellers; building interest-focused communities through the instruments offered by the social networks present on the Internet; education and professional training in the context of distance-learning and life-long learning education.

We cannot neglect not even in the laborious and sometimes free of charge process of ICTs distribution on the Internet, the importance of potentiating their positive effects by diverse forms of national or local regulations and even by the national features and moreover the geographical position or proximity effects.

2. The influence channels of software piracy on the economic growth

Without any doubt, in the last years, the impact of intellectual property rights has played a very important role in the promotion of innovative processes and indirectly in the process of economic growth. This situation is the more important in the developing countries, where a stronger protection of intellectual property rights needs to stimulate the economic growth by means of increasing the profit of innovations and offering thus incentives for innovation. In addition, some countries have put into practice measures of protection of the intellectual property rights without clearly understanding how the infringements of intellectual property rights would lead to the development of a country. The study conducted by Bezmen and Depken explicitly shows that the countries with lower rates of intellectual property rights tend to have lower levels of economic growth [3].

Most of the examples in the literature: Gould and Gruben, 1996; Park and Ginarte, 1997; Thomson and Rushing, 1999; Acemoglu, Johnson, Robinson, 2001; Hall, Jones, 1999; Johnson, McMillan, Woodruff, 2002 concluded that the protection of intellectual property rights had a positive effect on the economic development. The more recent research undertaken by Andres, 2006; Bezmen and Depken, 2006; Goel and Nelson, 2009, underlined the significant impact the protection of intellectual property rights has in many fields of the economic and social life. And then why aren't these rights authorized in a universal manner all over the world?

The research may focus either on the causes underpinning this mass phenomenon or on the effects produced by its impact. The effects are hard to quantify since many a time the barrier between the negative consequences and the positive ones is extremely fragile. Among the main effects on the economic growth we may specify:

- ☐ Decrease of productivity in the countries whose software is pirated but also a potential increase of productivity in the countries which pirate the software;
- ☐ Piracy may influence the incentives obtained through writing programmes in order to make software destined to the research/development or to invest in software-related capital;
- ☐ This phenomenon reduces not only the incentives related to the selling process but also those tied to the innovation process;
- ☐ Moreover, it is a signal highlighting the weak organisation of state institutions which have a role in the legal regulations in that country and may translate into an additional risk for recovering the investments. It is possible that some countries should not own the capacity to make institutional reforms or they cannot bear the respective costs especially due to a non-performing legal system.

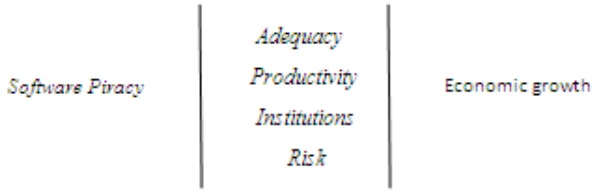

Fig.no.1 The influence channels of software piracy on the economic growth Source: [4}

Each year, IDC and Business Software Alliance launch global studies on software piracy. It is a useful overview offering interesting data on opportunities to develop businesses in some countries and regions, being also an additional element which makes the connection between the software piracy and the economic growth.

Among the significant elements distinguished by the recent reports we may mention:

- ☐ The rate of total effective piracy has risen in the last years, continuing the trends from the previous years. This has occurred greatly due to the production of PCs in countries with a high piracy rate;
- ☐ The value of retail selling price of the software without licence has increased by 11% in 2008;

☐ The economic downturn has not had an important effect on the software piracy. Thus, the regions with the lowest piracy rates are: North America (21%) and the European Union (35%). Still, these are mature, stable markets and moreover they are under the global average of 41% of the piracy rate.

One can easily observe that East Europe, Latin America and Middle East/Africa have high piracy rates (around 60-65%). In China and India, one of the greatest software markets in the world, these rates are decreasing. A 10% drop of the software piracy on the Chinese market for the year 2004 is in fact an achievement if we have in view the size of this market.

According to the estimations performed by BSA (Business Software Alliance) for 2011 the value of pirated software was around 63 billion $, an increase compared to 2010 – 58.8 billion $.

There are certainly pros and cons for the hypothesis regarding the direct correlation between information piracy and economic growth.

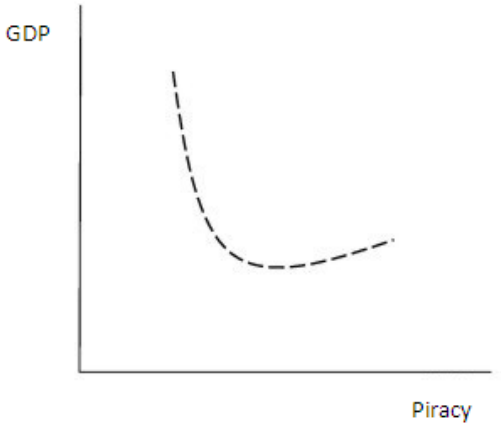

Fig.no. 2 The effects of software piracy on economic growth Source: [4]

Table no. 1 The rates of software piracy and commercial value of pirated software at global level

	Piracy Rate 2011	Commercial Value (billion $)
Romania	63%	$ 207
Central and Eastern Europe	62%	$ 6133
European Union	33%	$ 14433
Global	42%	$ 63456

According to Business Software Alliance we may distinguish three great types of electronic piracy:

☐ Unauthorized download activity;
☐ Counterfeiting;
☐ Programme copy.

According to the studies conducted by BSA, the highest piracy rates are registered in countries such as Indonesia and Vietnam where the values are around 90%, while the countries with advanced economies such as USA and Great Britain have rates around 20%, a percentage that can be neglected not in the least.

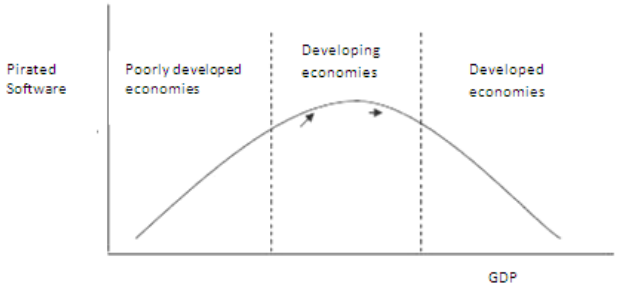

Fig.no. 3 The evolution of piracy rate in the global economy Source: [5]

The conclusions are straightforward: the higher the economic development level, the lower the software piracy rate; the higher the GDP per capita, the lower the software piracy rate; the higher the school absorption rate, the lower the software piracy rate; the higher the innovative activity rate, the lower the software piracy rate.

3 Reflection of the impact of information piracy in scientific journals

How important is the role of education within this process? It certainly is an essential one, especially as regards the protection of intellectual property rights, although the literature has not offered yet an adequate support. According to the study conducted by Palmqvist, Sandberg and Mylly, during 1970-2009, for seven of the most important journals in the field of innovation management, the number of papers tackling the topic of intellectual property rights was not very high, having values within 2% and 4% of the total number of papers [6]

Table no. 2 The main geographical context by authors and papers

	Location (affiliation) of authors	Geographical field of application in the papers
Europe	66	44
USA and Canada	33	42
Asia	20	27

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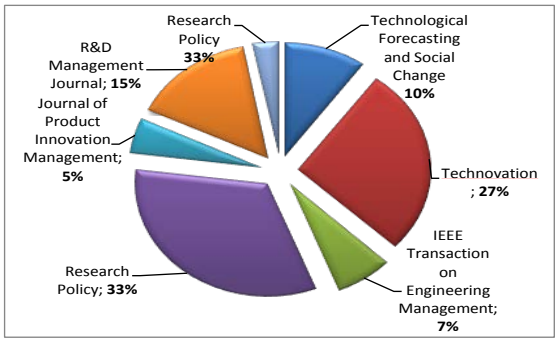

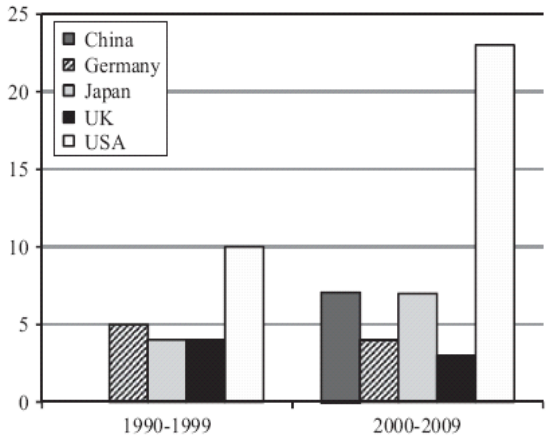

Fig.no. 5 Main geographical goal by papers
Source: [6]

4 Conclusions

As Thomas Friedman also underlined, in this world which has turned "flat" due to the NICTs, it is probably important that the networks effects of technologies or their impact should be studied on several different levels: the individual level, the organisational one, the industry and the economic level.

We can nowadays assess that, as Weber and Kauffman mentioned [7]: the global economic growth and the social welfare depend on the adoption of the technologies transforming the efficiency of labour force and create value; the adoption of the new technologies makes the persons, the organisations, the industries and even the countries adopt other types of technological innovations which are beneficial for them; the economic, social and other factors seem to influence the different adoption at each of the levels where the impact makes its presence known: individual, organisational, industrial and at the level of the country; in addition, each moment new research in this field occur, new technologies implying new theories, models and methods to explain the past, interpret the present and forecast the future of adopting technologies.

As a conclusion, the negative impact produced by disregarding the intellectual property rights on economic growth influences [8]:

- the phenomenon of creating and disseminating information;
- encouraging the promotion of inventions and innovations;
- the costs of processes of information and dissemination;
- locating the invention and innovation patents only in the economically developed regions which offer a higher protection in the field;
- commercial exchanges, flows of foreign investments and technological transfers.

It is true that one can state that only in the case of open economies the effect of disregarding the intellectual property rights can manifest in the opposite direction, meaning that it can be considered a positive aspect [Gould, Gruben, 1996], as the protection of intellectual property rights may have a negative impact in the closed economies.

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