

## EFFECTIVENESS OF GOVERNMENTAL REGULATION ON HUMAN CAPITAL DEVELOPMENT IN UKRAINE

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*research with greater confidence of its applicability to their programs.*

### 1. Introduction

Most researchers examine subject-to-object links between human capital and other external institutions, including the Government, in respect to human capital's influence on the subject. There is a broad consensus in the academic literature<sup>1</sup> that human capital is an important determinant of productivity and other economic outcomes, both at the individual and the aggregate level, and that its role is particularly crucial in today's knowledge-driven economy. At the microeconomic level, the following factors show this: (i) the very clear

### Abstract

*This article aims at appraisal of governmental regulation effectiveness of human capital development in Ukraine. Such a qualitative measurement is necessary for reflecting the social-and-political governmental impact on formation and development of productive human ability as the first principle for future economical growth. The study contains both theoretical and empirical sections. The theoretical section refers to objectivization, data domain definitions and typology. The practical section presents an appraisal of the State's active powers, methods and measures of its impact. Scientific methods employed here are expert survey as well as abstract-and-logical and graphical methods. The relevant forms and methods, both those which are already applied and could be applied in public administrative practice throughout Ukraine, are examined. The next step was the comparison between present and desirable (needed) groups of methods through relevant indices connected with the various groups of methods. The core findings of the article would be valuable to politicians, administrative and municipal officials dealing with the*

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<sup>1</sup>Richard Nelson, Edmond Phelps, *Investment in Humans, Technological Diffusion, and Economic Growth* (Yale: American Economic Review, vol. 56 (2), May, 1966), 69-82; Paul Romer, *Human Capital and Growth: Theory and Evidence* (Cambridge, MA: National Bureau of Economic Research Working Paper No.3173, 1989); Robert J. Barro, *Economic Growth in a Cross Section of Countries* (Cambridge, MA: MIT Press, Quarterly Journal of Economics, vol. 106 (2), 1991), 407-43; Robert J. Barro, *Economic Growth in a Cross Section of Countries* (Cambridge, MA: MIT Press, Quarterly Journal of Economics, vol. 106(2), 1991), 407-43; Theodore W. Schultz, "Economic Growth - an American Problem" in *Investment in Human Capital* (New Jersey: Englewood Cliffs, 1964).

evidence that school attainment is a primary determinant of individual income and labor market status; (ii) the relationship between individual wages and on-the-job training, with some estimates indicating that a year of training increases wages by as much as 5%; (iii) the connection between human capital and productivity at the firm level.<sup>2</sup> The literature<sup>3</sup>, also determines that the link between human capital and individual wages becomes stronger in times of rapid technological change and within highly-developed economies.

At the macroeconomic level, it is clear that the contribution of human capital to aggregate national growth is important, although considerable uncertainty is observed in its exact magnitude because of various econometric problems that complicate the interpretation of the empirical results (A. de la Fuente, A. Ciccone (2003)<sup>4</sup>). The most credible

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<sup>2</sup> Catherine Sofer, et.al, *Human capital over the life cycle* (London: Edward Elgar Publ., 2004).

<sup>3</sup> OECD, *The new economy: beyond the hype. The OECD growth project* (Paris: Organization for economic co-operation and development, 2001).; Angel de la Fuente, Raphael Domenech, *Human capital in growth regressions: how much difference does data quality make?* (Paris: OECD Economics Department Working Paper No. 262, 2000), 15-16; George Heinrich, Vincent Hildebrand, *Public and Private Returns to Education in the European Union – An appraisal* (Luxembourg: European Investment Bank, 2001).

<sup>4</sup> Angel de la Fuente, Antonio Ciccone, *Human capital in a global and knowledge-based economy. Final report.*(Luxembourg:

estimates in the literature suggest that, holding other things equal, an additional year of average school achievement increases the level of aggregate productivity by around 5% on impact and by a further 5% in the long run. This second effect reflects the contribution of human capital to technological progress. Some recent research also suggests that the quality of education may be just as important for productivity as its quantity, although further work is needed before reliable estimation of the size of the relevant effect would be available.

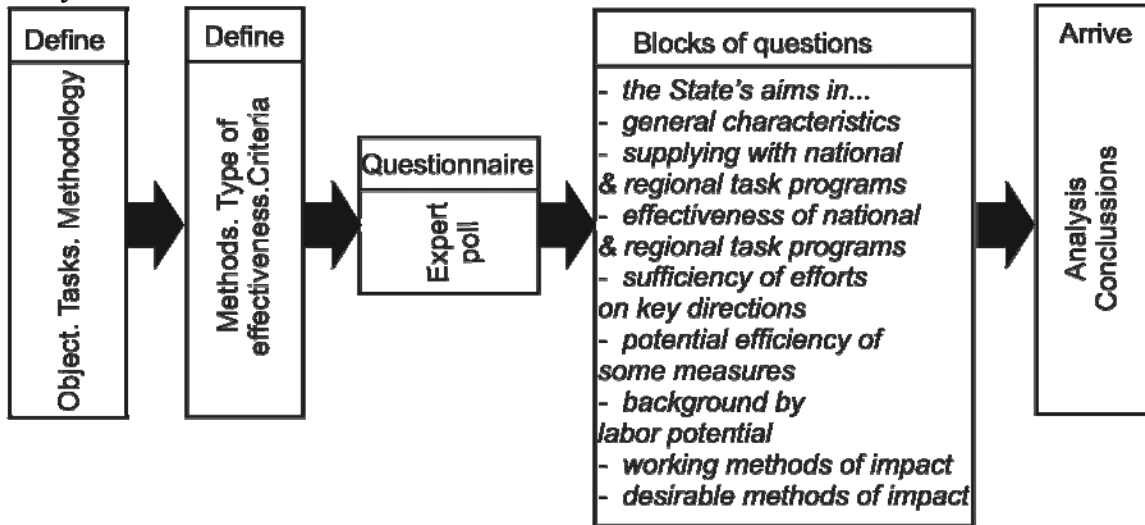
There is a lack of complex academic research concerning the state's impact on a human capital development (HCD) at the macro level from the point of efficiency evaluation view. This article more completely develops a complex approach to studying human capital and the state that is non-traditional in academic literature. There was descent from widely accepted analysis of purely economic consequences of companies impact on HCD (micro level, human capital as object (O.)), as well as the human capital's impact on economic growth of the country and the national wealth (macro level, human capital both as subject (S.) and object in "S.-to-S." and "S.-to-O." bands with the state). The present approach is related to "S.→O." form where "S." is governmental authorities and "O." is bearers of human capital institutionalized in forms of educational

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Office for Official Publications of the European Communities, 2003), 16, 109.

and scientific establishments. These institutions are considered to be the direct influence of governmental policy. Therefore, the aim of the article is a complex analysis of governmental policy of HCD in Ukraine based both

on theoretical and empirical data obtained from the stakeholders' study. The set aim, determined by a certain research logic based on experts' estimation data, is presented in Graph 1.



**Graph 1: Logical scheme of the present appraisal of governmental regulation effectiveness of human capital development.**

**2. Concept definitions and typology**

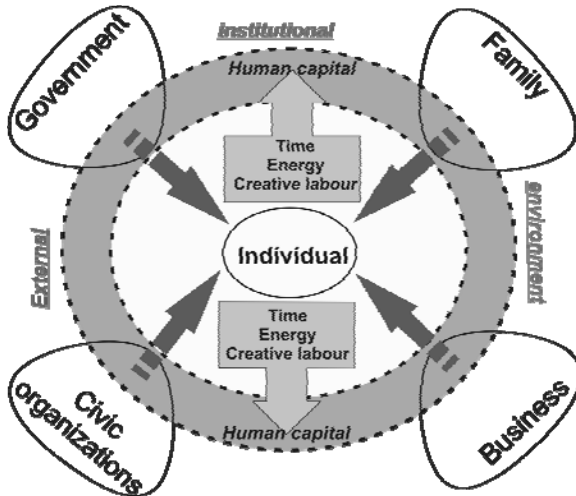
According to D. North<sup>1</sup>, the role of institutions is to reduce uncertainty, by means of setting up a stable, though not always effective, interaction between people, and alternative sets restriction which every person has. So, namely the institutional approach to HCD formulation is considered to be pertinent here. It enables deeper research in the field of economic and organizational phenomenon such as institutional administration mechanisms, development strategies,

institutional agreements, etc. Thus, I examine *human capital development as the qualitative change of the human's characteristics within the process of all the social (governmental, business, civil sector and family) institutions' influence on formation and utilization of intellectual resources of mankind in educational and scientific-and-innovation spheres.*<sup>2</sup> The principal HCD process is presented in Graph 2<sup>3</sup>.

<sup>1</sup> Douglass C. North, *Empirical Studies in Institutional Change* (Cambridge: Cambridge Univ Press, 1996), 19.

<sup>2</sup> The sphere of health protection is outside the scope of present and previous research although it surely makes an impact on the process of human capital formation and utilization.

<sup>3</sup> Implementation of institutional approach is believed quite appropriate. It is caused by all among acting stakeholders (See: Graph 2), one can see the regular (and irregular)



**Graph 2: Principal scheme of human capital development**

Such a development should not be defined only in terms of mechanical and extensive increase of its structural elements, including numerical economical factors of its growth. Modern patterns of human development (see Romer<sup>4</sup>, Aulin<sup>5</sup>, World Economic Forum<sup>6</sup>) do demand its achievement to

activity of stakeholders and institutes for arranging and maintaining subject-to-object links shaped in “institutions ↔ mechanisms ↔ human capital bearer” formulae. This activity is respected to “rules of society games” arranging relations between people (See: Douglass C. North, *Institutes, institutional changes and economic development* (Moscow: Nachàla, 1997), 20.

<sup>4</sup> Paul Romer, *Human Capital and Growth: Theory and Evidence* (Cambridge, MA: National Bureau of Economic Research Working Paper No.3173, 1989).

<sup>5</sup> Arvid Aulin, *Foundations Economic Development* (N.Y.: Springer, 1992).

<sup>6</sup> The World Economic Forum, “*Identifying the Key Elements of Sustainable Growth*” in *The Competitiveness Indexe*. (Geneva: The World Economic Forum, The Competitiveness Indexes, Part 1,

be based on mostly endogenous factors, i.e. interaction between national governmental and business, civic institutions, as well as support of corporate sector.

As the practice (See: relevant UNDP<sup>7</sup>, OECD<sup>8</sup>, WEF<sup>9</sup> reports) proves such effective methods as legislative maintenance, long-term investment into main branches of formation and realization of human capital, generation of national and regional priorities, defining the precise motivation field for the human capital bearers, are constituted as the major forms of the state’s impact on HCD. These are the main types of the state’s impact on formation of “the half-life of knowledge

[www.weforum.org/pdf/Global\\_Competitiveness\\_Reports/Reports/gcr\\_2006/chapter\\_1\\_1.pdf](http://www.weforum.org/pdf/Global_Competitiveness_Reports/Reports/gcr_2006/chapter_1_1.pdf), 2006).

<sup>7</sup> Human Development Report 1990. Concept and Measurement of human development // <http://hdr.undp.org/reports/global/1990/en/> 1991; Martin Cooke, Daniel Beavon, Mindy McHardy, *Measuring the Well-Being of Aboriginal People: An Application of the United Nations’ Human Development Index to Registered Indians in Canada* (Toronto: Strategic Research and Analysis Directorate, www.ainc-inac.gc.ca/pr/ra/mwb/mwb\_e.pdf, 2004).

<sup>8</sup> OECD, *Annual report 2006* (Paris: Organization for economic co-operation and development <http://www.oecd.org/dataoecd/37/61/36511265.pdf>, 2006).

<sup>9</sup> The World Economic Forum, *The Lisbon Review 2004: An Assessment of Policies and Reforms in Europe* (Geneva: The World Economic Forum, 2004), 9, 13.

with long-period”<sup>10</sup>, which is about basic and academic education with the long-term economical effect and highly social effect for the state, region and family<sup>11</sup>.

Public organizations perform functions set by law implementing managerial decisions including a lot of specific actions, mechanisms and procedures approved by social environment and confirmed by certain resources. They are: (a) making decision processes aimed at national programs formation and disposal; (b) public administration technologies in crisis management and information-and-communicative processes; (c) organizational and economic support for education and culture; (d) tax benefits provision; (e) governmental orders and custom provision; etc. Actual public administration experience has worked out a wide managerial kit to provide them according to the objectives and area of economy. The most efficient way that this kit is usually applied into governmental budget and institutional policies and the most prevailing methods and measures for HCD practice are formulated below (See:

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<sup>10</sup> Albert Shapiro, *Managing professional people*. (N.Y.: Free Press, 1985), 72.

<sup>11</sup> A. Shapiro describes it as “the time after completion of training when, because of new developments, practicing professionals have become roughly half as competent as they were upon graduation to meet the demands of their profession” (See: A source above). E.g., A. Shapiro states that for scientists and engineers this half-life can be as short as five years.

Table 2 in the Appendix), and will be analyzed in this article.

Defining the aim more precisely, one should focus on concordance of “public regulation” essence. One can consider that both “public regulation” and “public administration” are always an ordering, regulating activity<sup>12</sup>. It

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<sup>12</sup> Quite often there is confusion between “public regulation” and “public administration” in relevant literature. Also there are two different approaches to parity of these notions. On the one hand, one can define that “public regulation” is broader than “public administration” cause of the last one mostly uses administrative methods. It’s appropriate to recollect a comparison of market economy (e.g. Keynesian and neo-Keynesian economic theories) vs administrative-command system. On the other hand, “public administration” is wider cause of classical theory of management proclaims a ‘regulation’ as a function of management (See: Michael H. Mescon, Michael Albert, Franklin Kedouri, *Management* (Glenview: Harpercollins College Div, 1985)). As M. Latynin proves, a ‘regulation’ notion looks more likely when one’s examining a management of subject which are not a state’s property (See: Mykola Latynin, “The essence, components and effectiveness of public regulation mechanism for agrarian sector economy” in *Mechanisms of effective development of agrarian sphere*, ed. Leonid Anichin (Kharkiv: Magister, 2006), 9). Another researcher conducts a difference by the edge of entitled rights: within “public regulation”, a state takes part in market processes entitled with rights of a subject of *market relations* (See: Mykola Koretzkiy, *Formation and development of the system of public regulation of agrarian sector of*

assumed that “public regulation” is less categorical than “public administration” that is supposed to be reflected in subsequent logic. Therefore it deserves consideration that “public regulation” provides the subjects with an opportunity to choose a desirable and suitable way of behavior not foreseen by “public administration”.

Thus, examining transition processes, the state (public regulation provided) often has a few institutions with the stable roles and functions, and even functions autonomously in the economy. Nevertheless it very often follows a liberalization policy enabling other acting subjects to self-realize into economic mechanism. All the private stakeholders of institutional environment direct their investments to those fields where risk is minimized and/or benefits are maximized. It causes excessive financing of certain branches of economy and shortage of such branches, such as education, R&D, high technologies and human capital in general.

Within a market economy, the progressive role of the state is fulfilled due to the maintenance of strategic directions and branches of economy, as well as making favorable economic climate which contributes to the most immediate adaptation of economic system to changeable realities. The regressive role of the state is revealed in the case of non-fulfillment of strategic

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*economy* (Kiev, NAPA [Dissertation], 2003), 140.

tasks, social investment resources are not directed to a real legitimate sector but are accumulated in the “shadow”. Thus the question arises: *Does the state act effectively to meet both the interests of certain social objects and its own engagements?*

There are some approaches to defining governmental regulation (GR) effectiveness and criteria of effectiveness which can be looked at from different angles (See: Table 1). Most of them describe different theoretical and practical aspects of effectiveness of both governmental regulation and public organizations' activity (D.Beeton and F.Terry<sup>13</sup>, N.Carter<sup>14</sup>, M.Cave<sup>15</sup>, M.Holtzer and K.Callahan<sup>16</sup>, P.Smith<sup>17</sup>, V.Dzundzyuk<sup>18</sup> etc.). The OECD 1993 Annual Report highlighted a direct connection between

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<sup>13</sup> Danny Beeton, Francis Terry, *Evaluating public service performance* (London: Public Finance Foundation, 1989).

<sup>14</sup> Nail Carter, et al., *How organisations measure success – the use of performance indicators in government* (London: Taylor & Francis, 1992).

<sup>15</sup> Martin Cave, Maurice Kogan, et al., *Output and performance measurement in government. The State of the Art* (London: Jessica Kingsley Publ., 1990), 112-118, 131-140.

<sup>16</sup> Mark L. Holzer, Kathe Callahan, *Government at work – best practice and model programs* (N.Y.: Sage, 1997).

<sup>17</sup> Peter Smith, *Measuring outcome in the public sector* (London: Taylor & Francis, 1996).

<sup>18</sup> Vyacheslav Dzundzyuk, *Effectiveness of activity of public organizations* (Kharkiv: Magister, 2003).

effectiveness of public sector and effectiveness of national economy on the whole. It is reported that there is a need for permanent improvement of service quality and clients' satisfaction in public sector<sup>19</sup>.

Nevertheless what does public effectiveness mean and how can it be reached? According to N. Carter<sup>20</sup>, J. Child<sup>21</sup>, Ch. Talbot<sup>22</sup>, public organizations and public sector effectiveness are linked with: (a) the ratio between consumed resources and received final results (goods and services); (b) the decrease in quantity of consumed resources or their costs reduction; (c) process duration restriction; (d) ratio between final product and final result. On a nationwide and society scale, some international organizations (UNDP, OECD, UNCTAD, Institute of Management Development etc.) it is indicated by: (a) the level of real GDP per capita; (b) the level of GDP growth per capita; (c) the rate of costs

utilization (human and material resources); (d) the ability for consuming generated goods and services; (e) the competition level; (f) the adequacy and precision of strategic planning. Some modern Ukrainian and Russian authors (see G.Atamanchuk<sup>23</sup> and officials of Ministry of education and science of Russia<sup>24</sup>, V.Tsvetkov, edtd.<sup>25</sup>) came to the conclusion that the main criteria of modern state regulation effectiveness in the social political area are: (a) most complete correspondence of administrative activity to society's vital interests; (b) widening and deepening democracy; (c) securing the citizens' rights and liberties, its realization in practice; (d) fulfillment of tactical and strategic political and social aims as to reforming society; (e) taking the economy out of crisis and turning Ukraine into a developed country. In this respect, one can summarize some approaches and criteria of effectiveness which have been considered (See: Table 2). The correct definition of effectiveness will assist us to carry out

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<sup>19</sup> OECD, *Annual Report 1993* (Paris: Organization for economic co-operation and development, 1994).

<sup>20</sup> Nail Carter, et al., *How organisations measure success – the use of performance indicators in government*. (London: Taylor & Francis, 1992), 17-20, 29.

<sup>21</sup> John Child, *Organizational Structure, Environment and Performance: The Role of Strategic Choice*. (American Journal of Sociology, vol.6, 1972), 2-21.

<sup>22</sup> Charles Talbo, *Public Performance - towards a new model?* (London: Public Policy and Administration, vol.14, <http://ppa.sagepub.com/cgi/reprint/14/3/15>, 1999).

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<sup>23</sup> Grigoriy Atamanchuk, *Criteria and procedures of measuring for social activity of public administration*. (Moscow: Nasha Vlast review: [www.nashavlast.ru/archive/2006/11/08.htm](http://www.nashavlast.ru/archive/2006/11/08.htm), 2006).

<sup>24</sup> *On enhancement of effectiveness of public sector in sciences*. (Moscow: Ministry of education and science of the Russian Federation, [www.mon.gov.ru/science-politic/gossektor/doc180505/doc180505.doc](http://www.mon.gov.ru/science-politic/gossektor/doc180505/doc180505.doc), 2005).

<sup>25</sup> Vladimir Tsvetkov, *Reforming of public administration in Ukraine: problems and prospects*. (Kiev: Oriyany, 1998), 131.

proper research and to meet assigned goals.

The need for establishing a set of goal criteria for a public (governmental) regulation (G.R.)<sup>26</sup> system is determined as carrying out the State's functions for assigned goal achieving or social effect attaining. Acting on behalf of the nation and the State, public organizations rarely assume the direct economic (commercial) effectiveness criteria, although the economic criteria (one of the cheapest variants, as a rule) always stand during decision making. Mostly showing preference for the social effectiveness rather than economic one, governmental organizations run with low or very low economic effectiveness in their activities. The socially significant effect usually appears in medium- & long-term prospect, and at the same time *optionally having a precise value form or expression*. In this present research, one would appeal to study *the way how governmental and some public bodies reach the goals for creating HCD conditions* that have been exactly input into goal effectiveness of public administration. Considering the

effectiveness of administration as an effect (result) confronted with the costs (efforts) for its achievement, in the case of HCD target effectiveness it is more appropriate *to analyze through the goal of regulation*. It dynamically compares the object's status at the output (the final one as ideal) with the planned or desirable status (result). Taking into consideration that it's rather difficult to highlight a clear dependence on a certain factor's impact due to lack of relevant statistics, the impact of some factors on HCD have been estimated based on expert responses<sup>27</sup>.

All the experts were selected from the biggest Ukrainian cities like Kharkiv (41,6% or 26 people), Kyiv (38,3% or 23 persons), Donetsk (6,6% or 4 people) and other cities (13,2% or 8 people). Within the period from October to November 2006, this survey was conducted among a 60-person expert target audience:

1) scholars and scientists who represented universities and research institutes;

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<sup>26</sup> Modern European and American academic literature on Public administration & Political science does not emphasize the differences between "public regulation" and "governmental regulation" notions very much, providing them virtually the same matter. The "governmental regulation" is widely used to be mentioned in relevant literature. And I would apply namely it and primarily identifying it with "public regulation" during the ensuing research.

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<sup>27</sup> As V. Dzundzyuk proves, clashing certain complication in determination the objective indicators of effectiveness in public organizations, there is an approach of experts' opinion to be implemented. The external effectiveness is measured with a single integral indicator as clients' satisfaction of activity (See: Vyacheslav Dzundzyuk, *Effectiveness of activity of public organizations* (Kharkiv: Magister, 2003), 79).



**Table 1: Classification of present approaches to defining of public administration effectiveness**

Approach		Main criteria	Essence of approach
Economic effectiveness		Effectiveness is an indicator of profit	Linked with ensuring intakes to budget; bringing in and off-budget funds development; market cost increase of organization where the State is a key shareholder (e.g., natural monopolies, national sectoral holdings)
Goal effectiveness		Goal achievement	Co-ordination results with a goal; succeeded by correct set aims and by scientifically grounded fulcrums.
Functional effectiveness		Activities of functions	Linked with public functions performance, realization of the state's strategic priorities, ensuring positive structural reforms, output capital goods.
Social effectiveness	- general	Prosperity of population; quality of life; safety for life activity and labor; growth rates of national wealth etc.	Performs as partial criteria of social labor effectiveness. Characterized by "human-to-human" attitude as well as effectiveness of public organizations' activity. Defined by social contents of labor, including managerial one.
	- special	Rationality and effectiveness of organization and functioning of public administration subject.	
	- specific	Activity effectiveness of separate official body, administrative decision.	
Organizational effectiveness		Effective functional links between elements of organization	Defined by optimal organizational interaction form that works it out more effectively in a goal achievement. Conditioned by certain extent of voluntary cooperation that lies out of any constraint.

- 2) public servants (the chiefs of structural departments related with education, science and employment);
- 3) chiefs and leading experts of non-governmental analytical centers;
- 4) journalists who professionally deal with topics of social and innovative politics.

In this case, the following are taken as the field research matters being studied (a) all the organizations directed to formation and use of intellectual human resources in education and R&D spheres, as well as (b) social relations arisen after the state impact and can't be solved without the interference.

### **3. Active powers for the state**

Analysis of expert surveys concerning a G.R. effectiveness of HCD enabled certain conclusions. Some of them are considered *to be rather unexpected* as well. Nevertheless, on the whole they are able to give a picture highlighting the main problems in present public policy.

*1) The lack of really modern and widespread national priorities for HCD. Public policy is characterized by:*

*(a) divergence between political declarations and authorities actions, between necessary and realizable events; (b) existing bureaucratic limitations, but at the same time (c) there are qualitative successive improving reforms.*

According to the most complete compliance with society's vital interests as the main criteria of modern public administration (after V. Tsvetkov), our experts note that Ukraine is rather weakly (15%) following the path of maintenance and development of the national priorities (Graph 3 in Appendix). According to 16% of experts' opinion, Ukraine's priority-oriented movement could be intensified by parties' election pledges. But within young Ukrainian parliamentary-and-presidential republic (since January 2006) it doesn't look like "one & indivisible team" game with common rules. Also it proves the facts of: (i) imbalance between the main political and economical groups' interests around the realization of economic

growth as a mission; (ii) present debility of public institutes. Besides, an effective use of all available resources as the goal of the state's activity, is rather low (11%). But experts' appraisal concerning aimlessness activity of in HCD is believed appreciable (16%) now. It means that governmental bodies so far make decisions based on situations, and/or they don't have any interest in productive activity on this aspect of social-and-economic development.

The last statement is confirmed with the experts' responses but in slightly different dimension (See: Graph 4). Almost half of the respondents characterized the modern GR of HCD status as contradictory, and almost a quarter of them stated it to be "neglected". No expert said that the present policy is "weighed and emphasized", although every second respondent marked that qualitative reforms have started for the better.

Also 20% experts observe excessive regulatory influence from the government which comes along with prohibitions and limitations. It just intensifies the opinion of (a) imperfection and interior divergence in HCD public policy and (b) low goal effectiveness of the government.

*2) Current national and regional task programs in educational and scientific sphere are outdated, they demand some modifications. Their effectiveness is rather low as well; some of the main reasons are lack of budget financing*

*and the national local authorities' carelessness in fulfillment.*

As positive experience of Japan, Sweden, the US, etc demonstrates, exact program-targeted approach plays the major role in maintenance of the state's priority directions. The first governmental task programs (GTP) were launched in 1992 in Ukraine. With reference to Ministry of Economics of Ukraine, in 1992 there were only seven GTP (See: Table 3) and their number was supposed to grow annually (up to 323 programs in 2004).

Ukrainian GTPs are believed to be one of the main mechanisms of budget funds' investment into social-and-economic development. Therefore some experts were asked about the level of supply with GTPs in spheres of education and scientific-and-technical policy scaled on Ukraine's national and some regional (Kharkiv, Kiev, Donetsk and a little other cities) levels. Also separate attention was called to GTPs' effectiveness (See: Graphs 5 and 6).

Analyzing national educational programs provision, 22% of respondents noted that all the directions are defined clearly and 12% of experts stated that present programs are actual and appropriate. Almost the same summarized quantity of experts (38%) think that present GTPs are outdated and they demand corrections both in budget expense item as the matter of fact, and the amount of financing. Some 11% of respondents consider that there are no such programs at all.

The same situation is observed in the provision of regional educational programs. There is a balance between relevance and lack of relevance for making correction into present GTPs. But there is a more prevailing thought about both subsistence of such regional programs (16%), and subsistence of national programs (11%) on the whole. The response distribution in favor of its obsolescence and correction the R&D programs, is rather evident (45%). Moreover totally 22% of respondents do positively estimate the provision of them. Some more 15% of experts think that such the programs do not subsist. Besides some of the experts didn't determined their position, and it actually seems to be quite essential, and their opinions vary from 13% to 20% for all four pointed positions.

The experts' survey has given the following results concerning appraisal of educational and scientific-and-technical GTPs effectiveness (See: Graph 6). Respondents set quite low rates for amount of necessary financing for those programs reflecting low final result in practice. Also a lot of remarks were made with the reference to fulfillment of these programs and ranked them from 19% for national educational programs to 26% for regional R&D ones. One can observe some actual usefulness of them due to both 12% (national educational programs) to 18% (regional educational ones) appraisals. Responses as for mistakes in strategic HCD planning range from 7% for regional R&D programs to 12% at the same sphere

statewide. It suggests that as a whole Ukraine has a sufficient quality level of strategic and macroeconomic forecasting and planning, and one couldn't refer to the highest-level's inadvertencies and failures at the present situation.

*3) Governmental efforts for secondary education services are appraised very positively. But one can see a gap between rates of financing education and science on the one hand, and necessary and desirable level on the other hand. Also there is a shortage of organizational efforts for stimulation lifelong education.*

The survey also showed the appraisal of adequacy of the focused governmental efforts on the certain HCD directions which are believed to be universally decisive for formation and development of creative human ability (See: Graph 7). The highest experts' appraisal is credited to efforts for secondary education granted for population (summed-up positive 65% vs. bad estimate with 5% only). Also the work for education of brainpower (summed-up positive 42%) seemed to be rather successful. But on the other hand, it is balanced with skeptical rates (almost 40% for the weak level of the governmental efforts).

At the same time, one can estimate the efforts for stimulating lifelong studying as totally insufficient: more than a quarter of experts could not appraise it positively, and almost as many experts estimate it rather negatively. Judging on

estimation of the sufficiency of the state's budget expenses, there is a dangerous situation for education and science. A mere 10% of experts appraised volumes of public expenditures positively. And the reverse 67% of experts saw insufficient efforts that are used to be valued in absolute monetary characteristics. Also summarized 19% of respondents marked the government's efforts for popularization of modern IT among Ukrainian nation as "sufficient". A third (33%) of responses asserts that little efforts were made in this sphere, and 20% consider the efforts as unsatisfactory.

#### **4. Methods and measures of impact**

*4) Within present situation, normative and economic methods of G.R. of HCD prevail greatly, moreover desirable methods insignificantly vary from presently acting kits.*

In compliance with impact facility, the methods of GR of HCD are classified according to Table 1 (on normative, economic-and-financial, administrative, organizational, scientific-and-methodical, and informational-and-educational ones). All these methods, being implemented in the budget, monetary politics and institutional practices, are believed the most commonly used and finally effective. The experts' poll stresses a fact that transition period in Ukraine is accompanied by using mainly normative (22%) and economical (33%) methods of G.R. of HCD (Table 4).

5) *Desirable measures for effectiveness increase in scientific-and-innovative sphere are also in legal plane, e.g. further improvement and permanent keeping to law, and determining the strategic development priorities for Ukraine.*

At the same time, the idea of desirable methods differs from reality. Thus, normative methods are to be intensified a little. This fact just extrapolates a prevailing experts' view on cause requirement for national strategic move determination. Also as experts supposed, it's more desirable to implement more informational-and-educational methods. Survey's results prove that experts felt the need for little liberalization in administrative and even economic methods of regulation.

Respondents' answer concerning some methods and measures to improve the science-and-innovation sphere (Graph 8), testify for legislative establishment of "rule of game" (63%), the national priorities identification (59%) and intellectual property (I.P.) protection (45%). There are normative and legal methods as well.

Let's note that alternatives for (a) National Academy of Science of Ukraine reformation, 35%, (b) consulting centers administration, 31%, (c) governmental works, 29%, and (d) direct permanent loans, grants etc., 28%, are believed to be the most doubtful ("being in lost to reply" responses) here. In addition, experts are rather cautious in regard to both "not

enough covered the media's measures" response, and appropriateness of the state's disinterested charity.

6) *As a whole, one can observe a low level of administrative implementation the legislation which points to and combines the main forces in certain HCD direction.*

In order to estimate how labor potential grounds and serves for further formation of more complicated "human capital" economic category in Ukraine, there has been a relevant case study (See: Table 5). It was dedicated to analysis of the government's work referring to the Decree of the President of Ukraine which has fixed the main directions of labor potential development in Ukraine till 2010.<sup>1</sup>

Suggested measures ranged according to relative coefficient of trust balance ( $c_{tb}$ ) which has been calculated as a quotient between summary positive estimates and summary negative estimates. After this result one can make a conclusion that some forms of the Presidential statute are "not been held" or "rather not been held" in sphere of educational base development and sphere of the population extensive reproduction. Namely they are: (a) integration on vocational, higher and after-graduate education into international educational system, and

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<sup>28</sup> Decree of the President of Ukraine, *On general directions of labour potential development in Ukraine for the period till 2010* (Kiev: Official bulletin of Ukraine, Sept.20, No.31, 1999).

(b) development of a reasonably-priced housing market. Besides one should note some high indicators in (a) conditions of vocational and higher education accessibility for the population; (b) further creation of educational service market. The first (“a”) sentence is rather considered to be gained since the time of the Soviet Union.

7) *The least effective current measures are labor incentives for educational and science employees, I.P. rights protection, and quality of procedures for innovative projects appraisal.*

Appraisal of economic impact effectiveness measures for HCD (See: Table 6) presented that experts give preference to (a) governmental order for education of brainpower; (b) governmental order for manufacturing of science intensive output; (c) financing the GTP in R&D sphere. None of the 7 suggested impact measures have relative coefficient of trust balance ( $C_{tb}$ ) higher than 1. Thus, looking at the experts’ subjective estimate, one could realize the rather low effectiveness of selected economic instruments.

Between all the seven suggested normative and administrative instruments of Governmental impact (See: Table 7), the most effective ones are: (i) drawing civic consulting bodies to making decision process ( $C_{tb}=1,03$ ), and (ii) starting educational reforms ( $C_{tb}=0,71$ ). Expert examination and

appraisal of innovative projects ( $C_{tb}=0,19$ ) and I.P. protection ( $C_{tb}=0,18$ ) are marked with unsatisfactory effectiveness. The totally low effectiveness is also observed in this group of impact measures.

## 5. Conclusion

The research aims at an expert-survey basing analysis of governmental regulation effectiveness of the main human capital constituents in Ukraine. This is still a weakly developed direction in economic and political sciences, which could allow the finding and synchronizing of some macroeconomic development reserves lying in the plane of public policy and public administration. Examining the main weak and problematic spots in governmental regulation of human development process, in particular educational and scientific spheres, there is a large number of gaps and problems, arisen from insufficient performance in public organizations. Looking at the Ukrainian case, it can be seen as a problem of not high final effectiveness and sometimes even a detachment of performing measures both from Ukrainian economic realities and from effective realization stimulation of available labor potential.

The Ukrainian experience testifies that many processes of HCD and innovation regulation would not be successful when there is an imbalance between tactics and strategy. Annually some institutional changes come and certain innovative infrastructure elements

appear, but there is no national strategy or purposeful policy under fragmented management. In Ukraine, innovative favorable environment has been shaped visa versa, from the construction of separate parts of its infrastructure under the weak governmental institutional support.

Concerning the main substantial human capital constituents, Ukraine has become in a situation when positive dynamics by single constituents (e.g., schooling, applied science) are unable to provide for stable human development through the minor positive changes by other constituents (e.g., life-long studying, fundamental science, modern IT knowledge). In this respect, unless one assumes urgent managerial measures to stabilize a situation, hereafter it could lead to the lack of prospects in human capital utilization for national wealth formation in Ukraine. The prospects for the solution of the main difficulties are considered to be in more severe governmental participation, particularly, in more intensive use of the normative and economic measure complexes, which have the strongest positive effect today. I hope to be able to attract more undivided attention to the subject of human capital development while I was successively answering several questions: Are the existing governmental impact methods still applicable in the Ukrainian case? What measures can the state apply in order to function more effectively? How does the Ukrainian government follow society's vital interests?

Finally, the present research conveys my imagination. It lies on the verge of public administration, law and macroeconomics sciences, and contains much potential for further research. Being aggregated, the research is of theoretical, methodological, and practical nature, and can be used in practical performance of governmental bodies and local authorities for purposes of improving the human development regulation processes both on the macro level and locally.

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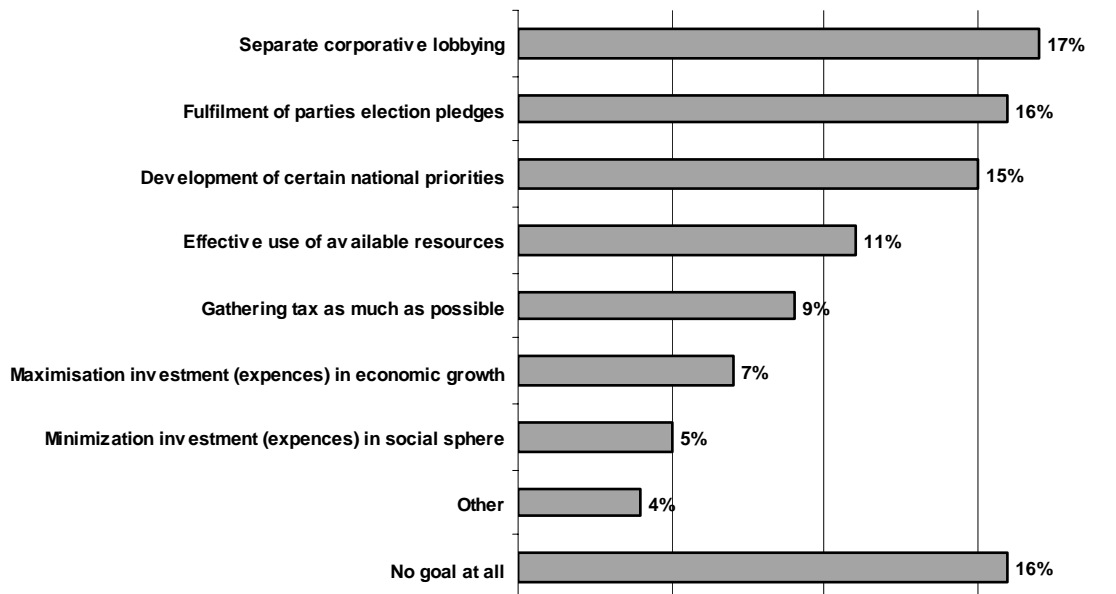
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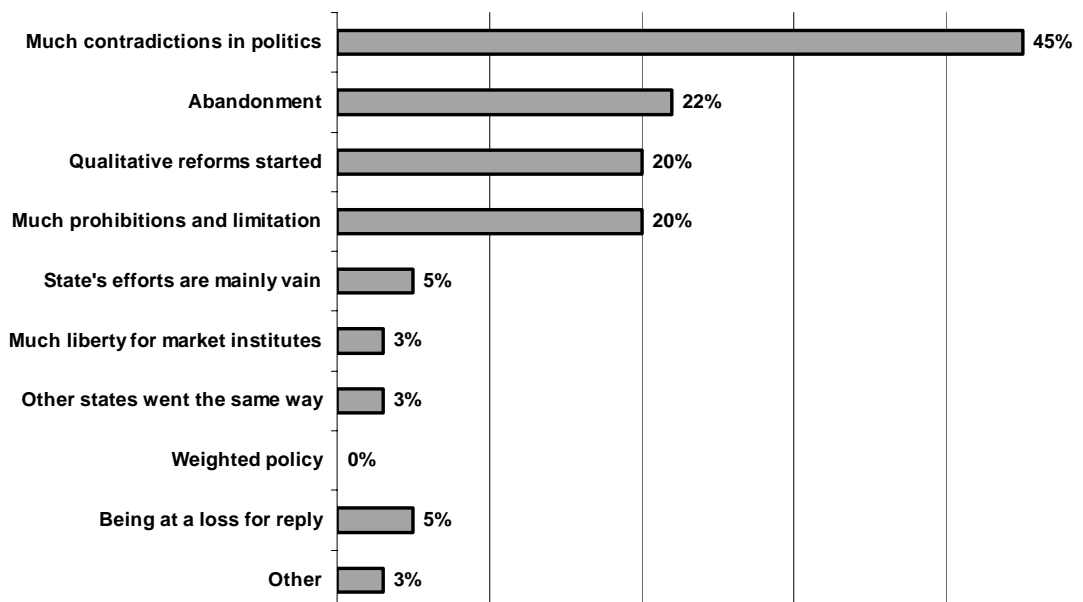
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**APPENDIX**

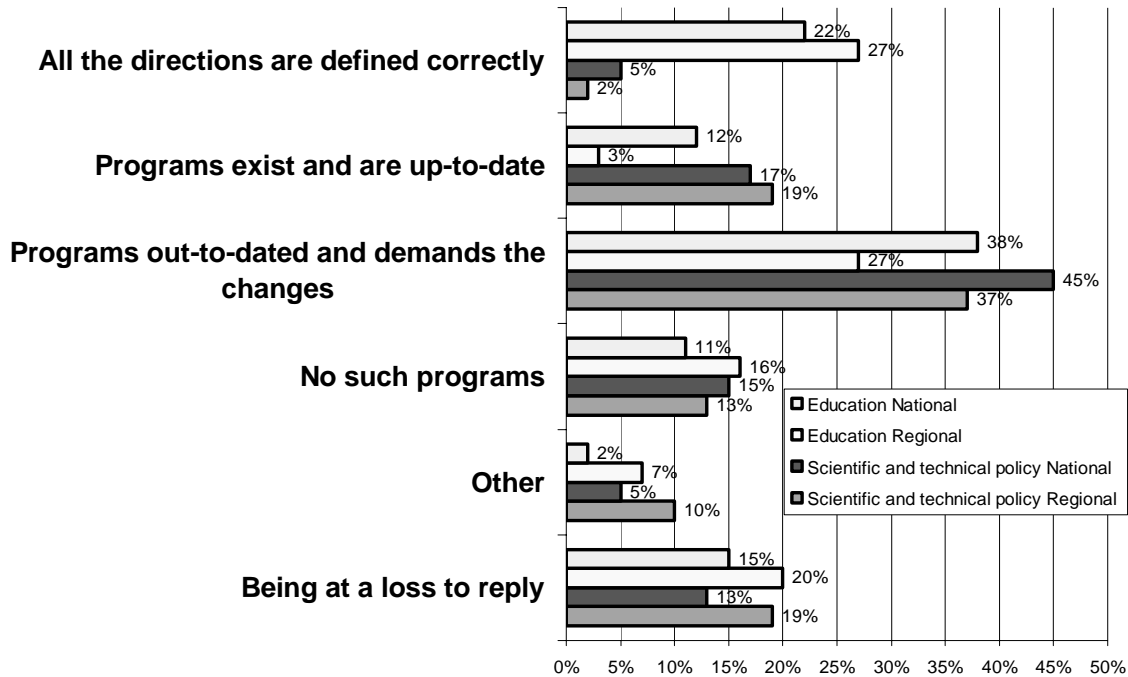
**Graph 3: Government’s object in human capital development processes (*% of expert responses*)**



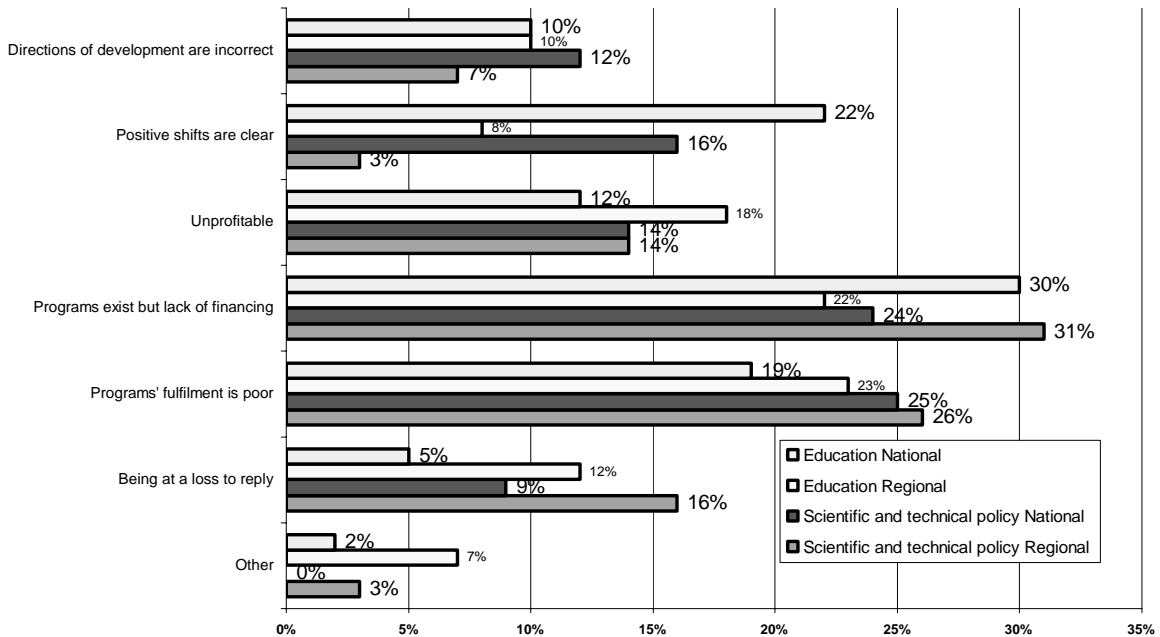
**Graph 4: General characteristics of present governmental regulation of HCD in Ukraine (*% of expert responses*)**



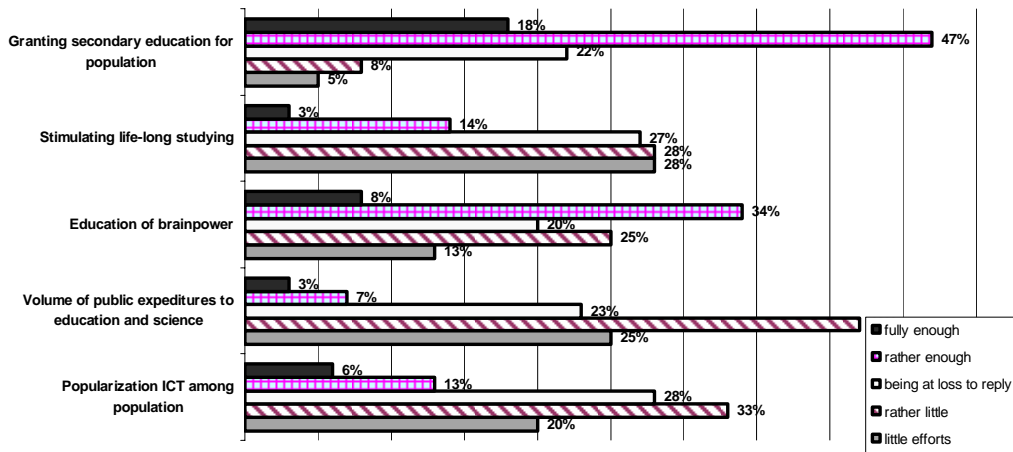
**Graph 5: Appraisal of supplying with regional and national GTPs in spheres of education and scientific-and-technical policy (% of expert responses)**



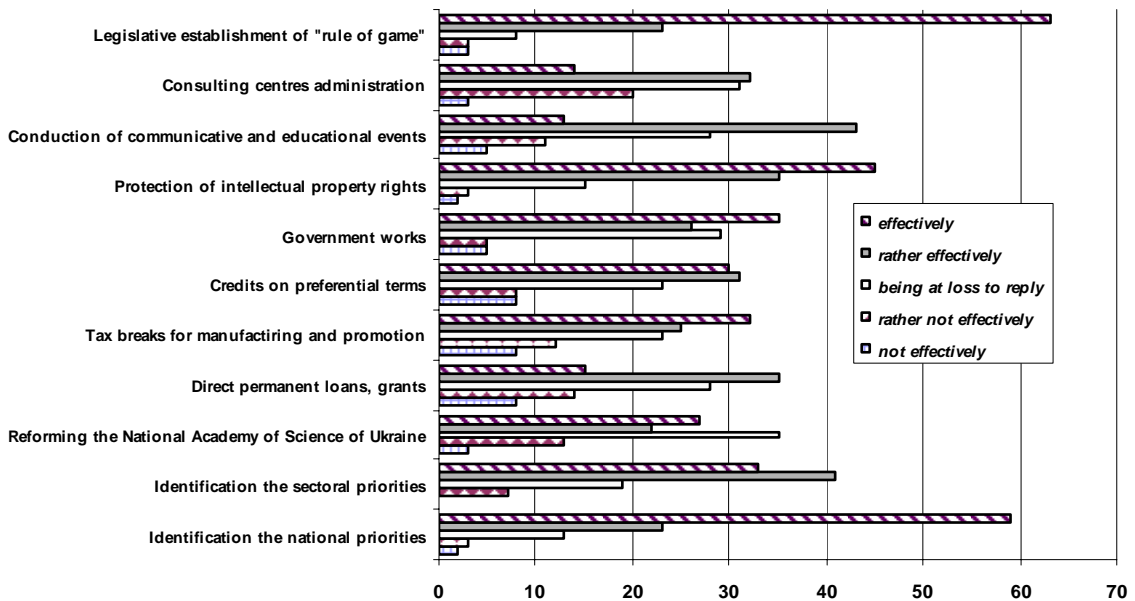
**Graph 6: Appraisal of effectiveness of regional and national GTPs in spheres of education and scientific-and-technical policy (% of expert responses).**



**Graph 7: Sufficiency/insufficiency of Government efforts in such educational constituent directions... (% of expert responses).**



**Graph 8: The most efficient measures for regulating science and innovations sphere in Ukraine (% of expert responses).**



**Table 2: Classification of methods and measures applied in public regulation of HCD.**

Title of method	Essence of method	Resorts	Measures and actions of regulation
1) Normative	Arrangement the obligatory legal conduct regulation.	Working out and adoption of statutes (“games rules”) by public organizations. Social standards.	Constitution, laws, decrees, resolutions, decrees, acts, fiats, court decisions etc. Minimal wages (pension), level of subsistence wage, working day duration, requirement for safe working conditions etc.
2) Economic-and-financial	Based on economical calculations, conscious use of the whole economic laws system and market economy categories, e.g. planning, financing, pricing, economic stimulation.	Budget and off-budget financing of target programs; crediting; financial support for licensing of public research institutes and universities; financial support for producers; depreciation policy	Direct irrevocable subsidy, grants; loans; shareholding; tax bonanza (tax credit, tax deferral, tax zero rate); alternative loan; accelerated depreciation; interest relief for labor remuneration; funding for individual housing construction; financing the governmental education and training programs; governmental work etc.
3) Administrative	Based on authority supremacy, subordination of the object to subject volition; they include means of interdiction, permission and compulsion.	Patenting the intellectual property objects; licensing; registering and liquidation of companies, control of their activity; reforming of actual institutions etc.	
4) Organizational	Providing arrangements of certain actions and institutional infrastructure formation.	Adoption of normative acts. Establishing of new regulatory foundations.	Consulting offices; participating in civic unions, expert councils; governmental laboratories, institutes; regional-and-cluster facility management etc.
5) Scientific-and-methodical	Based on analytical accompaniment for subject management activity.	Working out of messages, strategies, plans, programs and forecasts of social-and-economic development; grants and publications for researchers.	

Title of method	Essence of method	Resorts	Measures and actions of regulation
6) Informational- and-educational	Based on educational measures increasing educational level and public awareness.	Organization of communicative campaign.	Conferences, seminars, trainings, discussions, forums; working out published materials, preprints, Internet sites; sociological research.

**Table 3.**  
**Dynamics of governmental task programs launch in Ukraine**

Year	GTP launched	GTP in realization
1992	7	7
1993	17	...
1994	17	...
1995	21	...
1996	20	...
1997	87	...
1998	203	...
2001	251	208
2004	323	267

*\* Source: Ministry of Economics of Ukraine*

**Table 4: Distribution of expert answers concerning working and desirable methods of G.R. of human capital development...**

Methods	Unit weight of expert appraisal		Variation, $\Delta$ („3” – „2”)
	Methods working the most today, %	Desirable and needed methods, %	
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Normative	22	24	+2
Economic-and-financial	33	28	-5
Administrative	9	5	-4
Organizational	13	15	+2
Scientific-and-methodical	11	14	+3
Informational-and-educational	8	12	+4
Others	1	0	-
Being in lost to reply	3	2	-

**Table 5: Estimation of the current status of adhering to Decree of the President of Ukraine “On general directions of labor potential development in Ukraine for the period till 2010” by the Government**

Measure of impact	Appraisal <sup>1</sup>					$C_{tb}$ („4” + „5”) / („1” + „2”)
	„1”	„2”	„3”	„4”	„5”	
	Unit weight of expert appraisal, %					
1. Arrangement of the conditions for accessibility of vocational and higher education for all the population	3	5	43	32	17	6,13
2. Formation of educational service market	13	20	23	32	12	1,33
3. Fostering of professional self-determination of the youth	14	21	30	27	8	1
4. Integration of vocational, higher and post-graduate education into international education system	5	32	38	17	8	0,67
5. Development of reasonable priced housing market	13	40	27	12	8	0,37

<sup>1</sup> Here and further along the text: “1” – unambiguously goalless, “2” – „rather goalless”, “3” – “being at a loss”, “4” – „rather resulting”, “5” – unambiguously resulting”.



**Table 6: Appraisal of economic impact measures for HCD effectiveness**

Measure of impact	Appraisal					C <sub>tb</sub>
	„1”	„2”	„3”	„4”	„5”	
	Unit weight of expert appraisal, %					
1. Governmental order for education of brainpower	7	29	33	26	5	0,86
2. Order for science intensive output manufacturing	11	24	40	16	9	0,77
3. Financing of the GTP in R&D sphere	12	22	42	13	11	0,70
4. Financing of the GTP in education sphere	12	26	38	16	8	0,63
5. Arrangement of the tax remissions for subjects of innovative activity	18	32	29	16	5	0,42
6. Availability of credit resources for subjects of innovative activity	21	29	28	15	7	0,40
7. Labor incentive for education and science employees	18	42	29	9	2	0,18

**Table 7: Appraisal of normative and administrative impact measures for HCD effectiveness**

Measure of impact	Appraisal					C <sub>tb</sub>
	„1”	„2”	„3”	„4”	„5”	
	Unit weight of expert appraisal, %					
1. Drawing of civic consulting bodies to making decision process	11	19	40	21	9	1,03
2. Continuation of further educational reforms	18	24	28	20	10	0,71
3. Expediency of financial aid for innovative projects	20	24	28	18	10	0,63
4. Stimulating of non-governmental investment in R&D	14	35	28	16	7	0,46
5. Observance of contest principal during the projects financing	10	33	37	17	3	0,46
6. Expert examination and innovative projects appraisal	22	39	27	10	2	0,19
7. I.P. protection	20	38	30	11	0	0,18