

**Jaroslav Usiak**

PhD (Political Sciences), Assistant Professor,
Department of Security Studies, Faculty of Political
Sciences and International Relations, Matej Bel University,
Banska Bystrica, Slovakia
1 Kuzmanyho Str., Banska Bystrica, 97401, Slovak Republic
jaroslav.usiak@umb.sk

UDC 327.7:355.1:330.5

**Radoslav Ivancik**

PhD (Security and Defence of the State), Colonel GS,
Chief of Budget and Finance Department,
General Staff of the Slovak Armed Forces, Bratislava, Slovakia
8 Kutuzovova Str., Bratislava, 832 47, Slovak Republic
radoslav.ivancik@gmail.com

ECONOMY AND DEFENCE IN THE NATO MEMBER STATES

Abstract. A state has to divide limited economical resources optimally between its defence and peace expenditures. The aim of this research is to point out the bases of actual tendencies in the development of the NATO Member States defence budgets when the global economic and finance crisis has significant negative impact on the amount of resources which individual states are willing to spend in order to secure their respective defence at the national level and collective defence at the Alliance level. From the analysis of defence expenditure trends in selected NATO countries results that while among the North American NATO members (USA and Canada) securing their individual and collective defence has remained despite the crisis a high priority, among the European members of the Alliance defence expenditures have become after the breakout of global economic-financial crisis the first victim of saving. Reduction of defence budgets in European countries have also fundamentally influenced the overall trend of defence expenditures in the North-Atlantic Alliance as a whole, since the reasons are not only economic, but also political and they are narrowly connected with the shortage of cohesion in the entire NATO defence cooperation.

Keywords: economic security of the state; public sector; defence; military expenditure; North Atlantic Treaty Organization.

JEL Classification: H41, H54, H56, E60

Ярослав Ушияк

доктор філософії в області політичних наук,
преподаватель кафедры исследований в сфере безопасности, факультет политических наук и
международных отношений, Университет имени Матая Бела, Банска Быстрица, Словакия

Радослав Іванчик

доктор філософії в області безпеки та оборони держави,
полковник Генерального штабу, начальник Департаменту бюджету і фінансів,
Генеральний штаб Армії Словацької Республіки, Братислава, Словакия

ЕКОНОМІКА І ОБОРОНА В СТРАНАХ – ЧЛЕНАХ НАТО

Анотація. Государство должно оптимальным способом распределять ограниченные экономические ресурсы между обороной и для поддержки мира. Цель этой работы – на основе анализа текущих тенденций в развитии оборонных бюджетов стран – членов НАТО показать, что глобальный экономический и финансовый кризис оказал существенное негативное влияние на объем денежных средств, который каждая страна в отдельности желает выделить как для обеспечения своей национальной безопасности, так и коллективной безопасности на уровне Альянса. В ходе исследования нам удалось определить, что оборона не только не является в странах – членах НАТО приоритетной статьей государственных расходов, а наоборот, обретает все более негативную бюджетную динамику.

Ключевые слова: экономическая безопасность государства, общественный сектор, оборона, военные расходы, Организация Североатлантического договора.

Ярослав Ушияк

доктор філософії в галузі політичних наук, викладач кафедри досліджень у сфері безпеки,
факультет політичних наук і міжнародних відносин, Університет імені Матая Бела, Банська Бистриця, Словакия

Радослав Іванчик

доктор філософії в галузі безпеки та оборони держави,
полковник Генерального штабу, начальник Департаменту бюджету і фінансів,
Генеральний штаб Армії Словацької Республіки, Братислава, Словакия

ЕКОНОМІКА ТА ОБОРОНА У КРАЇНАХ – ЧЛЕНАХ НАТО

Анотація. Держава повинна в оптимальний спосіб розподіляти обмежені економічні ресурси між обороною та для підтримання миру. Мета цієї роботи – на основі аналізу поточних тенденцій у розвитку оборонних бюджетів країн – членів НАТО показати, що глобальна економічна та фінансова криза справила істотний негативний вплив на обсяг коштів, який кожна країна окремо бажає виділити для забезпечення як власної національної безпеки, так і колективної безпеки на рівні Альянсу. У ході дослідження нам удалось визначити, що оборона у країнах – членах НАТО не тільки не є пріоритетною статтею державних витатків, а навпаки, набуває дедалі більш негативної бюджетної динаміки.

Ключові слова: економічна безпека держави, суспільний сектор, оборона, військові витатки, Організація Північноатлантичного договору.

Introduction. Never in the past has prosperity, sustainability and growth of living standards been so significantly dependant on the level of state and citizen security as it is nowadays in the current economically interconnected and rapidly changing world.

Emergence of new, especially asymmetric security threats and their proliferation following the fundamental changes in the worldwide security environment after the end of the Cold War,

the fall of the Iron Curtain and the resultant decomposition of the world significantly shaped the view on ensuring defence and security. Nearly no country in the world could escape the new requirements on sufficient military capacity and capability disposal as well as the ability to react on the current and newly resurfacing security threats. For these reasons, the importance of defence planning has been increasing in the respective countries, what constitutes a specific process, via which each

state or community of states accomplishes its function of operation and coordination by creating, maintaining and applying inevitable defence capacities for ensuring state defence and meeting international commitments for the purpose of defending freedom, independence, sovereignty, territorial integrity, the principles of democratic constitutional order and the life and property of citizens [1].

The main aim of this study is to bring a theoretical glance at the concept of defence financing as one of the public goods (financed from the public budget) in the context of empirical data of defence spending in the NATO Member States. Partially, the study via comparison of defence spending in the North-Atlantic and European NATO Member States exhibits a possible decrease in stability of the security environment regarding the reduction in defence expenditure.

Among the key methodological approaches enforced in this study belongs the economic theory of public goods, since its analysis is going to be applied on the expenditure connected with ensuring defence from public resources along with utilizing comparison of defence spending among the monitored states. In the first part of this study we are going to concentrate on the very theoretical definition of defence in terms of the economic theory. In the second part, we are going to focus on the mutual comparison of defence spending in the North American and European NATO Member States.

As a main starting point by processing this study we have used works of reputable economists J. E. Stiglitz (1997) and P. Samuelson & W. Nordhaus (1992), who claim that nothing is as important for society as its defence and security [2; 3]. Neither economy nor society can prosper unless these are guaranteed by the state. During the preparation of this study particularly useful were the publications of A. Smith (2001), G. Kennedy, and H. Kanter (1984), who in their work point out the significance of defence economy in praxis and its impact on society and its security [4; 5; 6]. From the Slovak and Czech setting we cannot forget to mention L. Novak, V. Sefcik, and J. Lasicova [7; 8]. The study is going to analyse the importance of defence spending on the basis of data provided by the international organization SIPRI, which have an implicate, in pursuance of the so far submitted academic studies, a connection between security and economy in the context of cooperative security [9]. The importance of this topic lies in the demonstration of the connection between defence spending in the context of ensuring stability of the security environment of the respective states, in their immediate or near surroundings.

1. Defence as public good

Ensuring defence as a public good and an indispensable part of public sector belongs among the basic tasks of a state. At the same time, defence also belongs to the very basic economic activities of the state, since for the fulfilment of these tasks a state spends a part of its human, material and financial resources. New security risks along with the change of character and form of threats require that the states adopt, except for a number of political, military, organizational and legislative measures, adequate economic measures as well [10]. The issue of national defence is also an economic issue [11]. History confirms that demands on the economic security of state defence and life protection have been constantly increasing along with the development of human society. Because of that fact, from the overall summary of factors influencing the needs of defence, economy acts as a decisive factor. Economy in fact represents a basis of state defence as it secures it with the necessary resources.

Along with solving the issue of state defence society has to deal with the issue of peaceful state development. Limited and precious economic resources have to be divided into peaceful and defensive and depending on the situation or the character of the threat the state has to try to optimize the choice between peaceful and defensive expenditures. This fact should get currently even more to the forefront, when the consequences of the recent global economic and financial crisis and the currently ongoing loan and debt crisis were added to the list of new security threats of the 21st century. That is why the problems of economic security of defence and its financing require incompara-

bly greater attention than before. Defence and security should not thus be dependent on market fluctuations. On the contrary, economic security of defence and state security should be stable, since in time of crisis and uncertainty the feeling of danger is more intense and the demand for defence and security increases. From the point of view of economic theory we can regard defence as an integral part of public sector. One of the first comprehensive definitions of public sector in our conditions says that public sector represents that part of national economy which is financed by public finances, managed and administered by public administration, is subject to public control and where decisions are taken by public choice [12].

From the perspective of Anglo-Saxon literature, this is also valid in our conditions, the mostly cited work is written by Stiglitz (1997), who emphasizes that in civilized states the activity and decisions of the government significantly influence the citizens' lives [2], and not only in the field of education, healthcare, housing or employment, but also in the sphere of securing state and citizens' defence, which is ensured via specific public sector institutions.

The neoclassical economy is based on the fact, that the public sector, which is financed by public finances, plays a very important role as well as a constructive task in the economy. This was already emphasized by Smith (2001), who pointed out the basic tasks of the state in the economy, while he regarded the task of ensuring defence and security of the citizens as crucial [4]. At the same time, the inevitability of state interventions for ensuring defence and security of citizens is accented in all consequent economic theories dealing with the issue of public sector and public finances [10]. If the public sector ensures public goods, the emphasis is based on the economic substance and not on its institutional manifestations.

Ensuring defence belongs among the typical examples of public goods. Benefit from these goods is so scattered among the citizens that no single firm or consumer has economic motivation to provide them complexly and systematically. In this regard Samuelson and Nordhaus (1992) claim that nothing is more important for society as its defence and security. Defence as a collective good cannot be divided into partial units, since each individual consumes it in bloc [3]. Benefit (utility), what the individual receives from it does not reduce benefit (utility) for the other members of society. Because of that, according to many authors, the marginal costs of additional consumption are in case of defence zero. In terms of expenditure height is ensuring defence or another collective good, for example the usage of naval navigation, equal regardless of the fact, if defence makes use of 999 thousand or 1 million citizens of the state, respectively if around the lighthouse on the coast sail 50 or 100 ships. In the first case, the armed forces of the respective state ensure defence, which serves all citizens of the state and from which it is not allowed to exclude anyone. In the second case, by using naval navigation the lighthouse shines equally for all ships, which sail along regardless of the fact if their owners contributed to its construction or not [13].

Following the narrow interrelation of public sector with the state's performance of tasks, defence ensures the output of the security-defence function of the state. In the frame of public sector division defence, which satisfies the needs of state and its citizens' security, belongs to the group of society needs segments [12]. From the perspective of «public interest» is thus defence beneficial for all citizens of the state, as benefit from it has each single citizen. Ensuring public goods represents an economic activity bringing benefit for the society, which cannot be left to private entrepreneurship. Considering the aspect of excludability and impossibility of measuring individual consumption, defence and other similar goods, for example security, are directly predetermined to be a subject of public financing [13]. Private initiative is not sufficient in these cases. At the same time it is highly improbable that people provide on the basis of voluntariness sufficient resources from their pensions to ensure defence or other public goods, and therefore it is inevitable that the state secures these from public resources. As the state decides within its performance of functions on the fields, to which, including defence a disposable part of

resources will be channelled, and also ensures that goods and services, which the state buys for securing its own defence are truly produced and realized.

Claims on economic securing of liberty, independence, sovereignty and territorial integrity of a state, but also the lives and property of citizens have been permanently increasing with the development of human society and economy has gradually become a decisive factor in securing defence. Dependence of building military state power on the economy has gradually become a lot stronger than before, because of the fact that it is proportional to the possibilities of the respective state economy, i.e. the size of gross domestic product, the rate of economic growth, the rate of work productivity growth, its sectorial and spatial structure, its elasticity and ability to react on the newest trends in the field of scientific and technological development and in the recent years also on the changes resulting from globalization and its negative impacts on defence and security [14].

Economy, in case of defence, defines the possibilities of a country especially in the field of building and forming armed forces, their structure, quantitative and qualitative level of military and civil personnel, quantity and quality of armament and equipment, training, technical preparation, material maintenance, possibilities and means of conducting an armed struggle or securing defence etc. [15]. The power of the country's economy significantly influences the economic and material maintenance of securing defence, preparation, and course and to a considerable extent also the overall outcome of an armed struggle. The economic development of a country, resp. a coalition plays a decisive role by creating military-strategic conceptions, which have to respect real economic possibilities [7].

Securing defence also has a backward impact on the economic development of society, as it withdraws society a huge part of means and powers, which are consequently in national economy not being used for production of new peaceful economic goods (grocery, automobiles, electronics, furniture, clothing, medicaments etc.), but for purchasing and introducing new types of armed technique, weapons, weaponry systems and their modernization and maintenance.

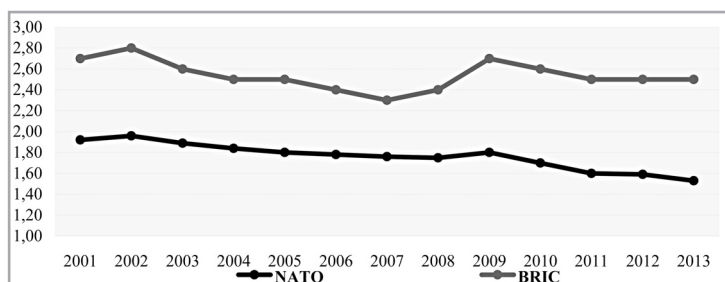
2. Trends in defence expenditures in the NATO Member States

The crisis of the banking sector and the consequently ongoing economic and financial crisis, which broke out at first in the United States of America (further only «USA») and then expanded to the entire world, started a period of economic recession, that does not have any equivalent since the Second World War [16]. With no exception of the USA no-one could escape the negative impact of the global economic and financial crisis, gradually because of the deepening globalization, including the NATO Member States.

Considerable reduction of the rate of economic growth, increase in unemployment rate, growth of budget deficits, worsening of paying balance and other negative impacts of the crisis, including the current debt crisis in the Eurozone caused that each government had to and still has to via public expenditure adopt more penetrative or slighter economic, but also political and legislative measures in order to mitigate the impacts of the crisis. One of the first steps, to which the majority of the countries have resorted, is the effort to consolidate public finances via introducing financial restrictive measures in relation to the state budget. From the economic point of view the reasons are clear, decreased economic activity leads to decreased income of the state budget.

Budget mathematics is also merciless. Drop-outs on the side of income bring drop-outs on the side of expenditure. Planned and in advance approved budgets seem because of this reason as unsustainable and if the respective states within responsible fiscal policy do not want to increase their debts and

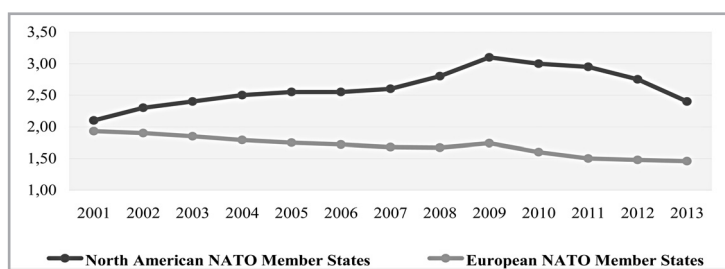
via subsequent loans compensate the drop-outs in income, they have to execute cuts. Although unpopular, but inevitable, as the use of foreign loans for financing expenses in state budget incomes would not bring anything else but increase of the countries' foreign debts, what represents unwanted and from the long-term point of view unsustainable phenomenon. Therefore cuts are necessary especially in the fields that are not regarded as priorities in the respective countries. In the majority of states, including the NATO Member States the first victim of saving became the expenses for securing defence. Not in every country, though. In some of them, for example in the BRIC states defence has remained despite the crisis a priority (see Graph 1), as economic securing of defence should be also in times of crisis stable, since in times of crisis and uncertainty the feeling of danger is more intense and the meaning of securing defence increases [10; 18; 19; 20].



Graph 1: Trends in defence expenditure development in the NATO and BRIC Member States during 2000-2013 (in % towards GDP)

Source: SIPRI, 2014 [9]

The difference in the approach towards securing defence can be observed not only among diverse countries of the world, but also within NATO. Whereas the member states of the Alliance situated in North America (USA and Canada), following the worsening security situation in the world, maintain their defence expenditures even despite the global economic and financial crisis above the limit, to which they devoted themselves at the time of entering NATO – above the level of 2% GDP, member states situated on the European continent their defence expenditure (with the exception of the year of 2009) have gradually been decreasing (see Graph 2).



Graph 2: Trends in defence expenditure development in the European and North American NATO Member States during 2000-2013 (in % towards GDP)

Source: SIPRI, 2014 [9]

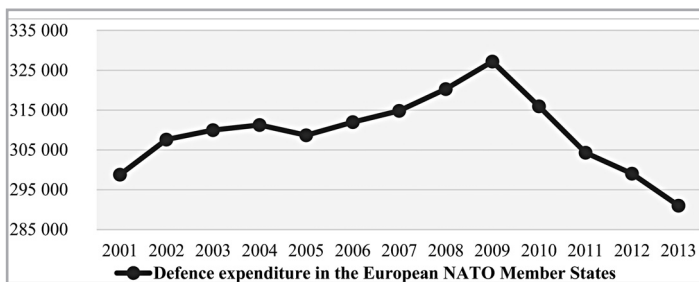
From the above listed graph it is evident that the differences among the European and North American NATO Member States has been gradually throughout the first decade of the new millennium still more deepening, and till the NATO Member States from North America (especially thanks USA) their defence expenditures towards GDP have been solidly increasing, among the European NATO Member States a gradual decrease has occurred in these expenses.

At the beginning of the second decade of the 21st century, however, a significant decrease in the defence expenditures towards the GDP has occurred in all Member States of the Alliance, with the exception of some years. For the above mentioned reason it is possible to state that the decreasing trend in expenditures is immediately not related to the global economic and financial crisis, although the crisis could have had by the

majority of Member States impact on the even further drifting apart of the limit in the height of 2% of GDP, to which the respective states have by their NATO entrance devoted themselves. In case of the above mentioned countries there exists the factor of exploiting, resp. (according to some security experts and politicians) abusing the advantages of collective defence within the Alliance.

The NATO Secretary General – Anders Fogh Rasmussen expressed himself to the above listed problem during his visit of Slovakia in May 2014. He emphasized that «NATO is founded on the principle of solidarity – one for all and all for one. If on the one hand, all enjoy the defence of NATO, all must, on the other hand contribute with their commitments towards NATO» [17]. Rasmussen added that increasing the defence budget is not easy and the question of increasing the resources for the army is currently extremely sensitive. «However, the current crisis in Ukraine clearly demonstrates that defence is still important. Defence costs something, but if it was not secured it would cost even more» [17], declared the chief of the North-Atlantic Alliance. At the same time, Rasmussen appealed to the especially European members of the Alliance to meet their commitment in spending 2% GDP on defence.

According to the data on nominal value of defence expenditure in the European NATO Member States (see Graph 3) we can observe greater impact of the global economic and financial crisis on the defence budgets, as decreased performance of the economy during recession brings smaller volume of GDP and thus also a noticeable drop in defence expenditure [21; 22]. While during economic growth at the same ratio of defence expenditure towards the countries' GDP showed an increase in nominal value of these expenses, during recession this drop in defence budgets is even more significant.



Graph 3: Trends in defence expenditure development in the European NATO Member States in 2000-2013 (in million USD in permanent prices from 2011)
Source: SIPRI, 2014 [9]

The analysis of trend in defence expenditure development, following the above listed, thus points out the fact that significant drop in defence expenditure occurs, and this is true towards the GDP as well as in terms of nominal value, by the new members of the Alliance, that means in the economically and militarily not so strong and by area and population size not so big countries as it the traditionally, economically and militarily strong and by area and population size big NATO Member States represent. Their defence budgets have thus gradually even more moved away from the limit of 2% GDP, to which they have committed themselves at the entrance to NATO.

Conclusion

Increasing demands of defence on the economy, influenced by mainly political and military factors, impact on restricted possibilities of the economy, but in spite of that the current character of defence requires that the respective states, alternatively coalitions concentrate except securing the above mentioned demands of defence also on the protection of their economic resources against attacks of opponents and at the same time exploit all available means to weaken their economic strength. Mutual relations of defence and economy have been permanently developing, deepening and are narrower and more interconnected. Because of that, the issue of defence currently requires more interest as before.

Except dynamic changes in other fields, changes have occurred also in economic securing of defence. The above listed graphs confirm that the global economic and financial crisis has unquestionably negative impact on securing defence and singling out expenditure for defence from the state budget of the respective states. On the basis of available relevant information investigating, facts and characteristics, it is not possible to conclude one definite deduction that precisely the crisis represents is the main reason for a drop in defence expenditures in the majority of the countries.

As it was indicated above, the global economic and financial crisis can not be marked as the main trigger of defence budgets decreasing in the selected NATO countries, since decreasing tendencies in defence expenditures development have significantly manifested themselves in some countries for a longer period, not only after the crisis outbreak. There are other factors also influenced the drop in defence expenditure. Some countries, in terms of economic theory, took the position of «stowaways» and began to rely more on the fact that the other members of the Alliance will have to pay. In other countries occurred a change in their defence policy after the removal of the immediate threat of conflict between the East and the West in Europe. Other countries political representatives have changed their attitude on state budget voting being not able to enforce the height of means on defence in their national parliaments as they have previously committed themselves to after direct military threat disappeared to their states.

The analysis of defence expenditures trends in the selected NATO countries in the first decade and at the beginning of the second decade of this century has resulted that while among the North American NATO members (USA and Canada) securing individual and collective defence and national as well as Alliance interests remained a high priority despite the crisis, among the European members of Alliance defence has gradually stopped to be a priority and defence expenditures have become after the breakout of global economic and financial crisis the first victim of saving. Reduction of defence budgets in the European countries have also fundamentally influenced the overall trend of defence expenditures in the North-Atlantic Alliance as a whole, since the reasons are not only economic, but also political, and they are narrowly connected with the shortage of cohesion among the NATO members concerning collective defence strategy.

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**Ю. О. Свєрдлова**

аспірантка, Інститут міжнародних відносин
Національного авіаційного університету, Київ, Україна
rada.sverdlova@gmail.com

ВПЛИВ РОЗВИТКУ ЛЮДСЬКОГО КАПІТАЛУ НА КОНКУРЕНТОСПРОМОЖНІСТЬ ЕКОНОМІКИ ЄВРОПЕЙСЬКОГО СОЮЗУ

Анотація. У статті представлено дослідження впливу розвитку людського капіталу на стан конкурентоспроможності економіки Європейського Союзу. Проведено розрахунок та оцінка кореляційної залежності між конкурентоспроможністю економіки ЄС й основними факторами людського розвитку. Доведено існування тісного зв'язку між розвитком людського капіталу країн, їх економічним розвитком і національною конкурентоспроможністю. Виявлено основні фактори розвитку людського капіталу, які справляють найбільший вплив на рівень конкурентоспроможності Європейського Союзу.

Ключові слова: Європейський Союз, людський капітал, конкурентоспроможність, економічний розвиток, кореляційна залежність; рангова кореляція Спірмена.

Ю. О. Свєрдлова

аспірантка, Інститут міжнародних відносин Національного авіаційного університету, Київ, Україна

ВЛИЯНИЕ РАЗВИТИЯ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА НА КОНКУРЕНТОСПОСОБНОСТЬ ЭКОНОМИКИ ЕВРОПЕЙСКОГО СОЮЗА

Аннотация. В статье представлено исследование влияния развития человеческого капитала на состояние конкурентоспособности экономики Европейского Союза. Проведены расчет и оценка корреляционной зависимости между конкурентоспособностью экономики ЕС и основными факторами человеческого развития. Доказано существование тесной взаимосвязи между развитием человеческого капитала стран, их экономическим развитием и национальной конкурентоспособностью. Выявлены основные факторы развития человеческого капитала, которые оказывают наибольшее влияние на уровень конкурентоспособности Европейского Союза.

Ключевые слова: Европейский Союз, человеческий капитал, конкурентоспособность, экономическое развитие, корреляционная зависимость; ранговая корреляция Спирмена.

Yulia Sverdlova

PhD Student, Institute of International Relations of National Aviation University, Kyiv, Ukraine,
1 Kosmonavt Komarov Ave, Kyiv, 03058, Ukraine

INFLUENCE OF HUMAN CAPITAL DEVELOPMENT ON COMPETITIVENESS OF THE EU ECONOMY

Abstract. Impact of human capital development on competitive ability of the EU economy has been researched in this paper. The calculation and estimation of correlative dependence between the competitive ability of the EU economy and major factors of human development were made. The Spearman's rank correlation calculation method was used to confirm correlation of the country's competitive ability and human development interconnection. This method provides the calculation of Spearman's rank correlation coefficient which is a nonparametric method and being used for statistic analysis of connections between different phenomena. The process of calculations and estimations of country's competitive ability and human capital correlation was displayed in three units. The first unit is dedicated to proving the dependence of the Human Development Index and the Global Competitiveness Index, as well as the level of both indices impact analysis. The second unit is aimed to discover dependence of factors, which compose the human capital, from the level of global competitive ability. The third unit focuses on defining and estimating of interdependence between the Global Competitiveness Index and the Global Innovation Index designed by INSEAD Research Centre (France). The dependence between country's human capital development and economic development together with national competitive ability has been proven. Major human capital development factors that influence the level of the EU competitive ability were found.

Keywords: EU; human capital; competitive ability; economic development; correlation dependence; Spearman's rank correlation.

JEL Classification: F66, I24, I31

Постановка проблеми. Аналіз еволюції інформаційно-розвитку суспільства свідчить про те, що в період переходу до економіки знань домінуючим фактором зростання економіки і поліпшення соціального стану стає людський капітал, оскільки він визначає темп, рівень розвитку та конкурентоспроможності національної економіки. У нинішніх умовах людський капітал є основним багатством і най-

більш цінним ресурсом будь-якого суспільства. У європейських країнах головним критерієм соціально-економічного прогресу та їх конкурентною перевагою виступають досягнення у царині розвитку людини та задоволення її потреб.

Процеси глобалізації ринків посилюють конкуренцію між країнами й найбільшими корпораціями за сфери впливу та ринки збуту. І саме людський капітал уможливує