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*Changing priorities of human development at the stage  
of transformation into innovative economy*

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Zmiany priorytetów rozwoju gospodarczego na etapie transformacji do gospodarki innowacyjnej

**Key words:** human development, human capital, span of life, health, education, welfare, social development

**Słowa kluczowe:** rozwój ludzki, kapitał ludzki, rozpiętość życia, zdrowia, edukacji, opieki społecznej, rozwoju społecznego

## **Introduction**

In the early twenty-first-century world countries faced dramatic changes in the value system of their development, caused by the rising role of knowledge and recognition of the unique ability of human capital to become a source of raising competitiveness through the development and implementation of innovations. It was found that especially those countries move faster towards the formation of innovative economy whose public policy changed towards favouring of the human development quality, where the level of social responsibility for the creation of better conditions for improving health, education and raising living standards has increased.

In this context, for Ukraine and other countries that have recently chosen the market path of development, the search for opportunities to provide innovative changes in the economy by improving the quality of human capital through the social re-orientation of public policy becomes extremely urgent.

Such world famous scientists as: T. Schultz, H. Becker, A. Lewis, J. Kendrick, A. Sen devoted their papers to the research of the problems to find the priority directions of the human development and provide the quality of human capital.

Among the Ukrainian scientists the theoretical and applied problems of the human development and of the formation, implementation and development of the human capital are explored by Antonjuk V., A. Grishnova, T. Zayats, A. Colot, E. Libanova and others. However, despite the achievements in the study of this problem, the academic research in this sphere does not lose relevance for Ukraine.

The goal of the research is to prove the necessity to change the priorities of human development in Ukraine and to reorient the public policy in favour of strengthening its social component, formation of the developed human capital as a prerequisite for a successful transformation into the innovative economy.

The analysis of the scientific literature showed that for a long time the thinkers of the past and present discussed the priorities of the public policy development, the interconnection between economic growth and human development. In the second half of the twentieth century views of the researchers were greatly influenced by the theory of human capital, which is connected with the names of T. Schulz and H. Becker [1, 2]. Based on the theory of human capital, the strategic development priorities of countries, companies and corporations should be based on providing the system of various social investment in the social development.

A bit different point of view, which has been also widely acknowledged in the recent decades – is to determine, the development priorities on the base of expanding opportunities of choice. One of the first who has seen the “expanding human choices” as a goal of development was W. Arthur Lewis. He connected this choice especially with increasing income, economic growth, the necessity to take into account the multiplicity of such growth factors (especially psychological and institutional). However, the researcher didn’t foresee the actions to overcome the differentiation in the income [3].

Indian scientist Amartya Sen went further in his research – in the work “Development as Freedom”, he proposed an original idea: see the goal of development not in the unlimited expansion of production, economic growth and material prosperity, but in the creation opportunities to expand human choice to live in a such way, which they consider worthy.

A. Sen connected his approach to the development of society with the expanding human freedoms in order to choose from a large number of variants the most desirable, to be able to save oneself the diseases that can be avoided, live long, to choose the career, have access to knowledge and other wealths of civilization [4].

Thanks A. Sen ideas the essence of the society development was defined as a process in the centre of which is a human. Later, this and other ideas were combined by a group of experts of UNDP and formed the basis of the concept of human development, which was first introduced in the Global Human Development Report for 1990 [5].

The concept comes from the fact that only economic growth does not always guarantee the social progress. This progress takes place only when the economy makes possible for people to realize the three most important and basic features for everyone: to live a long and healthy life, to acquire, expand and update knowledge, have material wealth, which means the access to the livelihood, which provide a worthy living.

Therefore, the concept of human development is defined as the growth of human opportunities, which is provided by the realization of human rights and freedoms, attention of the society and the state [6, 7]. Experience of the leading countries has shown that the formation of high quality human capital is possible as a result of changes in the public policy priorities and these changes should be based on the concept of human development [8, 9].

### 1. The main part

Since the 1990s, UNDP annually publishes its global Human Development Report. Summary measure of human development is the Human Development Index (HDI), which measures the average achievements in a country in three basic dimensions of human development: a long and healthy life (health), access to knowledge (education) and worthy living (income). Index HDI Ukraine in 2011 is 0.729, which is below average 0.741 for countries from the high human development group and below the average of 0.751 for countries in Europe and Central Asia (Fig. 1).

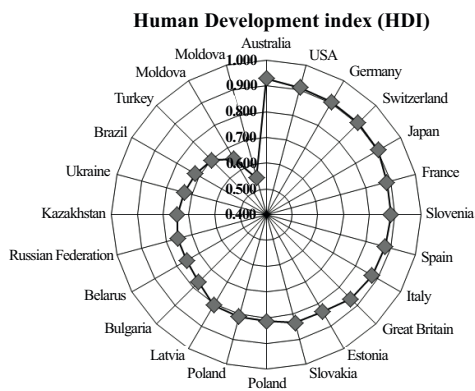


Fig. 1. Ukraine and other countries of the world in estimates of the human development index

Source: [10].

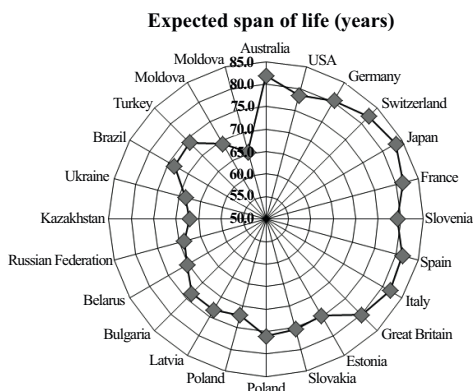


Fig. 2. Ukraine and other countries of the world in estimates of expected span of life

Note that this situation is the result of the long underestimation of the role of social policy in favor of predominantly economic development paradigm. In Ukraine, despite the fact that the theory of human capital and the concept of human develop-

ment became popular, there are sharp disparities in the practice of social development which impedes the formation of high-quality human potential. The index of expected span of life in Ukraine is unacceptably low, especially compared with other developed countries (Fig. 2).

As analysis shows, among all the components of human development in Ukraine, the best position among other countries is characterized just by the index of education. According to the index of years of schooling Ukraine leaves behind Kazakhstan, Russia, Lithuania, Poland, Britain, France (Fig. 3), although in international rankings of education quality Ukraine is backward.

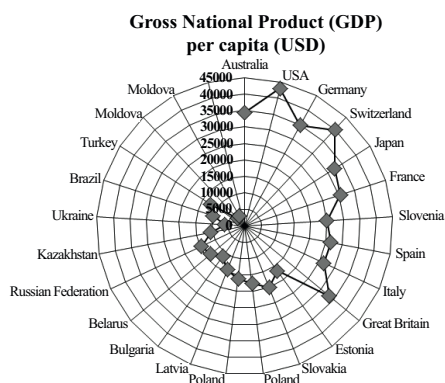


Fig. 3. Ukraine and other countries of the world in estimates of the years of schooling

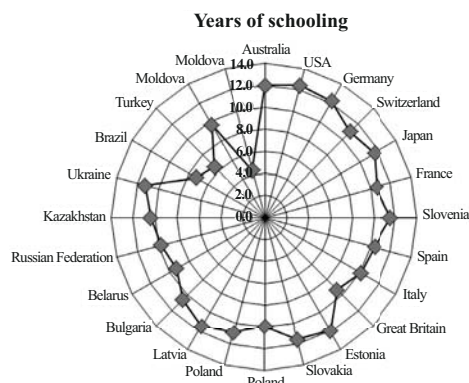


Fig. 4. Ukraine and other countries of the world in estimates of GDP per capita (U.S. \$)

Source: [10].

Annual GDP per capita is an indicator of welfare. In Ukraine, it doesn't reach seven thousand dollars, it is 4–6 times lower in comparison with developed European countries. Ukraine is behind Kazakhstan, Russia, Belarus, Latvia, Lithuania, Poland and others. However, Ukraine belongs to the countries with the average level of income (Fig.4).

Thus, the greatest problems in Ukraine are the socio-demographic components of human development – health and education, which requires the change in the strategic priorities in favor of intensive social development.

In the process of our research we have analyzed the dynamics of the Human Development Index (HDI) at the example of Ukrainian regions. Baseline data formed for the 27 regions of Ukraine for the period from year 2000 to 2011 are presented in the Table 2.

Being a predominantly linear ordering in time  $\tau$  (increasing, decreasing or stable value) from year to year ( $\tau = 0$  – year 2000;  $\tau = 1$  – 2001-th year, etc.) output data for each region are characterized by a interrelation:  $hdi = a + b \times \tau$ , which detects the trends in changes of regional Human Development Indexes – hdi (Table 1).

Table 1. Characteristics of trends of the regional Human Development Indexes changes<sup>1</sup>

| Regions of the country | Trend coefficients |        | Trend                           | Type of hdi change |
|------------------------|--------------------|--------|---------------------------------|--------------------|
|                        | a                  | b      | $hdi = a+b \times \tau$         |                    |
| Crimea                 | 0.561              | -0.007 | $hdi = 0.561-0.007 \times \tau$ | decreasing         |
| Vinnitsia region       | 0.538              | -0.011 | $hdi = 0.538-0.011 \times \tau$ | decreasing         |
| Volyn region           | 0.488              | 0.000  | $hdi = 0.488+0.000 \times \tau$ | stable             |
| Dnipropetrovsk region  | 0.489              | -0.001 | $hdi = 0.489-0.001 \times \tau$ | decreasing         |
| Donetsk region         | 0.426              | -0.002 | $hdi = 0.426-0.002 \times \tau$ | decreasing         |
| Zhytomyr region        | 0.488              | -0.004 | $hdi = 0.488-0.004 \times \tau$ | decreasing         |
| Transcarpathian region | 0.545              | -0.005 | $hdi = 0.545-0.005 \times \tau$ | decreasing         |
| Zaporozhye region      | 0.500              | -0.003 | $hdi = 0.500-0.003 \times \tau$ | decreasing         |
| Ivano-Frankivsk region | 0.496              | -0.001 | $hdi = 0.496-0.001 \times \tau$ | decreasing         |
| Kiev region            | 0.511              | 0.002  | $hdi = 0.511+0.002 \times \tau$ | increasing         |
| Kirovograd region      | 0.491              | -0.007 | $hdi = 0.491-0.007 \times \tau$ | decreasing         |
| Lugansk region         | 0.401              | 0.003  | $hdi = 0.401+0.003 \times \tau$ | increasing         |
| Lviv region            | 0.547              | -0.006 | $hdi = 0.547-0.006 \times \tau$ | decreasing         |
| Mykolaiv region        | 0.466              | 0.002  | $hdi = 0.466+0.002 \times \tau$ | increasing         |
| Odessa region          | 0.481              | -0.002 | $hdi = 0.481-0.002 \times \tau$ | decreasing         |
| Poltava region         | 0.561              | -0.005 | $hdi = 0.561-0.005 \times \tau$ | decreasing         |
| Rivne region           | 0.511              | -0.002 | $hdi = 0.511-0.002 \times \tau$ | decreasing         |
| Sumy region            | 0.466              | -0.001 | $hdi = 0.466-0.001 \times \tau$ | decreasing         |
| Ternopil region        | 0.521              | -0.004 | $hdi = 0.521-0.004 \times \tau$ | decreasing         |
| Kharkiv region         | 0.548              | 0.001  | $hdi = 0.548+0.001 \times \tau$ | increasing         |
| Kherson region         | 0.467              | 0.000  | $hdi = 0.467+0.000 \times \tau$ | stable             |
| Khmelnitsky region     | 0.523              | -0.001 | $hdi = 0.523-0.001 \times \tau$ | decreasing         |
| Cherkasy region        | 0.536              | -0.006 | $hdi = 0.536-0.006 \times \tau$ | decreasing         |
| Chernivtsi region      | 0.506              | -0.003 | $hdi = 0.506-0.003 \times \tau$ | decreasing         |
| Chernigiv region       | 0.496              | -0.003 | $hdi = 0.496-0.003 \times \tau$ | decreasing         |
| Kyiv                   | 0.701              | -0.001 | $hdi = 0.701-0.001 \times \tau$ | decreasing         |
| Sevastopol             | 0.581              | 0.000  | $hdi = 0.581+0.000 \times \tau$ | stable             |

<sup>1</sup> Note: a) constructed according to the Table 2, b) labeled: hdi – human development index for the current region;  $\tau$  – serial number of the year (year 2000 adopted a zero).

Table 2. Dynamics of regional Human Development Indexes in Ukraine

|                          | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Autonomous Region Crimea | 0.577 | 0.565 | 0.558 | 0.546 | 0.519 | 0.493 | 0.495 | 0.474 | 0.515 | 0.537 | 0.494 | 0.491 |
| Vinnitsia region         | 0.551 | 0.544 | 0.531 | 0.517 | 0.497 | 0.440 | 0.441 | 0.418 | 0.423 | 0.44  | 0.435 | 0.466 |
| Volyn region             | 0.485 | 0.496 | 0.490 | 0.488 | 0.505 | 0.463 | 0.484 | 0.475 | 0.469 | 0.526 | 0.475 | 0.487 |
| Dnipropetrovsk region    | 0.496 | 0.481 | 0.483 | 0.499 | 0.475 | 0.484 | 0.484 | 0.478 | 0.478 | 0.500 | 0.480 | 0.474 |
| Donetsk region           | 0.450 | 0.425 | 0.421 | 0.413 | 0.418 | 0.397 | 0.397 | 0.392 | 0.401 | 0.408 | 0.401 | 0.426 |
| Zhytomyr region          | 0.496 | 0.481 | 0.470 | 0.474 | 0.487 | 0.452 | 0.460 | 0.466 | 0.469 | 0.470 | 0.438 | 0.438 |
| Transcarpathian region   | 0.547 | 0.524 | 0.516 | 0.558 | 0.557 | 0.505 | 0.507 | 0.492 | 0.511 | 0.504 | 0.488 | 0.489 |
| Zaporizhia region        | 0.508 | 0.512 | 0.488 | 0.480 | 0.502 | 0.457 | 0.489 | 0.466 | 0.480 | 0.504 | 0.463 | 0.477 |
| Ivano-Frankivsk region   | 0.509 | 0.482 | 0.490 | 0.499 | 0.489 | 0.482 | 0.484 | 0.476 | 0.494 | 0.513 | 0.487 | 0.460 |
| Kiev region              | 0.539 | 0.538 | 0.503 | 0.518 | 0.509 | 0.483 | 0.489 | 0.493 | 0.547 | 0.542 | 0.532 | 0.557 |
| Kirovograd region        | 0.501 | 0.487 | 0.485 | 0.490 | 0.464 | 0.419 | 0.437 | 0.432 | 0.422 | 0.436 | 0.423 | 0.448 |
| Lugansk region           | 0.412 | 0.413 | 0.390 | 0.414 | 0.400 | 0.412 | 0.412 | 0.420 | 0.421 | 0.433 | 0.428 | 0.434 |
| Lviv region              | 0.555 | 0.53  | 0.530 | 0.534 | 0.529 | 0.502 | 0.521 | 0.484 | 0.509 | 0.497 | 0.483 | 0.472 |
| Mykolaiv region          | 0.468 | 0.482 | 0.452 | 0.461 | 0.472 | 0.466 | 0.485 | 0.482 | 0.489 | 0.495 | 0.472 | 0.475 |
| Odessa region            | 0.507 | 0.476 | 0.468 | 0.466 | 0.465 | 0.468 | 0.469 | 0.464 | 0.474 | 0.48  | 0.455 | 0.466 |
| Poltava region           | 0.576 | 0.559 | 0.563 | 0.530 | 0.553 | 0.506 | 0.528 | 0.515 | 0.521 | 0.528 | 0.510 | 0.526 |
| Rivne region             | 0.482 | 0.520 | 0.499 | 0.514 | 0.513 | 0.504 | 0.516 | 0.503 | 0.519 | 0.508 | 0.465 | 0.473 |
| Sumy region              | 0.474 | 0.462 | 0.463 | 0.465 | 0.466 | 0.446 | 0.471 | 0.461 | 0.465 | 0.459 | 0.444 | 0.470 |
| Ternopil region          | 0.533 | 0.527 | 0.521 | 0.523 | 0.489 | 0.466 | 0.469 | 0.475 | 0.501 | 0.506 | 0.486 | 0.485 |
| Kharkiv region           | 0.549 | 0.554 | 0.553 | 0.553 | 0.558 | 0.537 | 0.556 | 0.559 | 0.556 | 0.579 | 0.561 | 0.562 |
| Kherson region           | 0.482 | 0.477 | 0.461 | 0.455 | 0.476 | 0.447 | 0.468 | 0.462 | 0.478 | 0.481 | 0.468 | 0.480 |
| Khmelnytsky region       | 0.537 | 0.523 | 0.527 | 0.518 | 0.513 | 0.508 | 0.496 | 0.507 | 0.527 | 0.523 | 0.516 | 0.523 |
| Cherkasy region          | 0.548 | 0.535 | 0.522 | 0.504 | 0.517 | 0.492 | 0.493 | 0.491 | 0.500 | 0.497 | 0.485 | 0.465 |
| Chernivitsi region       | 0.521 | 0.511 | 0.476 | 0.516 | 0.513 | 0.437 | 0.489 | 0.471 | 0.489 | 0.486 | 0.479 | 0.482 |
| Chernigiv region         | 0.523 | 0.509 | 0.489 | 0.489 | 0.469 | 0.466 | 0.450 | 0.435 | 0.465 | 0.482 | 0.475 | 0.498 |
| Kyiv                     | 0.717 | 0.699 | 0.688 | 0.691 | 0.711 | 0.659 | 0.695 | 0.698 | 0.693 | 0.697 | 0.698 | 0.673 |
| Sevastopol               | 0.588 | 0.560 | 0.599 | 0.605 | 0.570 | 0.565 | 0.579 | 0.548 | 0.593 | 0.584 | 0.598 | 0.576 |

Source: "Regional Human Development. Statistical Bulletin". Kyiv: State Statistics Service of Ukraine, 2011. 45 p., p. 27

As can be concluded from Table 1 – only three regions out of twenty-seven show the increase of Human Development Index (Kyiv, Lugansk and Kharkiv regions), the stable HDI dynamics is shown by other three regions – Donetsk, Kherson and Sevastopol, and other regions (predominant majority – 21 regions) show the decrease of HDI. This proves the necessity to intensify the scientific research towards finding the ways to promote human development as a prerogative for the most regions of the country.

According to the data of regional HDI components (Table 3), we have obtained a rather precise (coefficient of determination close to 1) model which describes the correlation between regional HDI in sum (hdi) and its components:

$$\text{hdi} = 0.118*\text{dd} + 0.093*\text{dlm} + 0.122*\text{mw} + 0.119*\text{lcp} + 0.120*\text{el} + 0.116*\text{sh} + 0.107*\text{se} + 0.114*\text{ec} + 0.092*\text{fhd} \quad (1)$$

Values of coefficients according to the variables in the Model 1 demonstrate the priority of the index constituents' impact on the regional human development. Taking the biggest coefficient (for the variable “mw”) as one hundred percent we can order the variables' coefficients according to the priority of their impact:

- mw (100%) – material welfare;
- el (98.6%) – educational level;
- lcp (97.8%) – living conditions of population;
- dd (97.0%) – demographic development;
- sh (94.9%) – state of health;
- ec (93.1%) – environmental conditions;
- se (87.7%) – social environment;
- dlm (76.1%) – development of a labor market;
- fhd (75.3%) – funding of human development.

Table 3. Values of regional Human Development Indexes and its components

| Year | Demographic development | Development of labor market | Material welfare | Living conditions | Educational level | State of health | Social environment | Environmental situation | Funding of human development | Human Development Index |
|------|-------------------------|-----------------------------|------------------|-------------------|-------------------|-----------------|--------------------|-------------------------|------------------------------|-------------------------|
|      | dr                      | rrp                         | md               | upn               | ro                | soz             | cc                 | tc                      | flr                          | llrr                    |
| 2000 | 0.394                   | 0.629                       | 0.508            | 0.451             | 0.435             | 0.673           | 0.568              | 0.974                   | 0.593                        | 0.577                   |
| 2001 | 0.328                   | 0.645                       | 0.458            | 0.479             | 0.419             | 0.628           | 0.576              | 0.965                   | 0.638                        | 0.565                   |
| 2002 | 0.344                   | 0.721                       | 0.532            | 0.466             | 0.413             | 0.554           | 0.531              | 0.963                   | 0.543                        | 0.558                   |
| 2003 | 0.373                   | 0.618                       | 0.510            | 0.467             | 0.412             | 0.519           | 0.520              | 0.982                   | 0.538                        | 0.546                   |
| 2004 | 0.293                   | 0.559                       | 0.514            | 0.458             | 0.390             | 0.552           | 0.478              | 0.951                   | 0.491                        | 0.519                   |

| Year | Demographic development | Development of labor market | Material welfare | Living conditions | Educational level | State of health | Social environment | Environmental situation | Funding of human development | Human Development Index |
|------|-------------------------|-----------------------------|------------------|-------------------|-------------------|-----------------|--------------------|-------------------------|------------------------------|-------------------------|
|      | dr                      | rrp                         | md               | upn               | ro                | soz             | cc                 | tc                      | flr                          | llrr                    |
| 2005 | 0.340                   | 0.621                       | 0.413            | 0.458             | 0.353             | 0.531           | 0.477              | 0.793                   | 0.487                        | 0.493                   |
| 2006 | 0.346                   | 0.592                       | 0.445            | 0.450             | 0.374             | 0.509           | 0.531              | 0.792                   | 0.440                        | 0.495                   |
| 2007 | 0.345                   | 0.541                       | 0.406            | 0.441             | 0.382             | 0.561           | 0.460              | 0.717                   | 0.426                        | 0.474                   |
| 2008 | 0.327                   | 0.637                       | 0.477            | 0.437             | 0.393             | 0.582           | 0.513              | 0.713                   | 0.613                        | 0.515                   |
| 2009 | 0.351                   | 0.753                       | 0.520            | 0.427             | 0.449             | 0.653           | 0.472              | 0.691                   | 0.569                        | 0.537                   |
| 2010 | 0.404                   | 0.683                       | 0.362            | 0.422             | 0.455             | 0.548           | 0.410              | 0.655                   | 0.565                        | 0.494                   |
| 2011 | 0.437                   | 0.644                       | 0.458            | 0.417             | 0.502             | 0.457           | 0.415              | 0.648                   | 0.461                        | 0.491                   |

Source: Regional Human Development. Statistical Bulletin. - Kyiv: State Statistics Service of Ukraine, 2011. - 45 p., p. 27

As we can see from the Model 1 and Table 3, we should develop the regional human development programmes taking into account the determined priority HDI components in order to influence positively its value in all regions of Ukraine. In this case, the expected changes are determined by the Model 1, which shows that a change of any variable by a certain amount leads to a change of the general regional HDI value by the algorithm: changed variable multiplied by the coefficient, changes the general sum of index value.

Table 4. HDI and its components' values for the countries with a high level of HD

| Country |               | Human Development Index and its components |      |      |      |        |
|---------|---------------|--|------|------|------|--------|
|         |               | HDIC                                       | ESL  | MYS  | EYS  | GNP    |
| 1       | Norway        | 0.943                                      | 81.1 | 12.6 | 17.3 | 47 557 |
| 2       | Australia     | 0.929                                      | 81.9 | 12.0 | 18.0 | 34 431 |
| 3       | Netherlands   | 0.910                                      | 80.7 | 11.6 | 16.8 | 36 402 |
| 4       | USA           | 0.910                                      | 78.5 | 12.4 | 16.0 | 43 017 |
| 5       | New Zealand   | 0.908                                      | 80.7 | 12.5 | 18.0 | 23 737 |
| 6       | Canada        | 0.908                                      | 81.0 | 12.1 | 16.0 | 35 166 |
| 7       | Ireland       | 0.908                                      | 80.6 | 11.6 | 18.0 | 29 322 |
| 8       | Liechtenstein | 0.905                                      | 79.6 | 10.3 | 14.7 | 83 717 |
| 9       | Germany       | 0.905                                      | 80.4 | 12.2 | 15.9 | 34 854 |



|    |                      |       |      |      |      |        |
|----|----------------------|-------|------|------|------|--------|
| 10 | Sweden               | 0.904 | 81.4 | 11.7 | 15.7 | 35 837 |
| 11 | Switzerland          | 0.903 | 82.3 | 11.0 | 15.6 | 39 924 |
| 12 | Japan                | 0.901 | 83.4 | 11.6 | 15.1 | 32 295 |
| 13 | Hong Kong            | 0.898 | 82.8 | 10.0 | 15.7 | 44 805 |
| 14 | Iceland              | 0.898 | 81.8 | 10.4 | 18.0 | 29 354 |
| 15 | Korea                | 0.897 | 80.6 | 11.6 | 16.9 | 28 230 |
| 16 | Denmark              | 0.895 | 78.8 | 11.4 | 16.9 | 34 347 |
| 17 | Israel               | 0.888 | 81.6 | 11.9 | 15.5 | 25 849 |
| 18 | Belgium              | 0.886 | 80.0 | 10.9 | 16.1 | 33 357 |
| 19 | Austria              | 0.885 | 80.9 | 10.8 | 15.3 | 35 719 |
| 20 | France               | 0.884 | 81.5 | 10.6 | 16.1 | 30 462 |
| 21 | Slovenia             | 0.884 | 79.3 | 11.6 | 16.9 | 24 914 |
| 22 | Finland              | 0.882 | 80.0 | 10.3 | 16.8 | 32 438 |
| 23 | Spain                | 0.878 | 81.4 | 10.4 | 16.6 | 26 508 |
| 24 | Italy                | 0.874 | 81.9 | 10.1 | 16.3 | 26 484 |
| 25 | Luxembourg           | 0.867 | 80.0 | 10.1 | 13.3 | 50 557 |
| 26 | Singapore            | 0.866 | 81.1 | 8.8  | 14.4 | 52 569 |
| 27 | Czech Republic       | 0.865 | 77.7 | 12.3 | 15.6 | 21 405 |
| 28 | UK                   | 0.863 | 80.2 | 9.3  | 16.1 | 33 296 |
| 29 | Greece               | 0.861 | 79.9 | 10.1 | 16.5 | 23 747 |
| 30 | United Arab Emirates | 0.846 | 76.5 | 9.3  | 13.3 | 59 993 |

Source: Human Development Report, 2011. *Sustainability and Equity: A Better Future for All*. Transl. from English.; UNDP. Moscow, Publishing House "All the World", 2011, 188 p., p. 133

By using international experience (baseline HDI data presented for 30 countries, Table 4) regularity another can be detected that corresponds to the dependence of Human Development Indexes of the countries (regions in global terms) (HDIC) on the characteristics which are taken into account by the UNDP in their research methods – an expected span of life (ESL, years), the main years of schooling (MYS, years), the expected years of schooling (EYS, years) and an amount of the Gross National Product per capita (GNP, dollars). This regularity can be realized by the following model:

$$\text{HDIC} = 0.082 + 0.522* \text{ESL} + 0.160* \text{MYS} + 0.143* \text{EYS} + 0.102* \text{GNP} \quad (2)$$

Analysis of components' influence on the Human Development Index reveals a characteristic feature, as we can see from the Table 5. According to these data, the HDI value for the countries is determined primarily (ranging from 55.7% to 60.9%) by an expected span of life and with a strong influence (15.6%–21.7%) of the main years of schooling. The variable of the expected years of schooling less influences HDI, ranging from 14.9%–19.3%. Gross National Product in this case has the smallest impact – at least from 3.0% to 11.0%, which is contrary to the views of many scientists who follow the concept that economic component (which, actually the GNP is) has a dominant influence on the human development. Revealed circumstance confirms the validity of another concept, that social component (which is presented in our analysis as an expected span of life, main and expected years of schooling) has a priority impact on the human development.

Table 5. Components' influence on the HDI for the countries with a high level of HD

| Component                          | Designation | Impact Assessment on HDIC (%) |      |      | Priority |
|------------------------------------|-------------|-------------------------------|------|------|----------|
|                                    |             | average                       | min  | max  |          |
| Expected span of life, years       | ESL         | 58.6                          | 55.7 | 60.9 | 1        |
| Main years of schooling, years     | MYS         | 19.0                          | 15.6 | 21.7 | 2        |
| Expected years of schooling, years | EYS         | 17.4                          | 14.9 | 19.3 | 3        |
| Gross National Product, dollars    | GNP         | 4.9                           | 3.0  | 11.0 | 4        |

Note: Calculated using data from Human Development Report, 2011. Sustainability and Equity: A Better Future for All. / Transl. from English.; UNDP. Moscow, Publishing House "All the World", 2011. 188 p., p. 133. and built according to the Model 2.

To prove our concept we have made the similar calculations performed with the data from UNDP report "Real Wealth of Nations: Pathways to Development" in 2010 on a sample of 80 countries [11, p.139]. Our analysis shows the results similar to the revealed above. According to the correlation between HDI and its components in 2010 we have made the separate model:

$$\text{HDIC} = 0.00788 * \text{ESL} + 0.0186 * \text{MYS} + 0.0000007 * \text{EYS} + \\ + 0.00000167 * \text{GNP} - 0.0298 \quad (3)$$

However, the Model 3 also shows that the strongest impact on the general HDI value is brought by an expected span of life and the main years of schooling. An effect of the components on general HDI value, based on the Model 3, according to our calculations is produced in Table 6.

Table 6. Impact of components on the Human Development Index for countries

| Component                          | Designation | Impact Assessment on HDIC (%) |      |      | Priority |
|------------------------------------|-------------|-------------------------------|------|------|----------|
|                                    |             | average                       | min  | max  |          |
| Expected span of life, years       | ESL         | 72.9                          | 65.5 | 81.1 | 1        |
| Main years of schooling, years     | MYS         | 22.1                          | 13.9 | 28.3 | 2        |
| Expected years of schooling, years | EYS         | 0.0                           | 0.0  | 0.0  | 4        |
| Gross National Product, dollars    | GNP         | 4.9                           | 1.0  | 15.4 | 3        |

Note: Calculated using data from Human Development Report 2010. The Real Wealth of Nations: Pathways to Human Development / Transl. from English.; UNDP. Publishing House of the "Ves mir", Moscow, 2010. 244 p., p. 139 and built according to the Model 3

Thus, we have a reason to suppose that social components, such as expected span of life, main and expected years of schooling are more influential in the terms of human development than solely economic, such as Gross National Product. As we see from the results above, the difference of impact between the influential indexes – expected span of life and Gross National Product in our model of Human Development Index is about five times.

## Conclusions

The results of the analysis prove the necessity to change the priorities of human development in Ukraine in favor of the social component. Moving to the innovative economy requires an intensive social development that will change for the better living conditions, the state of development of education, health care system in Ukraine and will provide an expanding opportunities for population's self-realization in career and self-supporting. Prospects of further scientific studies should be connected with the determination of the social innovations' role in the formation of country human capital.

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### **Changing priorities of human development at the stage of transformation into innovative economy**

The scientific views on the objectives of modern human development have been presented. Human development of Ukraine and world countries has been discussed. The dynamics of the Human Development Index and the interdependence of its components based on the example of Ukrainian regions and world countries has been analyzed. The dependence of the Human Development Index mainly on its social component has been revealed by modeling. The necessity to change the priorities of human development in Ukraine at the stage of transformation into an innovative economy in favor of intensive social development and improving the quality of human capital has been proved.

### **Zmiany priorytetów rozwoju gospodarczego na etapie transformacji do gospodarki innowacyjnej**

W pracy zaprezentowano poglądy naukowe na temat celów współczesnego rozwoju człowieka. Na ich podstawie przeanalizowano rozwój Ukrainy na tle wybranych krajów. Szczegółowej analizie poddano wartość wskaźnika HDI i współzależności jej elementów w poszczególnych regionach Ukrainy oraz wybranych krajach. Zależność Human Development Index, głównie od jego składnika społecznego, została udowodniona w zastosowanym modelu. Badania wykazały potrzebę zmiany priorytetów rozwoju na Ukrainie w okresie transformacji do gospodarki innowacyjnej na rzecz intensywnego rozwoju społecznego i poprawy jakości kapitału ludzkiego.