



National and European Policy and activity organization for intellectual capital development of competitiveness and growth in Bulgaria

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According to the European Union Lisbon Strategy for development and its strategic goals for the next decade - to improve “citizens' quality of life and the environment until 2010” and “to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion”, Republic of Bulgaria, after accession on 1 January 2007 in EU as a member-state, pursues policies in co-ordination with European Commission, for stimulation national economic development in the following three main directions:

- Preparation for competitiveness, dynamic, knowledge based economy;
- Investments in human resources and reaction against social isolation;
- Economic growth, based on the ecological and environmental conservation.

At present the pursued policies for competitiveness development and national economic growth are mainly connected to the conceptions such as knowledge society, new economy, knowledge economy, intellectual capital. For the period of two and half years as a member state in European Union, Republic of Bulgaria gain experience in these fields. With the ending of the Lisbon Strategy project period 2008-2010, it is needed critical analysis to be done. Present research is devoted to the analysis of positive aspects, mistakes made and possibilities for optimization national policies in the filed of competitiveness development and economic growth, based on the development and increasing enterprises intellectual capital.

Before the critical analysis of the national policies in the filed of intellectual capital to be done, it is necessary:

- to specify the reciprocal determination between knowledge economy, intellectual capital as well as the Lisbon Strategy, in order to define direction in stimulating competitiveness and growth;
- to be made an analysis about possibilities for development of the Bulgarian National Economy, based on the increasing of the enterprises intellectual capital;
- to give reasons for needs of public financing of specialized activities for development and increasing enterprises intellectual capital.

The research for effectiveness and efficacy of policy, made for development competitiveness and growth through stimulating enterprises intellectual capital from national economy, includes activities with national funding, as well as such financed by European Structural Funds. Research is based on the official programming documents, reports, statements, and statistic data of Bulgarian and European competent authorities as well as author's researches among beneficiaries of the Operational Programme “Development of the Competitiveness of the Bulgarian Economy” 2007-2013, National Innovation Fund and National Fund “Scientific researches”. Present research offers for each of executed policies guidelines for efficiency increasing.

Development competitiveness and growth in the context of the Lisbon Strategy

The concept of intellectual capital (IC) is not a new phenomenon. Each serious economist knows, since Adam Smith times, that good policy on intellectual property is the key for enterprises success and the economic as a whole. First Adam Smith in “An Inquiry into the Nature and Causes of the Wealth of Nations” [11] defines the analogy between investments in

physical capital on one hand, and economic resources investments for development qualifications of manpower on the other hand. When somebody invests in machines, the expectation is to increase net profit. When expenditures for quality improving of manpower are spent, again the goal is the same – providing increasing, although through investment in human capital. English economist Nassau William Senior use for the first time the term “intellectual capital” in his book “Political Economy” [10], proving the knowledge importance for development of national economy and civilizations. The publication on the IC topic have increased exponentially over the past 20 years and made IC a much-researched topic. In recent years the IC topic has attracted increasing interest including also academic interest.

Although the fact, that questions concerned intellectual capital are considered from many researchers, its importance became popular in post-industrial stage of human development, when the information is the main momentum for competitiveness. In global world success of enterprises depends more and more on the strategic management of the information and less on the companies’ material and financial resources.

Table 1 shows data for 12 companies, participated in the list Forbs The Global 2000 [45]. In ten of them the “market value” sizably exceeds “accounting value”. For the first time Sveiby offers the following formula for usage of so-called “intellectual assets”:

$$\text{Market value} = \text{accounting value} + \text{intellectual assets} \quad (1)$$

Different researchers work on the definition of intellectual assets such as Bontis [6, 7], Marr [9] и Edvinsson и Brünig [8]. One of the weaknesses of (1) is the fact, that “intellectual assets” depends on the accounting value and change in rule of accounting reflects on the change in intellectual value. No matter how (1) is perceived, the correlation between “accounting assets” of an enterprise and its “intellectual assets”, is a mark of level of technology, used in certain market situation. According to analysis of companies from the Forbs list, they can be divided into two major groups:

1. High technologic companies, with specific intellectual assets – knowledge, those others don’t possess;
2. Companies, benefit from the advantages of market situation, at present for example these are companies with economic activity production of power recourses and their transportation.

I would like to make comments on the exposition. High technologic companies owe their realization on the principles of so-called new or knowledge economy. Their major competitiveness advantage is the strategic information, used in production and management in the form of possessed knowledge, which competitors don’t have (high technologies). As a result of this, these companies gain from the knowledge deficit in concrete science and technics sphere. Second group, which benefits form the advantages of market situation, gains from the deficit of concrete goods, services or information. On the information stage of civilization development, deficits become smaller and the shortage of row materials has to be considering as a temporary situation. How would be change market value of companies, producing for example oil, in case of discovering new type fuel and respectively – new engine? Unlimited science possibilities can substitute each deficit. If you allow me: In information era the only one deficit is the deficit of information, i.e. of knowledge!



Table 1, Relation between enterprises market and accounting value

Company	Industry	Assets \$ BIL	Market value \$ BIL	Market value/ Assets
Microsoft	Software & Services	65,79	143,58	2,18
China Mobil	Telecommunications	76,42	175,85	2,3
IBM	Software & Services	109,53	123,47	1,28
Google	Software & Services	31,77	106,57	3,54
Johnson & Johnson	Drugs & Biotechnologies	84,91	138,29	1,63
Roche Holding	Drugs & Biotechnologies	69,77	98,47	1,41
Apple	Technology Hardware	42,79	79,54	1,86
Oracle	Software & Services	44,80	78,42	1,7
Hewlett-Packard	Technology Hardware	109,63	69,57	0,63
ExxonMobil	Oil & Gas Operations	228,05	335,54	1,47
Royal Dutch Shell	Oil & Gas Operations	278,44	135,10	0,49
JPMorgan Chase	Banking	2 175, 05	85, 87	0,04

Using relation between market and accounting value of enterprises as a mark for intellectual capital extend, we can receive three variants:

$$K = \frac{\text{Market value}}{\text{Assets}} \tag{2}$$

1. $K = \frac{\text{Market value}}{\text{Assets}} < 1$, e.g. market value is lower than accounting value (Figure 1-

d). This situation is typical for companies with poor management, caught in negative economic situation as well as companies that have no clients trust (JPMorgan Chase for example). Principles of knowledge based economy in these cases are not respected.

2. $K = \frac{\text{Market value}}{\text{Assets}} = 1$, e.g. market value is equal to the accounting value (Figure 1-

c). This group is similar to previous.

3. $K = \frac{\text{Market value}}{\text{Assets}} > 1$, e.g. market value is bigger than accounting value (figure 1-a

and 1-b). This group forms intellectual assets. It needs to be mention that extend could vary in extreme large limits. In my opinion the relation above is a mark for high technologic of a company in concrete international economic situation. Currently companies working in high technological sectors such as: software, hardware, bio-technology, telecommunications etc., could have high level of intellectual assets (Table 1). Different range formation for relation between market value and accounting value can (in concrete market situation) determine the level of company technology, dividing them according famous classification into four groups: low-technologic, middle-low-technologic, middle-high-technologic and high-technologic.

Study on relations between market value, accounting value and international economic situation can be a subject for another serious research.

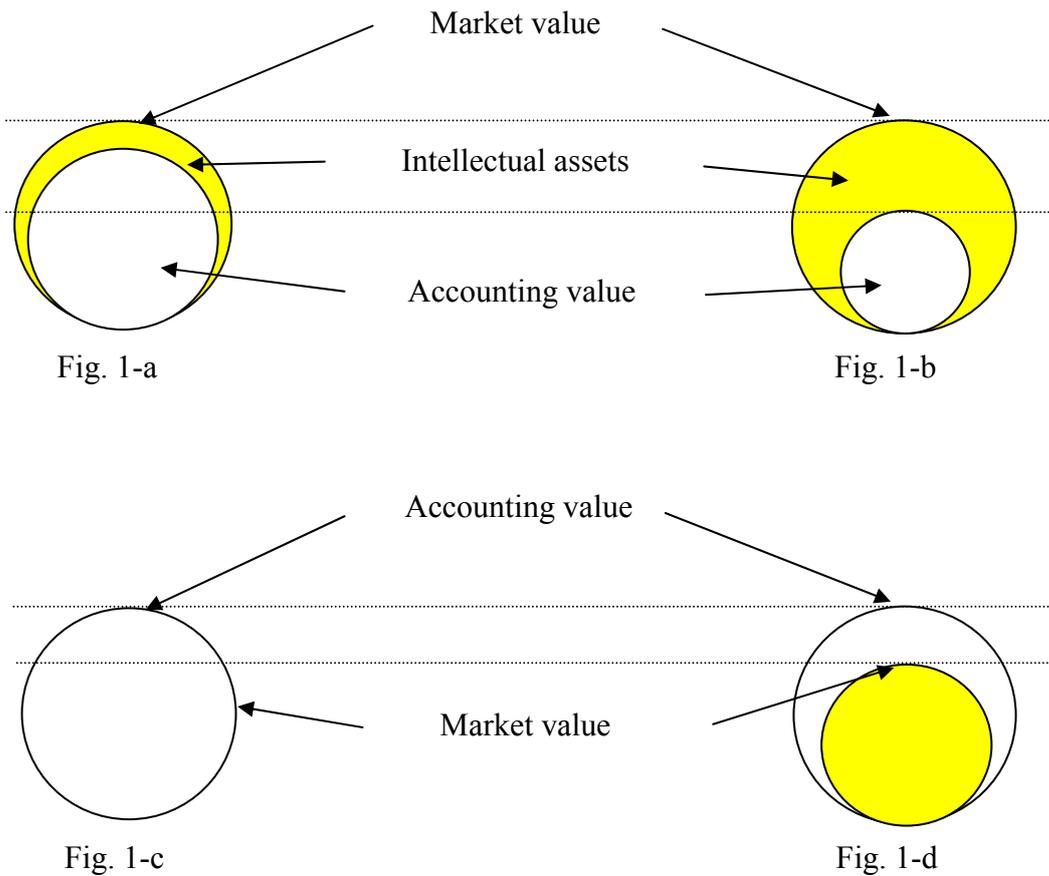


Figure 1, Relation between enterprises market and accounting value, as a mark for intellectual capital extend

On the other hand, the question concerning structure formation of production cost price with different level of technology is also interesting. Low-technology production forms its cost price mainly on the base of expenditures for row materials, energy, labour, that is directly connected to the operational process function and amortizations. Intellectual assets represent minor share in cost price of low-technologic productions. These are productions, in which competitiveness is a result mainly of the expenditures, particular for the specific aria of human labour, materials, raw materials and energy. These are productions that can be developed everywhere in the world, because of their generally accessible technologies, but they are effective only in regions with low life standard. In addition, these productions are traditionally assessed with extensive usage of row materials and energy (as well as labour), which is not corresponded to the third postulate of the Lisbon Strategy – reaching economic growth, based on the ecological and environmental conservation.

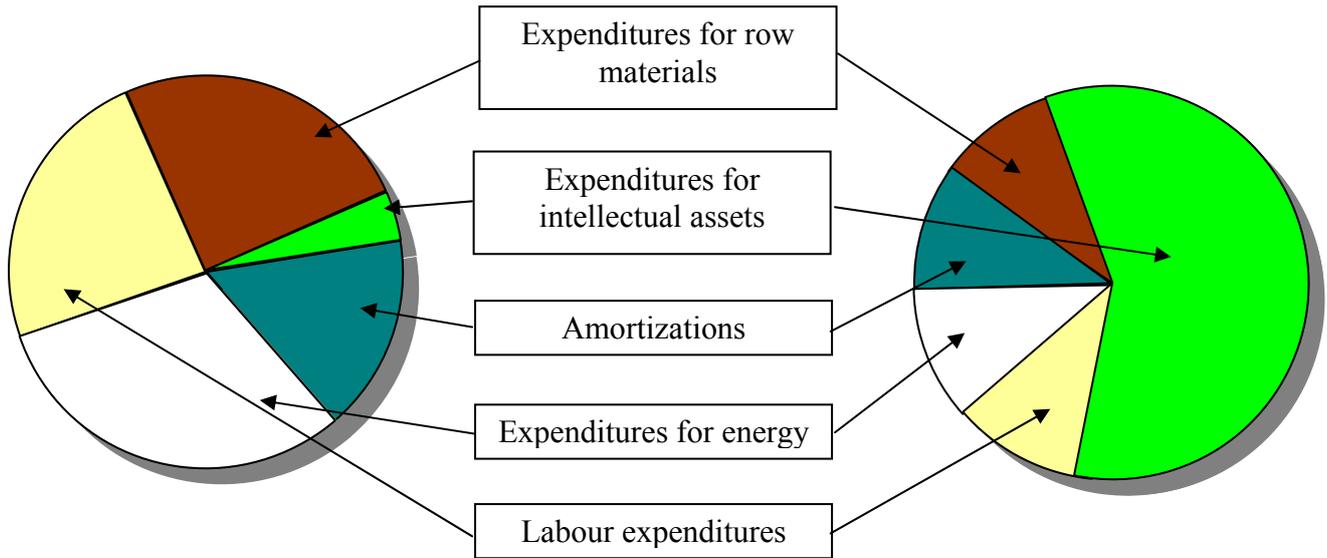


Figure 2, Structure of cost price in low and high technologic products

High technologic productions characterizations are: significant share of expenditures for intellectual assets in formation of cost price. In private conversation with a consultant of one German concern I ascertained the fact that the price cost of concrete sportive commodity is formed in this way: 0.68% for labour, amortizations and energy (production is in Vietnam); 9% for materials (from German) and the rest is for intellectual assets (scientific research and development, marketing expenditures etc.). The producer foresees 20% profit for this product. Of course this is not typical product for high technologic sector, nevertheless this case is indicative how one trade-mark, in combination with scientific-researches and marketing activities forms competitive product in different economic sectors. Analogically is the question for knowledge in traditional high technologic sectors such as communications, software, hardware, biotechnologies, nanotechnologies etc. These productions are assessed with intensive usage of materials, raw materials and energy. We can assert that the three main postulates from the Lisbon Strategy are complementary to one another; their projection is evidently shown in Intellectual capital:

- Preparation for competitiveness, dynamic, knowledge based economy is directly connected to the investments in intellectual assets in enterprises and the economy as a whole;
- Investments in human resources and reaction against social isolation are inseparable with the necessity of high technology development and represent one of components of the Intellectual capital;
- Economic growth, based on the ecological and environmental conservation – thus is impossible without usage of latest scientific and technical achievements, i.e. without investments in intellectual assets.

It is important, on the other hand, to draw your attention to the relation between cost price, price and profit in productions with different innovation and technological levels. For reaching comparables data we need to record also the production type (series) in the process of relations determination. Figure 3 shows in principle the profit from innovation and high technology in case of equal cost price. With the innovation and high technology increasing, i.e. with increasing knowledge that company possesses, the possibilities for raising product cost price grow, and as a result of this – profit also grows. Of course the life cycle of each product also deserves attention. Even if the product is initially innovative, the possibility other

companies to develop and produce analogous product, grows during the different stages of its life cycle. The effect of intellectual ageing is received – innovation and high technology are reduced.

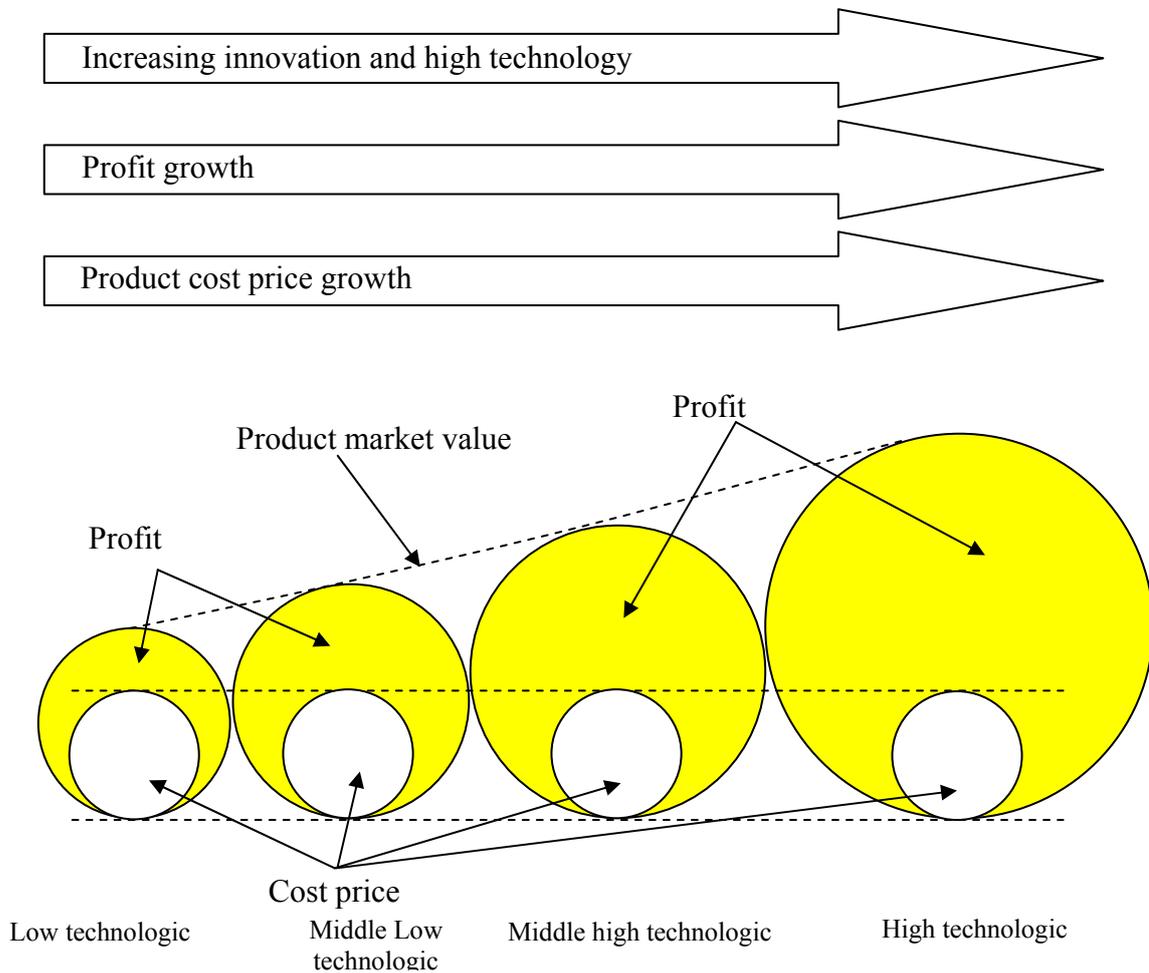


Figure 3, Profit relation from innovation and high technology in equal cost price

Interaction between cost price, price and profit in productions with different innovation and technology levels, in the context of timing, i.e. product life cycle, can be a subject for particular depth research.

These facts are only minor part from all argumentations that can be founded for exceptional possibilities of knowledge in formation company and national competitiveness, based on the sustainable growth and forming high profit. Competitiveness and sustainable growth, based on the knowledge economy are preconditions for whole society development, including for realization of different social programmes.

For description the cycle of guidelines on stimulating competitiveness and growth through adopted measures leading to the intellectual capital development in enterprises, it is needed to be analyzing the structure of intellectual capital. Figure 4 presents intellectual capital structure according to Leif Edvinsson and Gisela Brünig [8]. Three main structural elements, forming intellectual assets of an enterprise are highlighted:

1. Human capital includes knowledge, skills, motivation and staff experience in the enterprises. Human capital is hired by company, but company do not possesses human capital. This capital represents human factor of company. For its sustainable increasing it is needed not only trainings and qualification, but also staff motivation creativity and loyalty. Human

capital includes: education, knowledge, skills, experience, and ability for trainings during all life, creativity and loyalty.

2. Structural capital is divided into organizational and clients capital. Organizational capital is the medium for reproduction of human capital. Unlike human capital, organizational capital is the company property. Organizational capital is divided into innovation and process capital and consists of technologies, copyrights, patents, licenses, processes, organizational culture, internal organization communication, strategies etc.

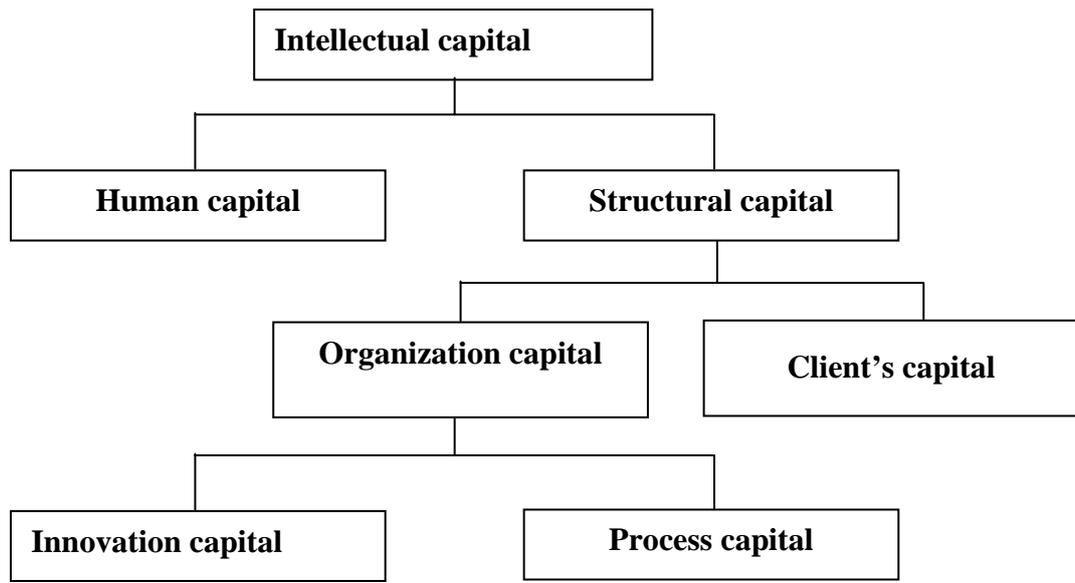


Figure 4, Intellectual capital structure

3. Client's capital is the sign for relations between enterprise and its internal surroundings, i.e. clients, suppliers, strategic partners and other stakeholders. Size of client's capital is the result of company reputation, expressed in client's loyalty, in quality of interaction with companies' partners etc.

On the bases of all expounded facts and arguments, we can deduce the following directions of development policy for stimulating growth and competitiveness through development intellectual capital in the enterprises:

1. It is needed to stimulate the development of human capital through different programmes for training and qualifications on the specified target groups:

- Students in technical schools and colleges with professional education and qualification and their future job in concrete sectors (defined as a priority sectors) of national economy is stimulated, including with scholarships;

- Students in universities. It has to be created a possibility for increasing quality of education through permanent actualization of university infrastructure and stimulating motivation of academic members, on the one hand – to intensify and strengthen the relation between universities – enterprises, and the other hand – to find a relevant way for students' motivation.

- Enterprises employees – increasing their qualifications in order to achieve appropriate knowledge and skills to the science and technical development.

- Unemployed people, to achieve new qualification in accordance with actual needs of the labour market.

For being successful, this policy has to guarantee financial resource in different programmes (each one of them with a small budget), directed to the large spectrum of beneficiaries.

2. Stimulating enterprises in their process of development organizational capital through:

- stimulating scientific researches and innovations in order to development of new products, processes and technologies;
- increasing quality of processes through implementation of quality management systems (standards);
- stimulating enterprises to develop their own trade-mark, patents and other activities with authors rights;
- stimulating intensification in interaction between enterprises and universities and research and development centers
- building technologic parks, incubators etc;

This policy has to combine both "soft" measures and "hard" measures. Each of these approaches as well as some combination of them may be appropriate depending on the characteristics of a particular situation – measures for small and medium sized enterprises, programmes for development of high technology in priority economy sectors, technologic parks, incubators etc.

3. It is not suitable to develop special programmes for stimulating client's capital. Successful increasing of a client's capital can be achieved only when the requirements for increasing client's capital become a part of a whole policy towards enterprises. As an example of this can be shown the formation of requirements, included in the policies for development of human resources in the enterprises – companies have to fill all requirements, to be admissible for grant programmes; as well as in determination of a level in grant financial contribution in concrete indicators for client's capital (for example strategic partners)

Analysis for Possibilities in development of the Bulgarian national economic, based on the intellectual capital growth in enterprises

A number of different external and internal for Republic of Bulgaria factors have influence over possibilities in development of the Bulgarian National Economy, based on the intellectual capital growth have: financial and political stability, legislation, geographic situation, educational sector development, education level and inhabitant's qualifications, national economic structure, European Union policies, member states economy situation and other countries as well as the other countries, potential contactors with Bulgaria.

Republic of Bulgaria has political and financial stability. Political system corresponds to the democratic principles and the country is a member state to the European Union. There is a political consensus in Bulgaria about priorities in internal and foreign policy and these priorities are implemented irrespectively of the party or coalition, governing at the moment. From 2007 in Bulgaria works successively Currency Board. Bank and currency systems are stable and didn't allow any fluctuations even in the world economic crisis situation. Data for bank sector and Currency policy of country can be finding in the quarterly reports of the Bulgarian National Bank [19]. Political and financial stability is a condition for long-term planning from entrepreneur side and presents really favourable factor for national economic development. This is a precondition for increasing direct external investments, one from the concrete possibilities for development of middle high technologic and high technologic productions in Bulgaria. Direct external investments mark a sustainable development in Bulgaria (Figure 5). It is absolutely normal in conditions of world economic crisis direct

external investments to be reduced in 2008 and 2009. Nevertheless, the competitive advantage of Bulgaria in this index has to be considered.

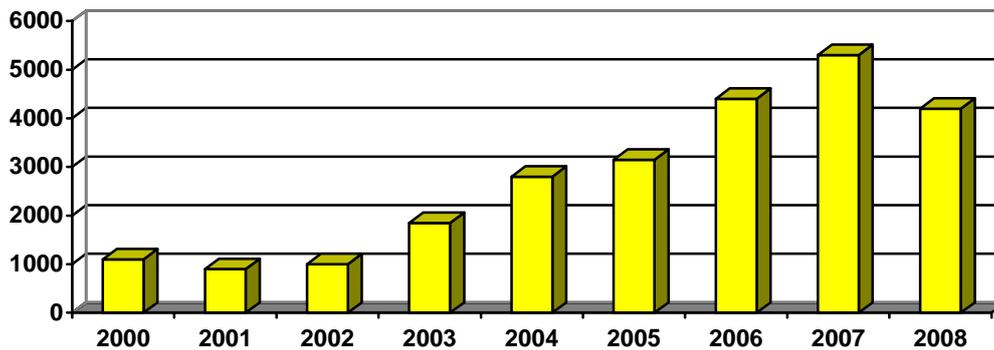


Figure 5, Direct External Investments 2000-2008 in million euros [19]

Membership in European Union is the other factor, strongly stimulating development of the intellectual capital in Bulgarian enterprises mainly because of three reasons: Lisbon strategy, possibilities for financing different projects by European Cohesion and Structural Funds, geo-strategic position of Bulgaria.

Most direct relation to the intellectual capital financing has European Fund for Regional Development as well as European Social fund. These funds give possibilities for financing major infrastructural projects in the intellectual capital sphere, as well as projects through soft measures. Geo-political and geo-strategic position of Republic of Bulgaria are the main trumps in national economy development. Reasons for that are:

- The country is an attractive place for penetration of productions from Asia and America in the European Union countries;
- The country is an attractive place for different productions from EU-10, because of low level of labour expenditures and requirements taxes. As an example we can point the active from 7 years period in Bulgaria SAP Labs – software enterprise of a German company SAP;
- From the geo-strategic point of view, Bulgaria is a bridge between Europe and countries from Lesser Asia and countries from the Black Sea - the Caucasus region. Realization of different energy projects – oil and gas are expected from this region. These are pipelines projects Burgas – Alexandropoulos, Nabucco, and South Stream - that don't have an alternative except for passing through Bulgaria. We have to mention and building a new power for production of electric power in the electric power station – joint project of Bulgaria, Russia and the German concern ERW, which are designed for supply with energy the whole region.

The implementation of energy projects is profitable for intellectual capital development mainly in two aspects: development of high-technology productions, connected to the building and maintenance of energy nets and guaranteeing of high level of security.

Legislation development concerning economy development, stimulating of direct external investments and intellectual capital development correspond to all European and world requirements. In Republic of Bulgaria the legislation concerning intellectual capital is developed on the all level – education (basic, professional, and university), science, innovation and high technology stimulation. Legislation on the one hand, allows quality education on different level, science developing, high technologies and innovation, and provides adequate protection for the intellectual property.

Laws that exert most influence on the intellectual capital are:

- Law for the Academic Autonomy of the Higher Education Institutions;
- Law of Higher Education;
- Law on Academic Degrees and Ranks;
- Law of the Bulgarian Academy of Sciences;
- Law for National Centre of Agricultural Sciences;
- Law of Encourage the Scientific Research work in Bulgaria;
- Law on Small and Medium Enterprises;
- Law on Investments Promotion;
- Law on the Competition Defense;
- Law for author's right and related rights;
- Patent Law;
- Law on industrial design;
- Law of Trademarks and geographical indications;
- Law on the genetically modified organisms.

National Strategy for development of high technologies in Bulgaria (started in 1999), National Innovation Fund (in 2001) have also strong positive influence. On the other hand, National Strategic Reference Framework makes out basics for national economy policy development through European Structural and Cohesion funds.

Profitable business climate is supported by low level of corporative taxes (10%) and low level of insurance. For the time being, these types of taxes are among the lowest in the EU member-states. In its actual programme, Bulgarian Government is planning decreasing of insurance taxes with 5% for the next four years (in 2010 – 2%, and the next three years – with 1%). Thus can makes situation even more attractive for investments – local or foreign in the industry, in particular – in the sphere of intellectual capital development.

In the Republic of Bulgaria the education system is well developed in all educational level. University structure has long experience and traditions and covers all scientific fields. In Bulgarian educational system the representation of science, related to the development of knowledge based economy is good. Data in confirmation to this statement are presented on the figures 6, 7, and 8.

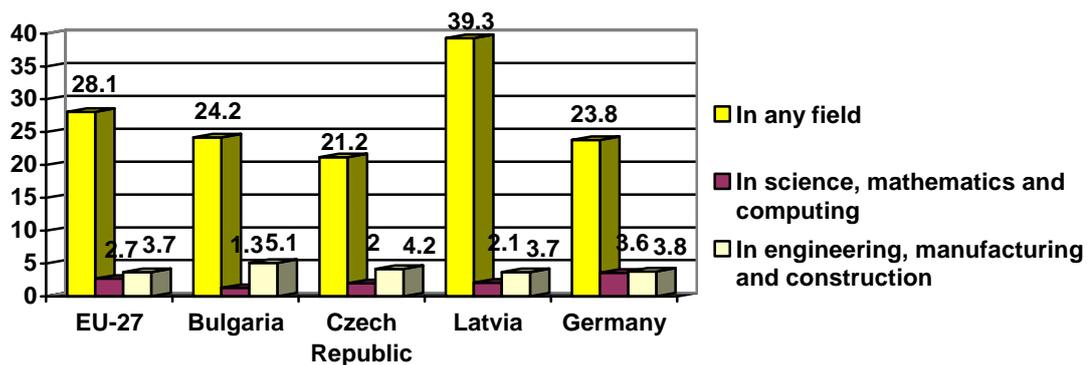


Figure 6, Students participating in tertiary education, proportion of the population aged 20-29, EU-27 and Bulgaria, Czech Republic, Germany and Latvia, 2005 [43]

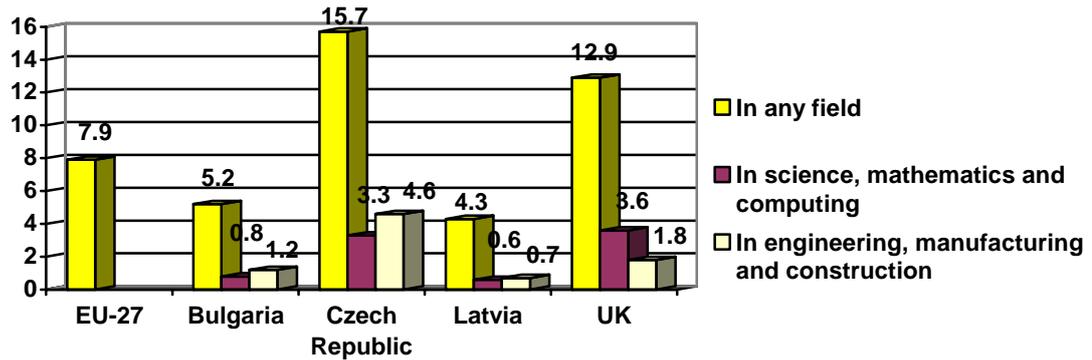


Figure 7, Doctoral students (ISCED level 6), in any field and in selected fields of study, in proportion of the population aged 20-29, EU-27 and Bulgaria, Czech Republic, Germany and Latvia, 2005 [43]

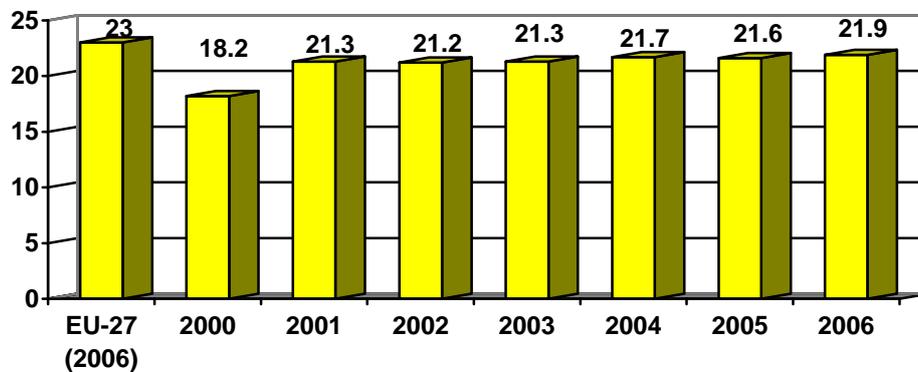


Figure 8, Percentage of the population aged 24-64 with a higher education degree [43]

Each University has a Research and Development Center. Institutions under Bulgarian Academy of Sciences, which cover all field of scientific knowledge (from humanities sciences to the technologies, used in the Cosmos) have experience and traditions of long standing in the scientific researches (this year Bulgarian Academy of Sciences fetes its 140 anniversary). Some of these centers under university or Bulgarian Academy of Sciences Institutions are well managed and developed – with many projects from European Programme for encourage scientific researches (for instance projects financed by Seventh Framework Programme -FP7). It has to be admitted that research departments in the Bulgarian industry are not enough developed. To some extend this is a result of the structure of national economy. At the presence, Bulgarian industry is not directed as a priority to the high-technologic production and high-technologic knowledge for achieving intensive services. This fact is a consequence from the feeble position of the Bulgarian economy in the world labour market.

On the other hand, we have to mention and the lack of sufficient strategic planning in Bulgarian entrepreneurs and enough investments in intellectual capital. At the present time they prefer to invest in long-lasting material assets, instead of investing in intellectual capital. This is explicable because of the fact that the majority of them are first generation entrepreneurs; they don't understand the nature of the contemporary economy and are unprepared for work in situation of market competition, or because of inappropriate education, or routine which is experienced in planned economy. Thus results in difficulties in perceiving and implementing new postulates in which the knowledge economy is based on. Unfortunately this weakness condemns major sectors of Bulgarian economy to rest on the periphery of the European and world practices. This is the reason for poor interaction between

business and researches centers in universities and institutions of the Bulgarian Academy of Sciences. The question about interaction between educational sector and enterprises is analogical. Bulgarian entrepreneurs don't have a sensation for being active partner to the educational institutions in the process of realization education. Hardly ever Bulgarian enterprises offer scholarships for students, opportunities for practice, and trainings for guaranteeing after graduation a potential for successful professional realization. The attitude to the universities is the same – universities are “obliged” to be a supplier for cheap and quality working resource, without any activities on the part of the enterprises for achieving this goal: lack of sponsoring specialized laboratories and material base of universities, scholarships and prizes for excellent students, activity actions in students' motivation and others methods for interaction between universities and enterprises, effectively used in European Union, USA, Japan, Canada and other developed countries.

The assumption nowadays is that in situation of unemployment the graduated are the only one, interested in finding job opportunities in the enterprises. But the labour market of European Union (which is more and more opened for Bulgarian) this paradigm is obsolete. This tendency, of course, expels strong innovative development of some enterprises, or sectors (for instance ICT sector).

As a result of all, we can define important problems for intellectual capital development in Bulgaria, such as:

- Poorly enterprises demanding of researchers specialists;
- Increasing tendency young specialist to look for professional realization in other countries;
- Financial resources for education, sciences and innovation come mainly from national budget; the financial share from the enterprises doesn't correspond to this one in the developed economic countries;
- Small number employees in scientific-research activities (Figure 9);
- Growing average age of the scientists, due to a lack of qualitative young specialists.

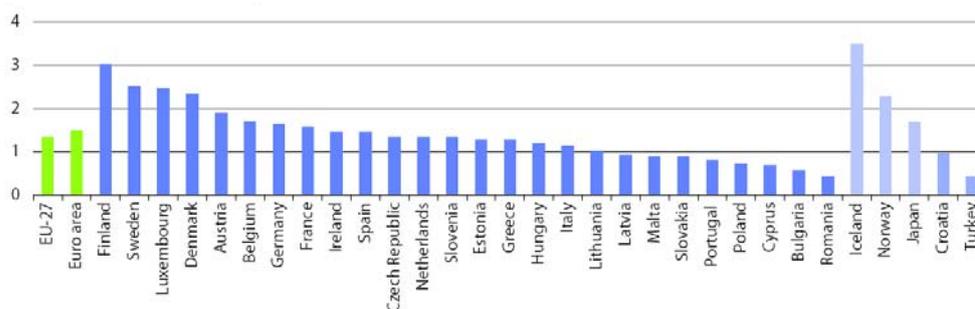


Figure 9, Employees working in the field of scientific researches and development in European Union and other selected countries [23]

The most serious problem is the financial gap of many years in educational and scientific systems.

This is most obvious from the comparison of investments for scientific researches and development as a percentage from the Gross Domestic Product (GDP) for EU-27 and Republic of Bulgaria (Figure 10).

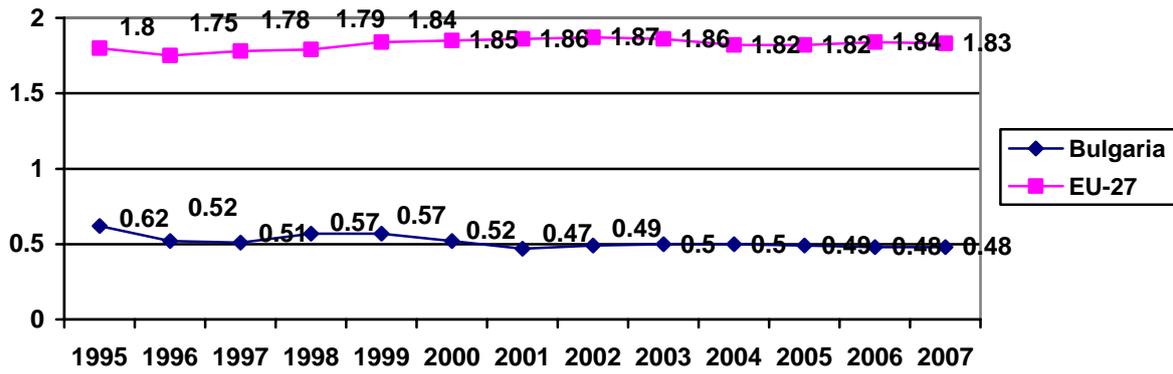


Figure 10, Investments for scientific researches and development as a percentage from the Gross Domestic Product for EU 27 and Republic of Bulgaria [14, 24, 29, 30]

Ageing of scientists is an extremely negative phenomenon; real possibility for lack of succession between generations in some branches of science exists which can results in necessity of restoring traditions years later. Figures 11 and 12 show evidences for that. Statistics on figure 11 are based on the total number of employees in scientific-research activities. Data on figure 12 refers only to persons with PhD and/or persons with academic rank in concrete filed in the Technical University of Sofia on the base of author’s research.

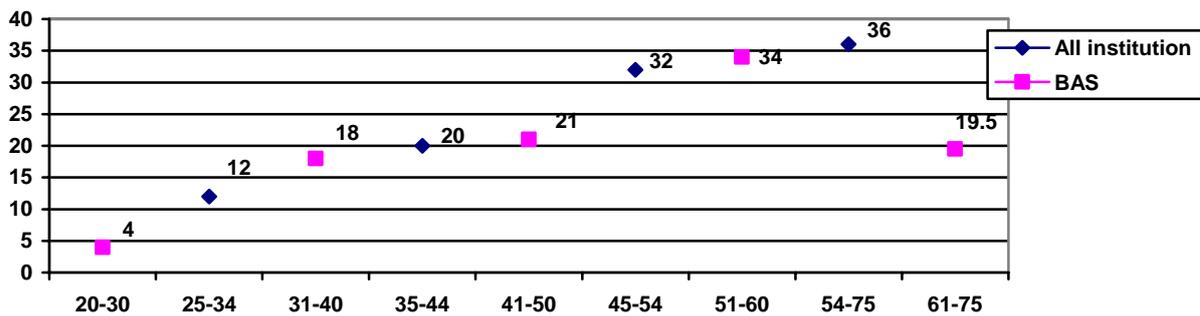


Figure 11, Age Structure of all scientists as well as scientists from the Bulgarian Academy of Scientists for 2006[24, 30]

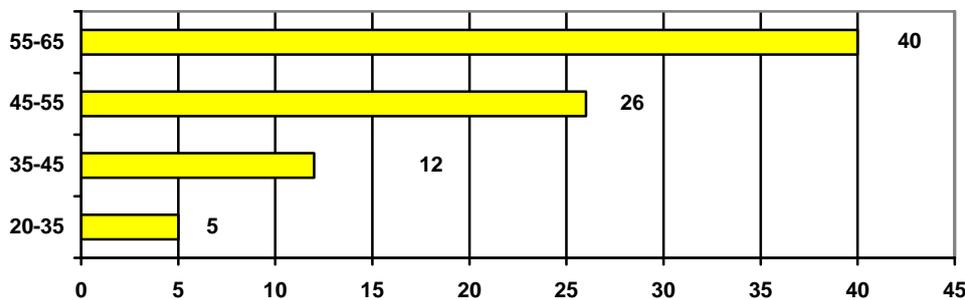


Figure 12, Age structure of scientists having academic ranks in Technical University of Sofia from all employees with teaching and scientific activities

Negative influence over intellectual capital development in Bulgarian enterprises has also and geographical misbalance of the Bulgarian economy. As a result of this fact, the main scientific-research potential is concentrate in Sofia (BG 41 South-Western Planning region

according NUTS 2) to a certain extent in Varna (BG33 North-Eastern Planning Region) and Plovdiv (BG 42 Southern Central Planning Region). The rest three regions (BG34 South-Eastern, BG32 Northern Central and BG31 North-Western) possess comparatively small potential for development of scientific researches and innovations, especially the last one - absolutely small (figure 13).

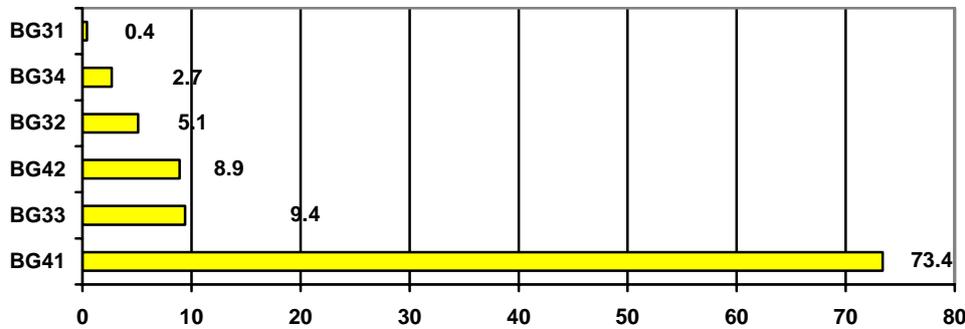


Figure 13, Researchers arrangement in planning regions in % [14]

The shown weaknesses have extremely negative influence over competitiveness of the Bulgarian science. Bulgaria is on the 26 place in high technologies export and is on the 24 place for results in participation of 7FP within EU-27 member states [18]. In comparison Great Britain has 43 times more declared standards per hand of population and 9 times bigger export percentage of high technologies in relations to the whole export [18, 25].

Table 2, SWOT analysis of possibilities for development of the Bulgarian national economy based on the increasing of intellectual capital of the enterprises

Strengthens	Weaknesses
<ul style="list-style-type: none"> - financial and political stability - member state in European Union - developed legislation in the field of intellectual capital - favorable tax and insurance policy - profitable situation for foreign investments - strategic geo-political and geo-economy situation - developed educational sector - developed scientific-researches sector - good educational level of population - strategy for development of high technologies and innovations - built system for national and European financing of intellectual capital - well developed ICT sector 	<ul style="list-style-type: none"> - structure of the national economy - insufficient financing of the educational and science sector - age structure of the scientists - insufficient motivation of the young people to find their job in the field of science and to develop their qualifications - priority investments of the Bulgarian enterprises in machines, technical equipment and other material assets and not enough investments in human capital - poor interaction between business and education centers and science centers - geographical unbalanced national economy development - insufficient number of Research and development personnel - poor or bad relations with foreign research and development centers through mutual projects, including projects, financed by EU funds.



Opportunities	Treats
<ul style="list-style-type: none"> - profit for its strategic location in Europe and creation of joint enterprises of the leading high-technology companies - Bulgarian companies as subcontractors of the leading high-technology companies - development of companies in ICT sector - usage of the possibilities for financing education, science and innovations by EU funds through operational programmes - strengthen participation of the Bulgarian R&D centers and educational institutions in international and European programmes - structural change in the Bulgarian industry and transformation to the higher technology productions 	<ul style="list-style-type: none"> - development of the world economy crisis - loss of the competitive advantages for the educational and science sectors in Bulgaria due to the long period of insufficient financing - lack of project capacity for assumption of financial resources from the EU funds. - development direction of the Bulgarian economy to the low technology sectors - young people emigration in other countries to find the jobs with better possibilities for professional development (brain outflow)

On the base of the SWOT analysis of possibilities for development of the Bulgarian national economy based on the increasing of intellectual capital of the enterprises, we can recommend measures in order to realize profitable opportunities and as a response of the potential threats.

1. Usage of the strategic situation of the Bulgaria in Europe and formation of mixed enterprises or association of leading technology companies as well as increasing chances for Bulgarian companies as subcontractors in high-technology projects. ITC sector in Bulgaria is well developed in order to be a base for progress. This is a real possibility for change in the structure of the Bulgarian industry and passing to high-technology production. Realization of this profitable opportunity depends on the one hand on the policies implementing in the Republic of Bulgaria on the governmental level (many of them are executed) and on the other hand – qualities of the Bulgarian entrepreneurs, which have to realize created potential and on the third hand –on the restoring of the world economy after the crisis from the last two years. The last one is a factor, which can not be controlled or prognosticated and is the base for the successful realization of this strategy.

2. Insufficient financing sources for the education and science sector are the cause for the weak competitive position of the Bulgaria in the field of the intellectual capital. Due to specific of society and economic development, the main way of financing rests through the different programmes from the state budget. Besides these programmes, working on the projects under Operational programmes financed by European Social fund or European Region Development Fund has to be more intensive, as well as developing possibilities for participation of the Bulgarian researches and educational institutions in European programmes.

The real risk in front of the realization of the strategy is related to the potential shortage of the project capacity. The shortage of the project capacity can be a result from the impossibility of the Bulgarian companies to prepare sufficient (in quality and in quantity) projects or to implement this project, according European programmes and requirements. Another obstacle related to this insufficient project capacity is the administrative capacity of institutions (Managing Authorities, Intermediate Bodies). In most cases the administration is acts too clumsy, with huge bureaucracy and delay. Possibilities for intensifications of administrative processes connected to the Operational programmes are investigated in the [1]. For policy making in realization of the financing of the intellectual capital is devoted the next part of the study.

Lack of the successful stapes in the two above-mentioned directions can lead to the significant negative consequences for the whole socio-economic development in Bulgaria: loss of the competitive advantages of the educational and scientific sector in Bulgaria due to a long period of insufficient financing, accompanied with redirection young people to work in the other countries with better conditions of professional development (brain run out) as well as lasting direction of the Bulgarian economy development to the poor technology sectors. Present analysis is only one view on the possibilities for intellectual capital development according to the governmental policy on the supporting its development. It is impossible to give to the reader complete analysis based on the all sources, examined by author; subject of the research and the size of the monograph do not allowed us for this. This subject demand separate detailed analysis, which is be an object of the future study.

Analysis of the policy for enhancement intellectual capital development in the enterprises

As it was explained in the previous part, the intellectual capital development is in the close relation to the different policies on the governmental level. According to the data from Eurostat [44] the dominant financing for scientific researches comes form the state budget (figure 14). All others statistic data, as well as the authors' own observations for the period of different years are in complete unison with this data, shown on the figure 14. Therefore we can speak for a tendency for stimulating scientific researches mainly with governmental funding. At the same time, we have to make the following comment for the data on the figure 14. Most part of the resources which are not directly coming from the state budget, are as a result of the governmental policy in this sector. For instance almost whole universities financing comes from the state budget (for state universities) or financing is a result of the co-financing requirements in projects. The last one includes also enterprises and private organization. For participation in projects under policy for enhancement innovation and scientific researches, they have to share some percentage for project co-financing.

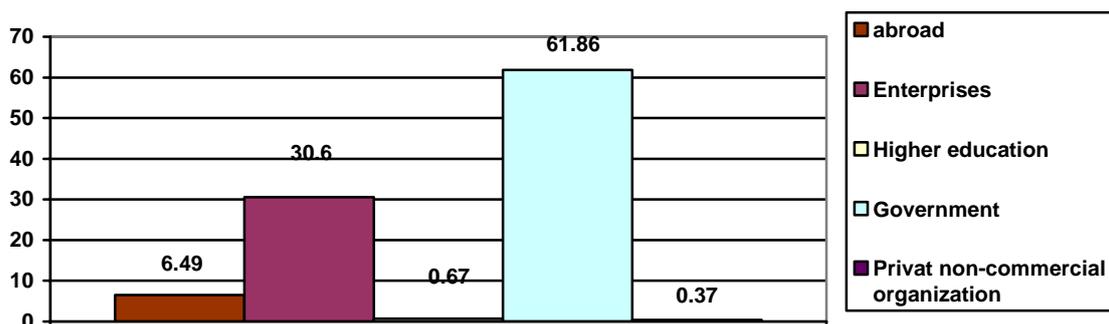


Figure 14, Structure of R&D expenditure by institutional sectors (in % for 2006) [44]

In analogical way the role of the government is having an affect in educational stimulating of specialists with higher and secondary education, as well as through systems for secondary and higher education, through different programmes for stimulating qualification of the enterprises employees. An attempt for objective analysis of the governmental policies in the filed of stimulating intellectual capital development in the enterprises in order Bulgarian



economy transformation into knowledge economy is made in the present part of the study. Due to this reason the following measures are liable to be analyzed:

- Measures for stimulating intellectual capital development through different programmes for education and qualification, executing the postulates of the knowledge economy;
- Measures for stimulating human capital development through different programmes for education and qualification, executing the postulates of the knowledge economy;
- Measures helping enterprises for increasing their organizational capital;
- Measures pursuing to the increasing of the clients capital.

On the base of this analysis are used official governmental institutions reports on the progress and implementation of the concrete programmes, as well as author's own researches and observations made in his work in different stages of the administrative procedures in the National Innovation Fund, Scientific Research Fund, and evaluation commissions under Operational programmes.

Policies can be classified by different indications. I will give the main of them (Figure 15):

1. According to the type of financing they are:
 - 1.1. Financed by the state budget:
 - Programming financing by Scientific Research Fund;
 - Project financing by the National Innovation Fund;
 - Budget subvention for the Bulgarian Academy of Sciences; state universities and other scientific institutions;
 - Programming or project financing from other ministry programmes.
 - 1.2. Financed by the EU Structural or Cohesion funds and co-financed by the state budget (Cohesion Fund financing for this type of policy comes indirectly through preparation phase of the major infrastructure projects):
 - Operational programme Development of the competitiveness of the Bulgarian economy 2007-2013
 - Human Resources Development Operational Programme 2007-2013
 - 1.3. Financed by international or bilateral programmes – financing depends on the respective international or bilateral agreement;
 - 1.4. Indirect governmental financial support:
 - Membership due in The Seventh Framework Programme for research and technological development of the EU;
 - Membership due in the Competitiveness and Innovation Framework Programme 2007-2013
2. According to the type of the intellectual capital formation:
 - 2.1. Programmes for stimulating human capital development:
 - For improving quality of education services;
 - For educational system modernization;
 - For stretching the ties between the educational institutions and the business and research sector.
 - 2.2. Programmes for increasing organizational capital in enterprises:
 - For encourage scientific researches and innovations in order to develop new products, processes and technologies;
 - For encourage intensification in interaction between enterprises and universities and scientific-research centers;
 - For development and modernization of the scientific infrastructure of the enterprises, universities and scientific-research centers;
 - For building technologic parks;

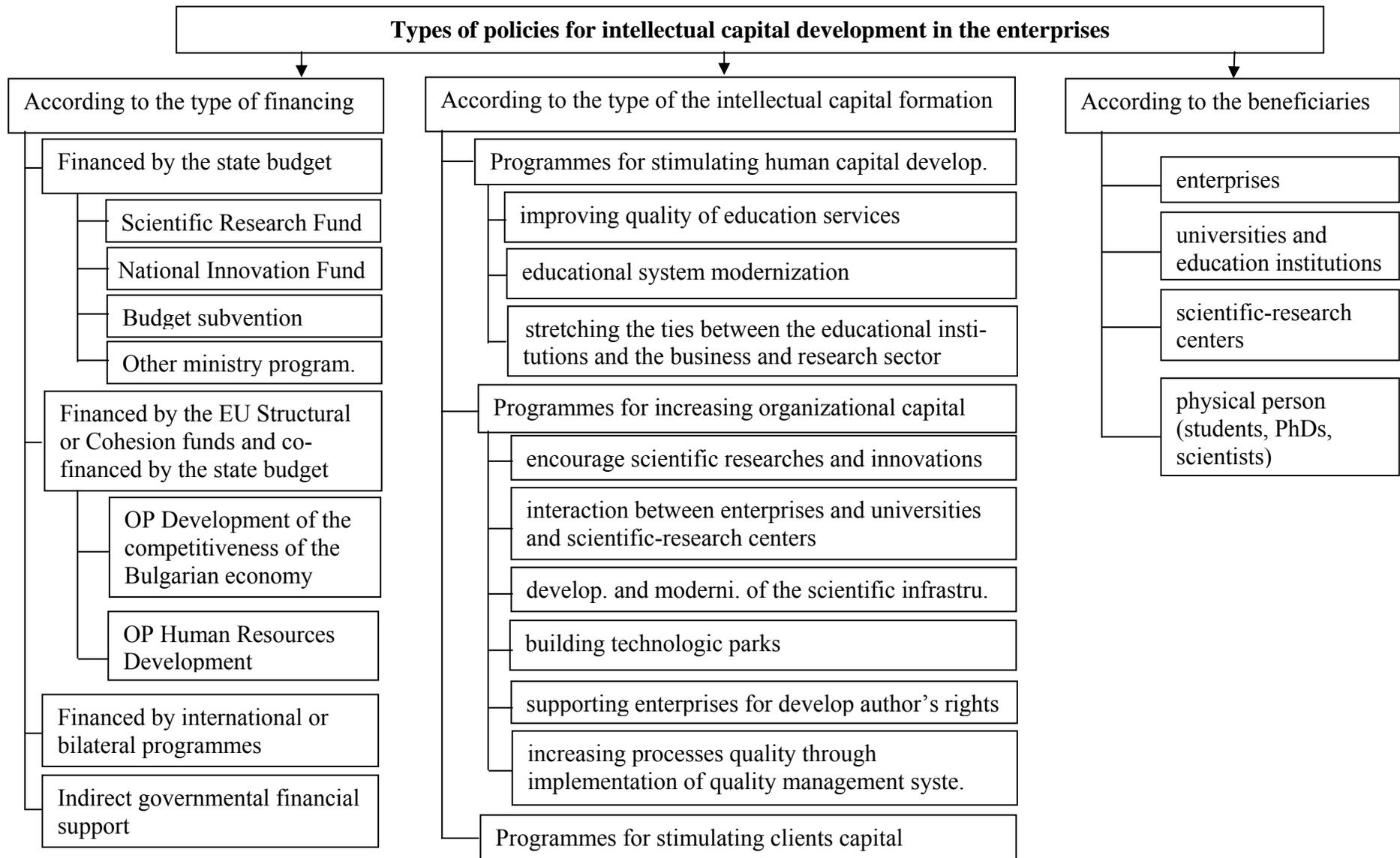


Figure 15, Types of policies for intellectual capital development in the enterprises



- For supporting enterprises for develop proper trade marks, patents and other activities with author's rights;
- For increasing processes quality through implementation of quality management systems.

2.3. Programmes for stimulating clients capital.

3. According to the beneficiaries:

- With enterprises as beneficiaries;
- With universities and education institutions as beneficiaries;
- With scientific-research centers (in the universities and Bulgarian Academy of sciences as well as in the enterprises) as beneficiaries;
- With physical person (students, PhDs, scientists) as beneficiaries.

In order to make a correct analysis of the policy for enhancement intellectual capital development in the enterprises it is needed to examine indicators for amount of the grant financing, correlation between state budget financing, EU-share (from European Funds) as well as other sources, extend of policy for development of different types of intellectual capital, contracting budget under different programmes, number of beneficiaries etc.

1. Policy in the filed of increasing organizational capital of the enterprises

1.1. Policies, financed by state budget

Financial resources for education and investments in scientific researches and development, coming from state budget, are realized as a budget subsidy, directed to state universities and scientific-research organizations (37 universities and colleges, 53 institutions and research centers of the Bulgarian Academy of Sciences, 15 institutions and research centers of the Agricultural Academy etc.). Although institutional financing exceed project financing, namely the last one can be considered as a precondition for increasing competitiveness and respectively – quality of education and science research activity, and from that point – achieving Lisbon Strategy requirements for developing knowledge based economy. In the last few years in Republic of Bulgaria the share of the project financing grows continuously. Regarding to this, the present research is concentrate on the analysis of financing, coming from programmes and projects.

Science Research Fund

Republic of Bulgaria implements policy for increasing organizational capital in the enterprises through Science Research Fund as well as National Innovation Fund. Other financial instruments supporting organizational capital in the enterprises exist, but they are with less significance. We can not skip the Scheme for transfer support of knowledge to the enterprises, administrated by the Ministry of economy and energy. In 2008 and 2009 through this scheme the Ministry of economy and energy finance gave to Bulgarian enterprises vouchers for the total amount of 1 million leva (about 500 000 Euro) for solving technological problems with the help of the external suppliers of knowledge (universities and scientific organizations). This was one successful way for stimulation relation between enterprises and scientific sector. Due to the small size the vouchers (from 5 000 to 20 000 leva, i.e. from 2 500 to 10 000 Euro) it was certainly positive but not enough financial well-provided mechanism in this policy direction.

Science Research Fund (until 2005 – National Council Scientific Research) is administrated by the Ministry of Education, Youth and Science. This is the fund with the longest experience and history in financing scientific and research projects in Bulgaria. Most part of the projects comes mainly from the Bulgarian Academy of Sciences, Agricultural Academy, as well as

Universities. The Science Research Fund is similar to the Czech Science Foundation¹ (Grantova agentura Ceske republiky) in its conception, and by this reason it is possible to be made a comparison of their activities and results. Basic aims of the two funds are:

- to facilitate research by providing competitive financing to scientific programs and projects
- to promote research through long-term funding, based on the peer reviewed evaluation of submitted proposals, science-policy expertise and global cooperation
- to provide financial support for excellent research projects and at the same time to audit the effective use of the financial means
- to raise the public understanding of science and to enhance the esteem and social status of scientific research
- to develop high-quality research environments and to improve scientific career opportunities
- to support multi- and interdisciplinary research projects and communication
- to represent national science among international research organizations and in national and international scientific bodies
- to cooperate and support international scientific co-operation on research projects through agreements with research councils all over the world.

The structures of the two funds are identical, with one significant difference (Figures 16 and 17). Science Research Fund is administrated by Department Science Research in the Ministry of Education, Youth and Science, and the activity is assisted by the commission of scientific experts.

The deputy minister, responsible for stimulating of the scientific researches in the Ministry of Education, Youth and Science traditionally is a Chairman of the Executive Council of the Scientific Research Fund.

The Czech Science Foundation – GACR (Grantová agentura České republiky) was established in 1993 as an independent institution. The Czech Science Foundation is administered by a Presidium appointed by the Government of the Czech Republic, which is assisted by Discipline Committees. The work of the GACR is monitored by an independent Supervisory Board appointed by the Czech Parliament. All organizational and administrative work is provided by the GACR Office.

The fact that Czech Science Foundation is not managed by the structure from the ministry allows Foundation, on one hand to develop equal activities for the enterprises as well as the educational and scientific institutions, and on the other hand – its budget is not bound by the policy of anyone ministry or government.

Both Funds for stimulating scientific researches are supported by scientists – experts in different professional area in the Scientific-expert Commissions as a reviewers or evaluators of the project applications. Reviews made by foreign scientists are executed in both funds. The whole evaluation stage is, on one hand, maximum transparent, and on the other hand – the reviewer's and scientific-expert commission independence as well as the confidentiality of their work are guaranteed. Reviews are made through Internet access, which also help for keeping confidentiality of the reviews and evaluations.

¹ The author is acquainting with the activities of both foundations by official reports and documents, as well as in his capacity of an independent (national and foreign) expert - evaluator of the project applications.

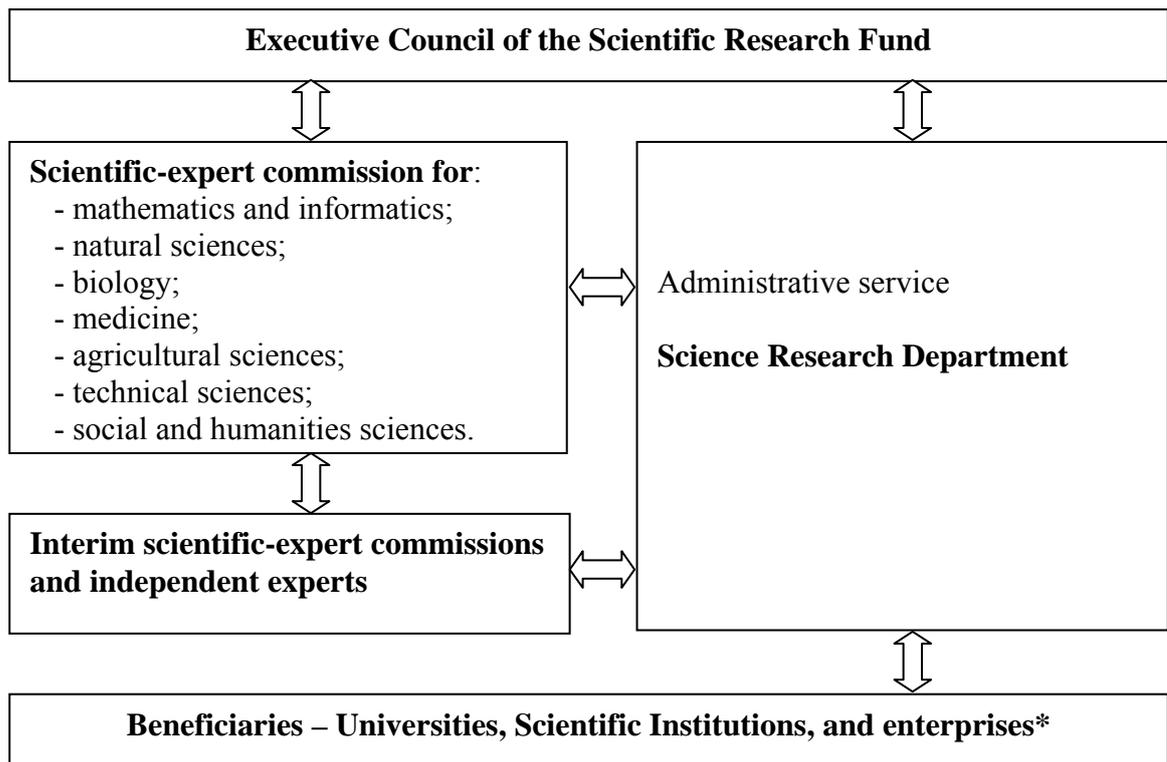


Figure 16, Basic interactions in the Scientific Research Fund

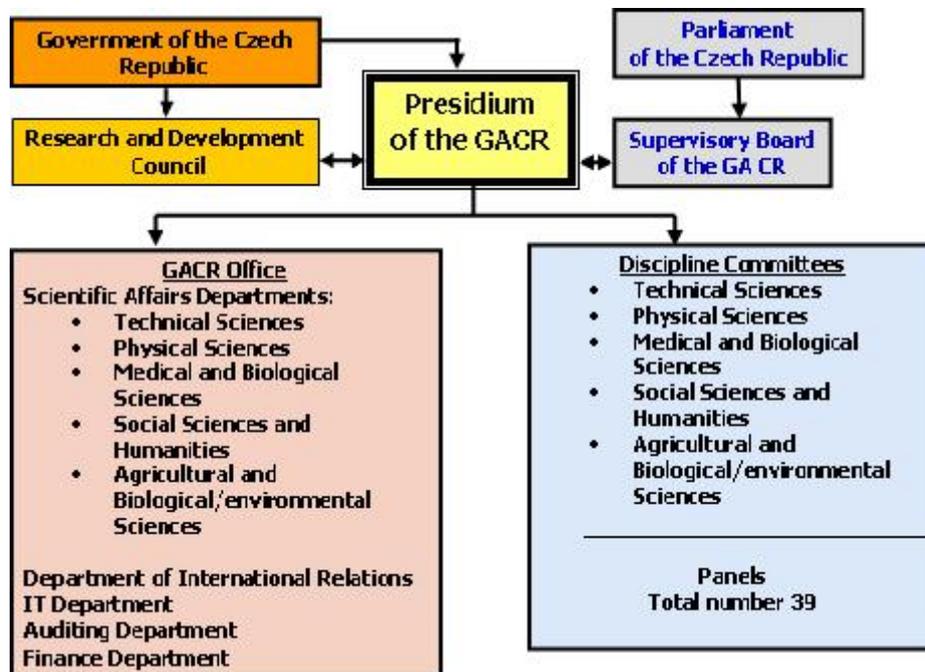


Figure 17, Basic interactions in the Czech Science Foundation

Programmes administrated by Scientific Research Fund and Czech Science Foundation cover whole spectrum of the scientific filed and they are directed into different possibilities for scientific research stimulating (table 3). Nevertheless, an impression is created, that these

competitions are directed mainly to the beneficiaries from the university and scientific-research organizations, and not directed to the enterprises. The practice shows that the enterprises possess the minority of the approved for funding projects. Thus reflects the tendency that scientific organizations implement projects for which they search a potential interaction with the industry, and not the contrary – enterprises to be the active part, which is responsible for project implementation and which is capable to select a partner for its scientific-research activities. Meanwhile, as a tradition, the majority of the project, approved for funding by the Scientific Research Fund, is implemented by structures under Bulgarian Academy of Sciences (Figure 18).

Budgets of the Scientific Research Fund and the Czech Science Foundation are important indicators for their possibilities for stimulating scientific researches. For 2009 the Scientific Research Fund has an available amount total budget of the 100 million leva (approximately 50 million Euros). This is the biggest budget gave for the fund so far. At the same time it is necessary the following comments to be made:

1. Due to a fact, that the ending if the study is before the announcement of the results for the competition session for 2009 year, it is not clear at the moment what part of this budget will be contracted.

2. The growing of the budget compared to the last year's budget is a result of the assumption for budget of the National Innovation Fund. A result for the competition session for 2009 have to present to what extend this union is correct from the point of view of the stimulation interaction between scientific organizations and enterprises.

The total amount of money from the state budget allocated for the Czech Science Foundation [21] for 2009 is 1 770 mil. Kč (71 mil. Euro). Continuing projects launched in previous years require about 950 mil. Kč and for the new launched project in 2009 is assessed 820 mil. Kč. For 2008 and 2007 these amounts are:

- 2007: Total amount -1 500 mil. Kč (55 mil. Euro)
Continuing projects - 1 000 mil. Kč
New launched project in 2007 - 500 mil. Kč.
- 2008: Total amount -1 500 mil. Kč (55 mil. Euro)
Continuing projects - 990 mil. Kč
New launched project in 2008 - 510 mil. Kč.

Table 4 and Figure 19 show the comparison between budgets of the Scientific Research Fund (from 2003 to presence) and Czech Science Foundation (2007-2009) in Euro. The difference in the financing amount in these two foundations is impressive. It is the last year that we can speak for a certain leveling of the correlation. In analogical way are the differences in the average amounts for financing of one project from the point of view of the juxtaposition of the two countries as a social economic development (both countries are EU member states), population and territory.



Table 3, Programmes (competitions) implemented from the Scientific Research Fund and Czech Science Foundation

Scientific Research Fund	Czech Science Foundation
Scientific Periodical Competition Stimulating Scientific Researches in the State Universities Competition Competition for Scientific Researches Enhancement in priority sectors (thematic competition) Competition "Ideas" „Young Scientists” Competition Sabbaticum Year for Bulgarian Scientists Competition Reintegration grants for Bulgarian researches working abroad Competition Stipends for Post-Doctoral practice in international organizations and obligatory work in Bulgarian Science organization Competition Stipends for Doctoral Students Preparing Their Theses in a National Company Competition "Stimulation development of the science potential in the universities" Centers for top achievements competition Integration centers in the universities Competition Competition "Development of the Scientific Infrastructure" International or Bilateral Programmes	Standard projects Doctoral projects Post-doctoral projects Bilateral projects Eurocores Scheme of the research networking programmes

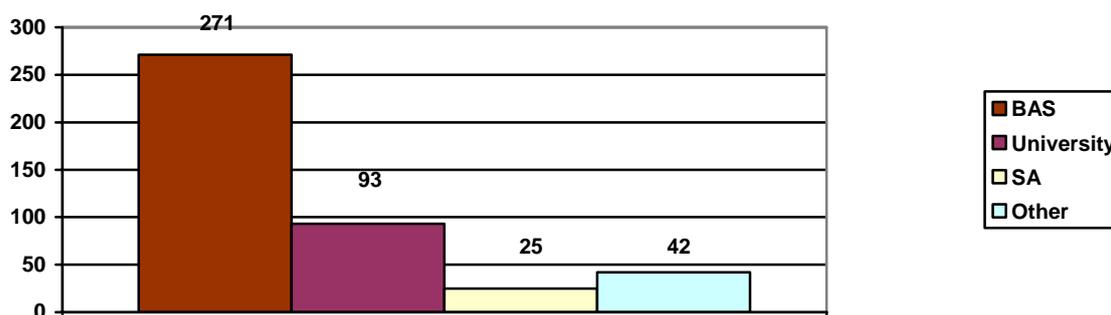


Figure 18, Projects financed by the Scientific Research Fund, session 2006 year [33]

Table 4, Budgets of the Scientific Research Fund and Czech Science Foundation in million Euros [21, 32, 33, 34, 35]

Year	Scientific Research Fund	Czech Science Foundation
2003	2.5	-
2004	3	-
2005	4.5	-
2006	6	-
2007	8	55
2008	30	55
2009	50	71

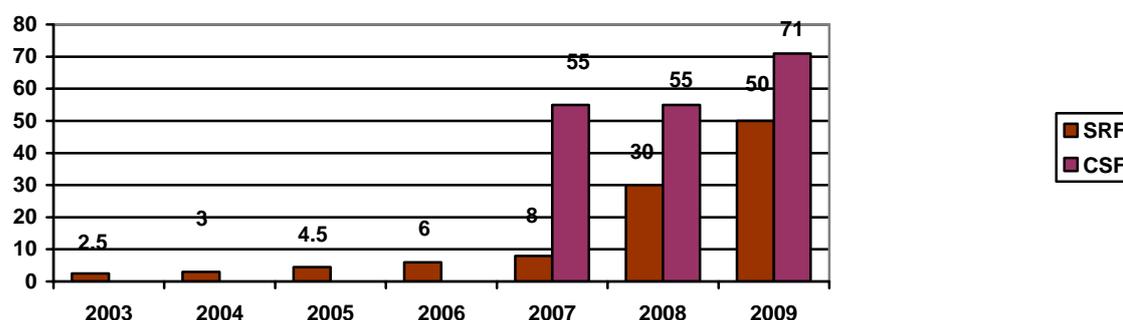


Figure 19, Budgets of the Scientific Research Fund and Czech Science Foundation in million Euros [21, 32, 33, 34, 35]

National Innovation Fund

National Innovation Fund is founded according to the Council of Ministers Decision N 723 from 8 September 2004 with the adoption of the Innovation Strategy of the Republic of Bulgaria and measures for its implementation, as well as its amendment with the Decision 385 from 22 May 2006. The Fund is a financial schema for encourage innovative enterprises, which is accepted as eligible by the Commission for protection of competition (CPC) with the Decision of CPC N 142 from 31 May 2005.

With the Decision N 31 from 21.12.2006 CPC has accepted for eligible the Amendment of the schema and has approved grant giving through the schema. With the Official letter (2007)4472/24.IX.2007 European Commission has confirmed that the “Amendments in the financial schema for encouragement innovative enterprises through National Innovation Fund” are considered as an existing aid in the sense of the article 88 (1) from the date of Bulgaria entering in European Union [39]. Thereby the National Innovation Fund has become the most important instrument for stimulating enterprises innovational activities.

National Innovation Fund is managed through the Guidelines for resources management approved by the Minister of the Economy and Energy [46, 47, 48, 49]. The administrative Body of the National Innovation Fund is a Managing Committee, which includes Chairman and three members. The Chairman of the Managing Committee is the Deputy Minister of the Economy and Energy, responsible for the Bulgarian Small and Medium Enterprises Promotion Agency. Members of the Managing Committee by their rights are: the Deputy Minister of the Finance; the Director of the “Enterprise Policy” in the Ministry of Economy and Energy, the Executive Director of the Bulgarian Small and Medium Enterprises Promotion Agency and the Head of the Management Unit of the National Innovation Fund within Bulgarian Small and Medium Enterprises Promotion Agency.

The Executive Director of the Bulgarian Small and Medium Enterprises Promotion Agency provides the activities of the National Innovation Fund on the organizational and resource

level, regarding the limits for the credit with budget resources, approved by the Ministry of the Economy and Energy. Evaluation process of the project applications is executed by the Evaluation Committee, supported in its activities with independent experts. Evaluation Committee includes 9 regular members. The Chairman and the Secretary of the Evaluation Committee are the officials from the Bulgarian Small and Medium Enterprises Promotion Agency, they don't have a right to vote in the decision making process. The rest members of the Evaluation Committee (without Chairman and Secretary) are experts from business and science with proved professional reputation. Independent experts are experienced professionals in the same industrial and scientific sectors, as the projects are. They have to have real experience in the management and evaluation of the projects, as well as knowledge and experience in: researches in relevant scientific-technical fields; technology transfer and innovations, economy analysis.

The division into administrative and scientific evaluation allows executing a high level effective range of the project proposals. This way for organization and management of the National Innovation fund was enable to secure implementation of the five sessions with 675 project proposals. Table 5 shows the most significant indicators of the National Innovation Fund.

Table 5, National Innovation fund [14, 44] and authors' researches

Session	Year	Project Proposals	Approved Projects	Success %	Contracted subsidiary in mln. Euro	Average amount of the financed project in Euro
I session	2005	118	43	36	3.35	78 000
II session	2005	120	67	56	4.15	62 000
III session	2006	146	108	74	8.3	77 000
IV session	2007	168	102	61	8.45	83 000
V session	2008	123	61	50	6.15	10 000

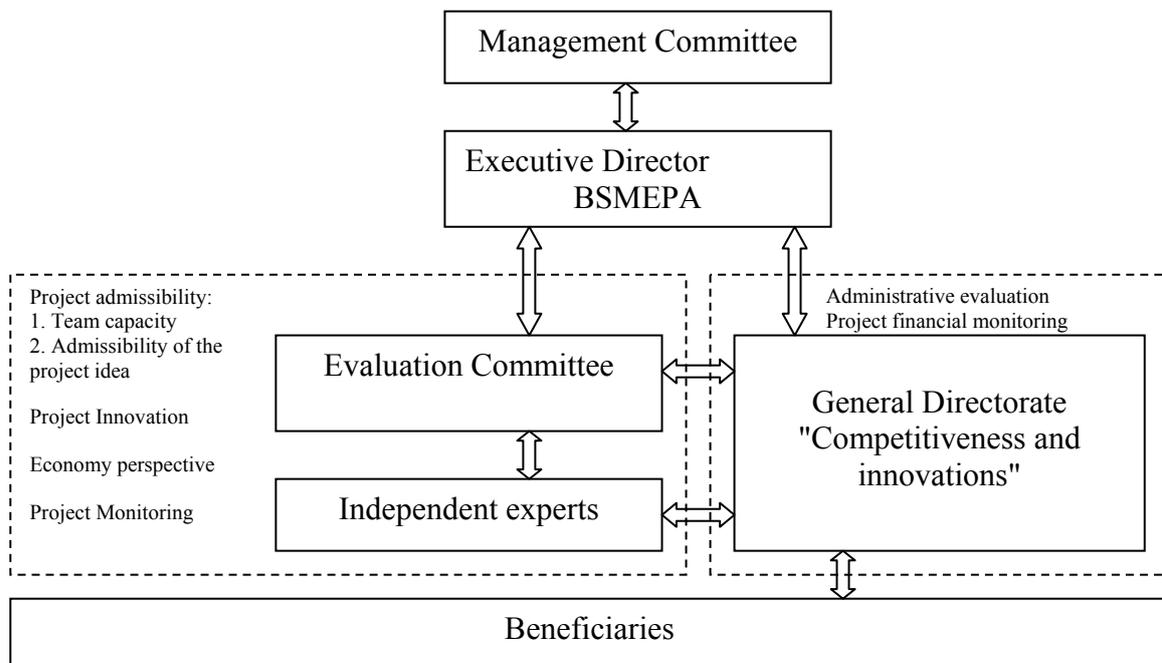


Figure 20, Interaction on the process of evaluation and monitoring of the projects in the National Innovation Fund

The main difference between Scientific Research Fund and National Innovation Funds is hiding in the diverse direction purpose of towards the national economy. During the years Scientific Research Fund is financing mainly the scientific projects, which don't intend immediately to be implemented and put in industry practice. In contrast to that, the National Innovation Fund finances innovational projects with proved economy perspective. Beneficiaries of the Science Research Fund are mainly Bulgarian Academy of Sciences as well as the universities. Since last year enterprises are eligible for financing by that fund. Whereas the National Innovation Fund finances projects of the enterprises, developed by their R&D departments or developed by their partners – scientific organizations. Enterprises co-finance project, and by that reason we can consider the National Innovation Fund on the one hand as a motive for knowledge transfer between enterprises and scientific organizations, and – on the other hand – as a tool for enterprises to give their financial support to the R&D researches.

Priority sectors in the national economy has stimulated as a result of this approach; it is expected from these priority sectors to build and develop knowledge-based economy and respectively – to increase competitiveness and economy growth. These sectors are:

- information and communication technologies;
- instrument-building;
- biotechnologies, pharmacy and chemistry;
- nanotechnologies and new materials;
- eco-technologies and waste-treatment technologies;
- technologies for energy saving and energy.

1.2. Policies financed by European Union Cohesion and Structural Funds and co-financed by the national budget

Operational Programme "Development of the Competitiveness of the Bulgarian Economy 2007-2013" is one of the seven operational programmes under the National Strategic Reference Framework for this first for Bulgaria programme period. Operational Programme "Development of the Competitiveness of the Bulgarian Economy" is financed by the European Regional Development Fund and co-financed from the national budget. The total amount of the public resources is around 1,1 bill. euro.

The purpose of the support of OP „Development of the Competitiveness of the Bulgarian Economy” is to develop a competitive and efficient production and business potential, to contribute to increasing the economic effect and to assist the necessary structural changes in economy with a view to achieving a sustainable progress and feasible cohesion during the programme period. The overall objective of OP "Development of the Competitiveness of the Bulgarian Economy " is to develop a dynamic economy competitive at the European and world market.

The general objective of the operational programme is implemented through specific objectives. One of these objects is to develop competitive economy, based on the knowledge. This is the reason that the First Priority of the OP „Development of the Competitiveness of the Bulgarian Economy” is “Development of knowledge-based economy and innovation activities”. Measures in this Priority are directed to the restructure of the Bulgarian economy and focus on the sectors with high value added of the production and regarding to that – strengthen the role of the new innovative productions, products or technologies.

In order to achieve this goal, OP „Development of the Competitiveness of the Bulgarian Economy” implements policies [37]:

1. Promotion of R&D activities and commercialization of innovation in enterprises;



2. Provision of funding for innovation through mechanisms for stimulation proper investments;
3. Supporting enterprises to implement new technologies and to improve innovation activities;
4. Protection of the industrial property rights of Bulgarian enterprises and research organizations;
5. Increasing the efficiency if manufacturing and market performance of enterprises through business networking and clustering;
6. Supporting start-ups and working enterprises in order to increase its innovative potential;
7. Providing mechanisms to attract foreign investments in science.

The directions of the OP “Competitiveness” for financing organizational capital are two [37]:

1. Promotion for innovation activities in enterprises and protection of the industrial property rights, with the following sub-directions:
 - Support for the creation and development of innovative start-up companies
 - Support for creation and commercialization of innovations by enterprises.
 - Support for increase of the share of R&D personnel in enterprises
 - Support for protection of the industrial property rights.
2. Improvement of the pro-innovative infrastructure, with the following sub-directions:
 - Creation of new and development of existing pro-innovative infrastructure
 - Support for modernization of applied research equipment
 - Creation of national innovation network.

This direction focus on the creation and support of business, innovative and technology incubators, technology transfer centers and offices, Technology parks, centers for entrepreneur in the universities, creation and support for development national virtual network of the innovative enterprises and structures, providing innovative enterprises with specific services, consultancies etc.

In order to secure innovations, developed by Bulgarian enterprises and scientific organizations, the OP “Competitiveness” offers protection of the industrial property rights through grants for registration on the national, European or world level of patents, useful models, trade marks and design. In this way are stimulated the preparation of the evaluation for innovative ideas, for development patent files; the eligible expenditures here are for patent registrations, useful models, trade marks etc.

Conception of the OP „Development of the Competitiveness of the Bulgarian Economy” creates favourable possibilities innovative enterprises and sectors with high value added to achieve real growth. Thus can solve of one of the major problems and weaknesses of the Bulgarian economy – to be energy and other sources dependant, with low value-added of its productions.

It is much too yearly to be considered the results of this programme. Only two years have been passed for its implementation so far. It is more appropriate first analysis on the implementation of the OP “Competitiveness” to be made in the middle of the programming period (at the beginning of 2011).

2. Policy in the field of human capital development in the enterprises

In the Republic of Bulgaria there is a developed system for financing education and training of the different groups: students (in schools and universities), unemployed people, long-life qualifications etc. Many of these measures are not directly aiming to increase human capital development in the enterprises; their goal is to built knowledge –based economy and as a result of this – increasing competitiveness growth. On the other hand, the limit extent of the

present study is not allows us to examine in details each elements of the policies of the Ministry of Education and the Ministry of Labour and Social Policy.

There are also other projects and programmes, as an example “TECHNOSTART”, which beneficiaries are students or graduate students (not older that 29 years) – 20 000 leva (10 000 Euro) with 10% financed by the Ministry of Economy and Energy and United Nations Development Programme.

Possibilities of these programmes to increase human capital in the enterprises are slight, in comparison with the Human Resources Development Operational Programme. These are main reasons to focus present study on the basic source, forming human capital development, based on the principles of knowledge – based economy.

The strategic objective of the Human Resources Development Operational Programme (HRD OP), co-financed jointly by the European Social Fund of the EU and the national budget, is to improve the quality of life of people in Bulgaria through enhancement of the human capital, achievement of high employment levels, improvement of the productivity, access to high-quality education and lifelong learning and strengthening the social inclusion [38]. The HRD OP specific objectives are:

- Increasing the labour supply and the quality of the labour force;
- More intensive investment in the human capital through better and more accessible education;
- More social capital, partnerships and networks and development of the social economy.

From these specific objectives, first one completely and second one partly correspond to the competitive development and growth of the Bulgarian economy, following the postulates of the knowledge-based economy. It is necessary to focus your attention to the close synergy that exists between Human Resources Development Operational Programme and Operational Programme “Development of the Competitiveness of the Bulgarian Economy”. These programmes have positive influence over intellectual capital development through active interaction projects. Operational Programme “Development of the Competitiveness of the Bulgarian Economy” finances development of the enterprises organizational capital, while the Human Resources Development Operational Programme – human capital. With the achievement the goals of both programmes is forming a dynamic economy, competitive on the European and world market.

The synergy between these programmes in clearly visible in the comparison between third Priority Axes of the Human Resources Development Operational Programme (Improving the quality of education and training in correspondence with the labour market needs for building a knowledge-based economy) with the activities of the First Priority Axes of the OP „Development of the Competitiveness of the Bulgarian Economy” (Development of knowledge-based economy and innovative activities).

Interaction between 1 Priority Axes of OP “Competitiveness” and the 3 Priority Axes of “Human Resources” can be summarized as follows[38]:

- HRD OP finances activities related to improving the quality characteristics of the workforce in line with the needs of the economy. It aims at enhancing the application and use of diverse forms of maintaining the workforce qualifications in order to improve its creative, analytical and constructive abilities.

- OP „Development of the Competitiveness of the Bulgarian Economy” finances activities for development of R&D as well as interaction between research organizations, universities and enterprises, for development of science and research capacity in order to implement innovations in enterprises, which can lead to the productivity increasing, development of new or improving the existing products and services, improving production process etc.



Specific objectives of the Human Resources Development Operational Programme are executing through implementation of seven Priority Axes [38]:

1. Priority axis 1: Promotion of economic activity and development of inclusive labour market;
2. Priority axis 2: Raising the productivity and adaptability of the employed persons;
3. Priority axis 3: Improving the quality of education and training in correspondence with the labour market needs for building a knowledge-based economy;
4. Priority axis 4: Improving the access to education and training;
5. Priority axis 5: Social inclusion and promotion of social economy;
6. Priority axis 6: Improving the effectiveness of labour market institutions and of social and healthcare services;
7. Priority axis 7: Transnational and interregional cooperation;

Direct relations to the human capital development for building a knowledge-based economy possess second, third and fourth Priority Axes. We will make a brief analysis on each one of them.

The Objective of the Priority axis 2: Raising the productivity and adaptability of the employed persons is to Increasing in productivity and adaptability of the workforce and its competitiveness within the context of the strategic goals of the Lisbon Strategy [38]. This Priority Axes covers 18% from the total budget of the Operational Programme. There are two areas of interventions leading to the achievement of the human capital development:

1. Improving the adaptability of employed persons (provision of training for acquisition of vocational qualification and re-qualification of employed; provision of training in information and communication technologies; provision of foreign language training; provision of on-the-job training and integrated training; elaboration of human resources management strategies; adoption of advanced and innovative models of organizing labour in the enterprises.

The aim is to enhance adaptability and competitiveness of employed persons through upgrading the qualification and re-qualification, provision of foreign language training and ICT training, establishment and strengthening the human resource development systems in the enterprises.

2. Promoting the labour market flexibility (Provision of incentives for promoting territorial mobility; development of flexible forms of employment; promotion of entrepreneurial initiative; provision of training for encouraging professional mobility; provision of incentives for acquisition of post-graduate qualification; establishment of career development centers).

Priority axis 3 [38]: Improving the quality of education and training in correspondence with the labour market needs for building a knowledge-based economy has most directly influence on human development in the innovative enterprises.

The objective of this Priority Axis is to improve “the workforce’s employability through high-quality education and training services, effectively performing educational and training institutions and sustainable links between education, vocational training and business”. The Budget of this the Priority Axis is 20% of the total OP budget.

The area of interventions under this priority Axes are:

1. Improving the quality of services in education and training (updating the existing and developing new state educational requirements, curricula and syllabi at all educational stages and levels of education; introducing modern information and communication technologies and means into the educational process, and electronic educational content; improving the qualification and career development of the pedagogical staff; continuation of

the introduction of the European Credit Transfer System in the higher education schools and development of this system for the vocational education and training).

2. Modernizing the education and training system (introduction of a system for internal and external assessment of the quality of education and training; improvement of the accountability and opening the education and training system for integrating the community into the processes of monitoring, control and assessment of the educational services provided; optimization and restructuring of the network of educational institutions).

3. Strengthening the ties between educational and training institutions, R&D sector and business (development of R&D programmes in horizontal scientific organizations and in universities; development of practice training mechanisms for pupils and students; support the development of PhD students, post-graduate students and young scientists).

Priority Axes 4 [38]: Improving the access to education and training has for objective “More productive social and labour advancement of the people through improvement of conditions for equal access to education and training and development of a life-long learning system”. 16% from the total budget of the Operational Programme are allocated into this priority axes. Two from three areas of interventions have extremely positive influence over creation conditions for increasing human capital development:

1. Children and youth in education and society (expansion of the out-of-class (extracurricular) and out-of-school forms of learning; setting up a mechanism and provision of student scholarships and loans with the aim of facilitating the access to higher education.)

2. Development of the life-long learning system (creating a system for vocational guidance and career development; development of the vocational education and training; providing opportunities for making adults literate; development of distance learning forms).

This conception of the Human Resources Development Operational Programme creates profitable possibilities for achieving growth in innovation enterprises and economy sectors with higher value-added. The last one allows avoiding one of the biggest weaknesses of the Bulgarian Economy – Bulgarian Economy dependence on the energy and other resources and low value-added of the production.

It is also much too early to results analysis of this Operational Programme. Only two years have been passed for its implementation. During this period, we can notice as success of achieving some of the temporary indicators, as well as problems, caused mainly by the insufficient administrative capacity. The extend of the present study do not allow us to pay more attention on the concrete grant schemas during this two-years period. It is more appropriate first analysis on the implementation of the HRD OP to be made in the middle of the programming period (at the beginning of 2011).

Guidelines for Development of the National and European Policy and activity organization for intellectual capital development of competitiveness and growth in Bulgaria

As a result of the research and analysis of the policy for intellectual capital development in the Bulgarian national economy, we can make the following conclusions:

1. The research prove as the profitable existing conditions in front of the Bulgarian economy in connection with the transformation to the high competitive, based on the innovative enterprises, generating growth and high value-added, as well as the main weaknesses and threats – being far away from the new world tendencies. Research focuses our attention to the no-alternativeness for the Bulgarian society of the restructure of the



national economy on the principles of the knowledge-based economy. Solving this problem will provide building a high level life standard, corresponding to the European Union member-state country, according to the Lisbon Strategy postulates.

2. Research proves balance approach of the Republic of Bulgaria in the enterprises intellectual capital development in several dimensions:

- balancing stimulation of the development of human as well as the organizational capital in the enterprises;

- tendency for assumption of different financing resources for the policies of the intellectual capital development. The last one is really important in order of the impossibility of the national budget to realize all planned measures.

3. Comparisons with the intellectual capital development of the other countries, as well as the governmental policy for its stimulation convincingly clarify the strengths and the weaknesses of these activities in the Republic of Bulgaria. The analysis allows to present success in this direction of the socio-economy development, as well as to trace measures for more effective activities on the national policies.

4. Dominant importance in the process of implementation of the policy for intellectual capital development in the Bulgarian enterprises is the assumption of the EU structural funds. Thus enforces optimization of the organization as well as the processes of management, control and spending the resources from the European funds and programmes. Only high level of the financial resources assumption from the European Funds through Operational Programmes can lead Republic of Bulgaria to the implementation of all measures for intellectual capital development in the Bulgarian enterprises and building a national knowledge based economy. The last one shoes the importance role of the continuously development of the Bulgarian governmental administration, The author has made and makes the researches on the status and the improvement of the legislation framework, administration of the European Funds in Bulgaria, procedures for management, human capital and administrative capacity [1, 2, 3].

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