The Role of the Intangible Capital in Romania’s Recent Historical – Economic Evolutions

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Abstract
The intangible capital represents the knowledge incorporated in the processes of the creation of the economic value. The function of the intangible resources consists in sustaining the long-term growth by assuring some increasing efficiencies of the entire capital. The comparison of the growing rhythms of the intangible capital and of the tangible capital offers a conclusive image regarding the development profile for which a country opted. The dimension of the intangible capital’s impact on the economic development can be measured by comparison with the aid of the calculations and of the analyses of the developmental orientation indicator. The stimulation of the intangible capital’s accumulation constitutes one of the most important modalities of alimentation of the intensive economic growth.

1. Introduction
The intangible capital represents the main catalyst of the economic efficiency. The quality of the developmental processes, the pro-intensive or the pro-extensive orientation of these processes, is determined, in the highest degree, by the modality of formation and incorporation of the intangible capital in the economic value created by a nation (Dumitrașcu, 2012). World Economic Forum (2012) retains this principle as a fundament for the delimitation of the economic development stages of the countries. According to this classification, to the highest stage (the third one) – The Economy Based on Innovation and the Sophistication of Businesses – corresponds a statistical weight of minimum 80 % of the intangible capital in the total national wealth.

Taking into account these considerations, we formulate the following hypotheses: 1) the more intense accumulation of the intangible capital as opposed to the formation of the tangible capital (natural and anthropic) generates accelerated developments of the economic performances; 2) on the other hand, the more intense accumulation of the tangible capital is materialized into slower and slower and even negative developments of the economic performances.

2. The Intangible Capital and the Developmental Orientation
The revision of these assumptions can be achieved, for example, on the basis of the comparison between the annual rhythms (rates) of growth of the intangible capital, of the intangible capital and of the gross value added (GVA) for a long enough period of time. In table 1 there are represented the results of this comparison in the case of Romania.

One can notice that during the years 1960–1979 the annual medium growth rates of the intangible capital were constantly superior to the growth rates of the tangible capital. In the same period, the gross value added registered, as well, the highest annual medium growth rates. Between 1965 and 1974, the intangible capital had the highest growth rates. In this period, the gross value added, likewise, achieved the highest annual medium growth rates. Starting with the years 1980–1984, a time when the tangible capital had the highest annual medium growth rates. In this period, the gross value added, likewise, achieved the highest annual medium growth rates. Starting with the years 1980–1984, a time when the tangible capital had the highest annual medium growth rate (10,5 %), and until the year 2000, the process of severe reduction of the values of the annual growth rates of the GVA manifested incessantly. During the years 1990–2000 these rhythms had negative values. The data presented in table 1 clearly demonstrate that, during the years 1980–1994, the intangible capital was characterized by negative growths. We consider that the negative
evolution of the intangible capital constitutes one of the most important causes of the economic performances downfall of Romania from this period. We acknowledge (for now without direct empirical evidences) that the decline of the intangible wealth is also one of the forces that triggered, even since 1985–1989, the erosion of the tangible capital.

Between 1950–2000 the annual medium rhythm of growth of the gross value added was of 3.99 %. Only between the years 1955 and 1979 Romania continuously registers annual growth rates of the gross added value superior to this medium size. During all the other years of the analyzed period the growth of the gross value added is characterized by inferior rhythms in comparison with the media.

Table 1. GVA and the (Medium of the Years) Components of Wealth, Per Capita Absolute Values (in 2000 PPC Dollars) and Annual Medium Rhythms of Growth (%)

<table>
<thead>
<tr>
<th>Years</th>
<th>GVA</th>
<th>ARG &lt;sub&gt;GVA&lt;/sub&gt;</th>
<th>TC</th>
<th>ARG &lt;sub&gt;TC&lt;/sub&gt;</th>
<th>IC</th>
<th>ARG &lt;sub&gt;IC&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-1954</td>
<td>1615,6</td>
<td>4,49</td>
<td>4037,32</td>
<td>3,38</td>
<td>2512,12</td>
<td>11,04</td>
</tr>
<tr>
<td>1955-1959</td>
<td>2052,0</td>
<td>5,4</td>
<td>5231,45</td>
<td>5,91</td>
<td>3124,62</td>
<td>4,87</td>
</tr>
<tr>
<td>1960-1964</td>
<td>2819,4</td>
<td>7,47</td>
<td>6256,77</td>
<td>3,91</td>
<td>4611,38</td>
<td>9,51</td>
</tr>
<tr>
<td>1965-1969</td>
<td>4132,6</td>
<td>9,31</td>
<td>8513,59</td>
<td>7,21</td>
<td>7365,33</td>
<td>11,94</td>
</tr>
<tr>
<td>1970-1974</td>
<td>5832,4</td>
<td>8,22</td>
<td>9990,71</td>
<td>3,47</td>
<td>12893,13</td>
<td>15,01</td>
</tr>
<tr>
<td>1975-1979</td>
<td>8006,6</td>
<td>6,45</td>
<td>12089,74</td>
<td>4,2</td>
<td>18001,16</td>
<td>7,92</td>
</tr>
<tr>
<td>1980-1984</td>
<td>8953,0</td>
<td>2,36</td>
<td>18440,22</td>
<td>10,5</td>
<td>15986,67</td>
<td>-2,24</td>
</tr>
<tr>
<td>1985-1989</td>
<td>9526,0</td>
<td>1,28</td>
<td>22536,43</td>
<td>4,44</td>
<td>15040,47</td>
<td>-1,18</td>
</tr>
<tr>
<td>1990-1994</td>
<td>7711,4</td>
<td>-3,81</td>
<td>16972,65</td>
<td>-4,93</td>
<td>12263,58</td>
<td>-3,69</td>
</tr>
<tr>
<td>1995-2000</td>
<td>7521,0</td>
<td>-1,23</td>
<td>15449,83</td>
<td>-1,73</td>
<td>14436,2</td>
<td>2,95</td>
</tr>
</tbody>
</table>

GVA = gross value added; ARG <sub>GVA</sub> = annual medium rhythm of growth of the gross value added; TC = tangible capital; ARG <sub>TC</sub> = annual medium rhythm of growth of the tangible capital; IC = intangible capital; ARG <sub>IC</sub> = annual medium rhythm of growth of the intangible capital.

Proper calculations achieved on World Bank (2006) and Zaman et al. (2012) basis.

3. The Indicator of the Developmental Orientation

Every development is characterized by a particular structure of the national wealth accumulation. The formation of the intangible capital synthesizes the consolidation of the economic efficiency factors, reflecting the enhancement of the qualitative and intensive aspects of the development. On the other hand, the formation of the tangible capital (anthropic and natural) is the expression of the quantitative side of the development, reflecting the absolute volume growth of the resources drawn into the economic activity and, consequently, the capacity of expansion of the development. The comparison measurement of the intensive – extensive relation in the development process could be accomplished, in our opinion, by the direct comparison of the speeds (rhythms) of accumulation of the two elements of the national wealth. The difference between the rate of accumulation of the intangible capital and the rate of accumulation of the tangible capital could provide a primary general image of the character of the development. We will name this difference the "indicator of the developmental orientation" – I<sub>DO</sub>:

I<sub>DO</sub> = ARG<sub>IC</sub> - ARG<sub>TC</sub>

The width of the indicator of developmental orientation suggests how much the economy engaged towards a certain type of development. In general, if the I<sub>DO</sub> value is positive, the developmental process has a predominantly intensive character; if, however, the I<sub>DO</sub> size is negative the development is of a predominantly extensive nature. The interpretation of the signification of the I<sub>DO</sub> values has to be carefully effectuated, taking into account the meaning of the evolutions of the intangible and tangible capital (ascending or descending), as well as the nature of the correlation between the accumulation of the wealth elements and the increase of the macroeconomic performances.

Table 2. The Indicator of the Developmental Orientation

<table>
<thead>
<tr>
<th>Years</th>
<th>50 - 54</th>
<th>55 - 59</th>
<th>60 - 64</th>
<th>65 - 69</th>
<th>70 - 74</th>
<th>75 - 79</th>
<th>80 - 84</th>
<th>85 - 89</th>
<th>90 - 94</th>
<th>95-000</th>
</tr>
</thead>
<tbody>
<tr>
<td>I&lt;sub&gt;DO&lt;/sub&gt;</td>
<td>7,66</td>
<td>-1,04</td>
<td>5,6</td>
<td>4,73</td>
<td>11,54</td>
<td>3,72</td>
<td>-12,74</td>
<td>-5,62</td>
<td>1,24</td>
<td>4,88</td>
</tr>
</tbody>
</table>
In the 1950–1979 interval (with an interruption between 1955–1959, when the indicator of the developmental orientation registered a slight negative value), $I_{DO}$ was positive, which suggests that the economic development of Romania had a predominantly intensive character. A remarkable aspect is the value reached by the indicator of the developmental orientation between the years 1970 and 1974 (11.54), certifying the concentration of an important mass of factors with the stimulation and dissemination role of economic efficiency. As a matter of fact, during the years 1960–1979 the gross value added had the highest medium annual growth rates. The pronounced negative values of the $I_{DO}$ for the 1980–1989 intervals prove the obviously extensive character of the economic development processes from those years. The reduced growth rhythm of the gross value added from these years sustains the conclusion regarding the development’s capacity of expansion. The positive value of the $I_{DO}$ for the 1990-1994 intervals has to be looked at with realism, this value being the result of the difference between two negative measures: in fact, in the above-mentioned interval the intangible capital and also the tangible capital decreased the latter in a faster rhythm than the former. Furthermore, the positive value of the $I_{DO}$ for the years 1995–2000 also has to be treated with a lot of scepticism: although it is the consequence of an amelioration of the intangible capital, this recovery does not materialize in the growth of the economic performances, but, on the contrary, is accompanied by their decrease.

4. The Development and the Wealth Accumulation Process

We have identified a certain relation between the dynamics of the economic performances and the accumulation of the intangible capital. The intangible capital, however, is just one of the components of the total national wealth, and the economic performances of the nation are a cumulated effect, due to some powerful synergies, of all the elements of wealth, both tangible (natural and anthropic) and intangible. The source of the economic performances is, actually, the national wealth in its integrity. Any development process takes shape as a consequence of the interaction and the interrelation between factors of qualitative – intensive nature and factors of quantitative – intensive nature. The "pure" development, exclusively intensive or exclusively extensive, is rather a hypothetical case. However, in certain periods one can discuss about the predominance of the intensive or extensive factors in the developmental mix.

Other researchers also arrive at some similar conclusions; on the basis of the application of some specific econometric models (the slight differences are explicable by the methodological particularities of the models). Zaman and Goschin (1993), by analyzing the quantitative – qualitative correlation in the evolution of Romanian economy during 1950–1990, conclude that: 1) during the entire 1950–1980 period, the economic growth in Romania was "predominantly extensive", getting close, however, in a powerful way, during certain years, to the "predominantly intensive" growth threshold; 2) in the 1980–1987 interval, the Romanian economic growth was an "exclusively extensive" one, the intensive factor registering decreases; 3) during the years 1988–1989, Romania’s economy is characterized by a "decrease due to the intensive factor", so that the deterioration rhythm of the economic efficiency outran the quantitative increase of the production factors; 4) starting with the year 1990, the economy of the country enters the "predominantly intensive decrease" path.

The evolutions noticed in Romania’s economy after the year 1980 provide conclusive evidence in this matter: although the annual medium growth rhythm of the tangible capital was higher than the medium one registered during the years 1950–2000, the penalization of the intangible capital through negative growth rhythms generated drastic decreases in which concerns the productivity, the growth rhythm of GVA rapidly reducing.

5. Conclusions

The formation of the intangible capital does not reduce only to the efforts of technological and products innovation, to the augmentation of the efficiency of the regimen of intellectual property, to the sustaining of the education and of the scientific research, although these dimensions are vital, but comprises, more and more, the enhancement of the private and public management systems, the population’s health and, a none at all insignificant fact, the amelioration of the quality of the "social tissue". The last signalled aspect is tightly connected to the maximization of that component of the social capital which is also named social capital and includes, beside the relational capital of the firms, the consistency of the moral institutions of the society (the reciprocity, the trust, the loyalty, the correctitude, etc).

The coagulation of certain learning and knowledge environments, consistent under the aspect of the impact over the economic value, act like a "critical mass" that triggers significant progresses of the intangible capital, which, in turn, provoke the revolutionizing of the entire capital allocated to the economic activity. The learning and knowledge communities represent the social base of the intangible capital of a country or region. In a certain way, these environments carry out the functions of capture, fixation, refinement and enrichment of the intangible
capital. The essential function of the intangible capital itself is of stopping the decreasing trend of the tangible capital, which accentuates with the quantitative extension of this capital. It has been noticed that, in Romania, as long as the growth rate of the intangible capital was consistent, the growth rhythm of the GVA also grew, even during the periods when the tangible capital didn’t benefit from the most spectacular growths. Thereby, the intangible capital’s role consists in the augmentation of the efficiency of the utilization of the tangible capital (material, financial and natural) through the stimulation of the obtained efficiencies.

The intangible capital accomplishes its function through the production of three categories of important positive effects:

- **Network Effects** (direct network effects explained through the growth of the economic value of knowledge together with the multiplication of its number of users; indirect network effects due to the apparition of families of products and complementary technologies; learning effects through the acquirement and wide dissemination of the abilities and competences implied by the use of knowledge).
- **Infrastructure Effects** (the interlinkage of the markets and of the production and value providing systems).
- **Reputation Effects** (the relaxation of informational asymmetries from the markets and the trust consolidation between the economic agents).

The signalled effects counterpoise the decreasing efficiencies of the tangible capital by the reduction of transactional costs, making the interactions between the economic agents developed through the markets become faster and more efficient, and through the increase of the flexibility (plasticity) of the elements of tangible capital, by multiplying the possibilities of combination and, consequently, by increasing their utilizing degree. In this way, the intangible capital facilitates the adjustment of the existent production functions and the transition towards more efficient production functions, respectively the advance of economy towards an area with superior efficiencies.

### Bibliography