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Glib S. Buriak

Data Science Tools in Service to Combat Post-Covid Outcomes in International Economics

The article deals with the study of current capacity of data analytic tools from global technological business ventures that can facilitate the approach to overcome the international economic growth decline caused by the global Covid-19 pandemic.

The Author analyses existing strategies in business intelligence to improve managerial, marketing, production efficiency and its rapid growth due to data collection and development of analytical frameworks together with labour force sophistication. Newly established area of data science appears to have the capacity and force to contribute to economic recovery of national and global economies due to targeted solutions and efficiency of allocation of investment and resources.

Keywords: data science, covid 19, international economics, world economics, economic development.

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In late 2019, a string of the Coronavirus that could affect humans was detected in Hubei's capital city, Wuhan in China. This led to the COVID-19 Pandemic that spread rapidly through China. Pandemic hit global economy severely bringing overall decline in international trade. The World Trade organization has predicted that world merchandise trade could plummet between 13 and 32 % this year, following the impact of COVID-19. It's predicted the adverse effects of coronavirus on

globalization may carry on for years, much like the 2008 financial crisis. [1]

National economies of leading states slumped drastically and overall influence is comparable to the Global Recession of 2008.

General recommendations of international organizations mostly stress traditional actions: transparency, promotion of supply chains, stimulation of free trade and increase of medical supplies due to the pandemic threats. However, current level of digitalization significantly raised

the level of data and intelligence globally, thus current anti-crisis measures have the capacity to be addressed with a pinpoint accuracy and efficiency.

The paper is based on the publications of international organizations, academic papers, and researches in the field of data science and big data as infrastructure basis for data analytics. The idea of data science and business intelligence was well covered by LaValle, S., Lesser, E. [3], Michael, K. and Miller, K. W. [4]. Development of big data as



■ Fig. 1. Projected change in GDP at constant prices between 2019Q4 and 2020Q2 (per cent).

Source: OECD Economic outlook 107 database [2]

a new area of economic activity is explained by Waller M. and Fawcett M. E. [5] Tools of next generation data analysis to combat outcomes of Covid-19 were proposed by Abid Haleem, Mohd Javaid, Ibrahim Haleem Khan, Raju Vaishya [6]. Current state of global economy and the results of quarantine is monitored by OECD and WEF.

The goal of the paper is to analyze current possibilities and tools of business intelligence and its further development – data science, to combat outcomes of the global pandemic.

Traditional Business Intelligence was more descriptive and static in nature. However, with the addition of data science, it has transformed itself to become a more dynamic field. Data Science has rendered Business Intelligence to incorporate a wide range of business operations. With the massive increase in the volume of data, businesses need data scientists to analyze and derive meaningful insights from the data.

The meaningful insights will help the data science companies to analyze

information at a large scale and gain necessary decision-making strategies.

“Business Analytics” and “Data Science” – these two terms are used interchangeably. But there’s one indisputable fact – both industries are undergoing skyrocket growth. Specific difference in Data Science application are the programming skills of the performers and computational abilities of hardware as Data Science has rapidly risen as an activity with the growth of Big Data projects implementation.

Big Data is defined as high variety information assets that require cost-effective, innovative forms of information processing that enable enhanced insight, decision-making, and process automation. In essence, it is the process of collecting large volumes of data through computers, sensors, events, and people to use the gathered data to do things such as making decisions, confirm hypotheses, gain insights, and predict the future. Big Data involves the integration of all forms of information needed to sustain a company’s operation, produc-

tion, and performance towards achieving its ultimate objective by the end of the fiscal year [4].

Data is widely considered to be a basis of decision making and improved profitability. In many organisations, business analytics focuses on one core metric, and that is the organization’s financial and operational analytics. On the other hand, ‘Big Data’ helps in storage, retrieval and analysis of large and complex data there by automating business analytics, by identifying trends from a wider variety of data coming in from all directions and letting the organization make better data driven decisions.

The global Big Data and Business Analytics Market size was valued at \$171.39 Billion in 2018 and is projected to reach \$512.04 Billion by 2026, growing at a CAGR of 14.80 percent between 2019 and 2026 [7].

The concept of Big Data Analytics plays a crucial role in entrepreneurial activities as it determines the authenticity of information collected and determines if it should be processed to

give out the desired result. Big Data is mostly applied in information processing systems to predict and classify specific issues affecting people's daily activities. For instance, in the financial system, banks tend to process new credit cards, loans, and mortgages for millions of people daily; hence, the collected data is processed, analyzed and stored for future reference. Therefore, in the decision-making process, banks and other money-lending institutions tend to use the client's stored data in the company's database to evaluate and determine if an individual is liable for a loan or not.

Essentially, the decision-making process is dependent on checking a customer's financial history and financial statement to determine if he has a consistent flow of income to pay off the loan within an agreed upon period. However, big data analytics has made it possible for bank officials to immediately assess a customer's financial credibility through the use of an algorithm-based data metrics that predict the possibility of an individual paying off the debt. Also, other companies have integrated the algorithm-based technology in the Healthcare industry whereby fitness organizations are developing wearable devices to measure biometrics such as heart rate, sleeping patterns, and calorie intake to ensure that the user is healthy and fit. Therefore, the ability to monitor these types of metrics is made possible through the access of big data supplied by medical companies that collaborate with technology companies that build fitness mobile application programs [8].

Research shows that the recommender system is crucial in every aspect of an organization because they are used for recommendation services in service companies like Amazon, Netflix, and Spotify, to mention a few. The recommendation system is designed to provide customers with the best options when it comes to buying books, movies, and music through online platforms. The operational function of the system is partially dependent on the general trends taking

place in the commercial and consumer markets. For instance, if there is a rise in demand for household electronics, the recommender system is designed to ensure that online users can easily access webpages that sell the highly recommended household items. Digital behavior is monitored and scanned to help companies like Amazon determine what kind of recommendations to provide to their online users whenever they visit their webpages. Research shows that recommendations account for 38% more on click-throughs while Amazon claimed that 35% of sales originated from recommendations [9].

The business model of big techs rests on enabling direct interactions among a large number of users. An essential by-product of their business is the large stock of user data, which are used as an input to offer a range of services that exploit natural network effects, generating further user activity. Increased user activity then completes the circle, as it generates yet more data. The mutually reinforcing data-network-activity (DNA) feedback loop helps big tech firms to identify the characteristics of their clients and offer them financial services that best suit their needs. As a result, big techs can have a competitive advantage over banks and serve firms that otherwise would remain unbanked.

Big tech credit does not correlate with local business conditions and house prices when controlling for demand factors, but reacts strongly to changes in firm characteristics, such as transaction volumes and network scores used to calculate firm credit ratings. By contrast, both secured and unsecured bank credit react significantly to local house prices, which incorporate useful information on the environment in which clients operate and on their creditworthiness [10].

The telecommunication industry is one of the fastest growing industries because of the introduction of advanced technologies that have made it possible for companies in this industrial sector to grow not only in the domestic markets but across the international scene. The concept of

globalization dictates that companies can create products and services that appeal to a larger consumer base which makes the organizational brand popular in the global markets. Hence, the big data analytics makes it possible for telecommunication agencies and corporations to assess demographic data such as age, gender, marital status, and language to create products and services that appeal to the larger group of the current customers.

Mobile Service Providers (MSPs) tend to integrate big data analysis to ensure that all needs and requirements of their existent clients are resolved and addressed. Due to the competitive nature in the telecommunication industry, most companies in the United States, Canada, and the United Kingdom have utilized big data to ensure that they offer their clients Value-Added-Services (VAS) and internet access that is supported by mobile technologies. Big Data allows telecommunication companies to analyze data collected from mobile subscribers to improve vital mobile services such as boost cell-tower frequencies and support billions of mobile devices in a single frequency. In other words, globalization has made it possible for MSPs in developed countries to provide mobile health services for subscribers located in under-developed countries to give them access to medical resources such as healthcare, Do-It-Yourself medication treatment, and basic prevention and curative techniques.

Big Data has allowed telecommunication firms to integrate advanced technology to introduce the Call Detail Record (CDR) technique which detects and monitors call patterns so that the MSPs can devise the necessary services and call packages that will entice clients to remain loyal to a particular mobile firm. For example, AT&T tends to offer fast internet services to all their mobile subscribers and offers amazing internet packages that will appeal mostly to the young people who love spending 85% of their time on their smartphones chatting, sharing photos and videos on social media platforms. Hence, the possibility of

AT&T subscribers to shift to Verizon Communications is highly unlikely because their MSP already meets their needs. The integration of Big Data in the telecommunication industry has made it possible for MSP companies to detect fraudulent activities taking place within communication systems. The application of big data has paved the way for the real-time data analysis whereby data networks are monitored for suspicious activities such as Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks.

Digital technology has paved the way for the development of communication and surveillance systems which assist in information flow and monitoring movement within specific vicinities. Thus, retail organizations have installed CCTV equipment in their establishments not only for security purposes but also to track customer movement by assessing the flow of clients during the weekdays and weekends to determine the peak hours when there is huge traffic of customers. Also, detecting the flow of customers allows retailing firms to assess their customers based on gender, age group, and purchasing patterns. Once data is collected it is used by retailing firms to categorize their products through a data mining process known as Market Basket Analysis whereby a client who is accustomed to buying bread and milk, gets the chance to buy jam as well. It is a calculated technique that forces customers to buy products that might complement what they are used to buying which serves to boost the retailer's financial growth in the commercial space. The fusion of globalization and the technological aspects of big data analytics have made it possible for most retail corporations to succeed in the international scene. Therefore, the Market Basket Analysis has allowed retail firms to gather stream data and monitor online behavior among their customers while checking their company's official website and offer recommendations about the best products and services in real-time.

The healthcare industry is considered one of the most lucrative in-

dustries in the world because people tend to fall sick all the time and they need medical attention to restore their health. Research shows that through globalization, successful American and German healthcare corporations decided to open subsidiary hospitals in under-developed countries in Africa, South America, and South-East Asia to fulfill the UN agenda by supporting the ideologies and efforts of the World Health organization (WHO). Due to the integration of digital technology in medical organizations, all patient records were digitized for safe-keeping for future reference and to minimize data distorting which was a persistent challenge for traditional storage systems in most hospitals in the United States [11]. Big Data within the medical industry is accessed through electronic patient records, clinical decision support systems, medical imaging, and machine-generated sensor data which store sensitive information about a patient's health status such as diagnosis, treatment plan, and medication routines. Therefore, big data analytics creates an opportunity for healthcare companies to develop a robust treatment system which enhances the quality of medical care as well as minimize the cost of treatment for needy patients.

Big data analysis in the healthcare industry advocates for the idea of centralization of information so that an international medical company like CVS Health can store all its patient records in a single location. In case one of their registered patients falls ill in South Africa, doctors stationed in the country can easily retrieve his medical data and treat accordingly. Besides, it eases the treatment process because patients already have access to a patient's entire medical record; hence, it becomes extremely easy to diagnose and prescribe the best medication for the ailing individual while checking if he or she is allergic to specific drugs. Online platforms such as social media networks have made it possible for medical firms to analyze large volumes of data collected from the various social media platforms to detect and monitor the spread of infectious dis-

eases. For example, during the Ebola outbreak in West Africa, the Sierra Leone government in conjunction with the Center for Disease Control (CDC) conducted online surveillance programs especially on social media accounts to monitor the movement of infected people within the country and the entire region.

Apparently, big data technology can store a massive amount of information about the people infected with this COVID-19 virus. It helps in understanding the nature of this virus in detail. The data obtained can further be trained over again for developing future preventive methods. This technology is used to store the data of all types of cases (infected, recovered and expired) affected by COVID-19. This information can be effectively used for case identification and helping to allocate the resources for better protection of public health.

There is an immediate requirement to store such a large amount of data of these cases, using different data storage technologies. These data are used to undertake research and development about the virus, pandemic and measures to fight this virus and its after-effects. Big data is an innovative technology which can digitally store a large amount of data of these patients. It helps to computationally analyse to reveal patterns, trends, associations and differences. It can also help in revealing the insights into the spread and control of this virus. With detailed data capturing capability, big data can be used gainfully to minimise the risk of spreading this virus.

The research shows that business intelligence is central in the survival and growth of tourism and hospitality entities in the 21st Century. A business needs to undertake environmental scanning, industry scanning and internal analysis in order to position itself and deploy its resources for optimal results. This need is intensified significantly in today's era of the COVID-19 pandemic where all assumptions and projections have changed. A tourism entity needs to gather business intelligence and understand the impact of

the changes of COVID-19 on the macroenvironmental factors as well as the tourism sector of London and then match it with their internal competencies. This will culminate in agenda setting and strategy formulation in ways that would lead to the optimal deployment of resources and positioning of the firm on the markets.

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Буряк Г. С.

Інструментарій науки про дані в подоланні наслідків пандемії в міжнародній економіці

У статті досліджується сучасний стан аналітичних інструментів глобальних технологічних бізнес-підприємств, які спроможні поліпшити підходи до послаблення економічного спаду через глобальну пандемію від Covid-19.

Автор аналізує сучасні стратегії бізнес-аналітики, спрямовані на поліпшення управлінської, маркетингової та виробничої ефективності, а також їхній швидкий розвиток завдяки пришвидшенню збору даних, розвитку аналітичних систем і ускладненню трудової сили. Сучасно створена галузь науки про дані наразі має потенціал і силу позитивно вплинути на економічне відновлення національних та глобальної економік завдяки цільовим рішенням та ефективності залучених інвестицій та ресурсів.

Ключові слова: наука даних, covid 19, міжнародна економіка, світова економіка, економічний розвиток.

УДК 339.92(477:4)
JEL Classification F15

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Evolutionary Aspect and Current State of the European Union Development

The article examines the evolution of the development of the European Union (EU), suggests the stages of its formation. The main factors of the emergence of the EU and important aspects of integration are indicated. The gradual accession of new members and documents regulating the functioning of the EU are reflected. The statistics of foreign trade of the EU countries and the place of the EU in the world are given. Special attention is paid to the relations between Ukraine and the EU as the main partner for Ukraine. The stages of development of Ukrainian-European relations and the importance of integration processes for our country are presented, which is reflected in the form of foreign trade statistics between Ukraine and the EU.

Keywords: integration, economic integration, European Union, EU member states, export, import, visa-free regime.

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Introduction

The European Union occupies an important place in the modern political, economic, social world, being one of the world leaders. At present, the EU is a unique integration group that unites 27 countries (at the beginning of 2020 the number of member states was 28), which differ in the level of economic development, size, population, social system, etc. In addition, the EU is an important trading partner that unites not only member states but also oth-

er European countries and developed countries in other parts of the world. Taking into account that the EU is a strategic partner for Ukraine and Ukraine intends to become a full member of the community, the study of their integration and economic relations is a topical and important issue.

Literature Review

A number of researchers analyzed the EU, its historical development and main current in-house tendencies,

namely Katharina L. Meissner, Magnus G. Schoeller, Kvasha O. & Syniakova A., Raksha O., Izha M., etc. In addition, the analysis of the EU development is presented on the official websites of the Union – the European Commission, Eurostat and others. However, certain aspects still need to be covered in this scientific research.

Method

The article uses a historical method to analyze the stages of formation of the

EU and Ukrainian-European relations, a statistical method to study the socio-economic indicators of the EU development, as well as a systematic approach to the analysis of major trends in the EU.

Analysis

As we know from the literature, European integration is the process of integration of states in Europe or nearby in different spheres, namely industrial, political, legal, economic, social and cultural. Results of integration in the European region is the creation of European Union, that actually was based on postwar European nation-states integration.

The European Union is a unique model of integration among European national states. 27 countries are the members of the EU. Up to the end of January 2020 there were 28 countries. The UK left the EU on January 31, 2020. It is unprecedented issue that have never taken place before.

We can say that the EU is a unique model of integration based on treaties among member states which created an institutional framework.

The European Institutions – the Commission, the Council and the Parliament – define the aims and policies of the Union and conduct the management of the Union.

The idea behind the European integration process was to create an institutional framework of shared sovereignty in different sectors of the economy.

The ultimate goal of the process is the economic integration of the member states which will call for a political union in the final stage.

Goals of the EU are in different spheres, namely to ensure peace and well-being of citizens, combat social exclusion and discrimination, offer freedom, security and justice without internal borders, enhance economic and social cohesion, promote scientific and technological progress, etc. So we see that not only economic aspect, but social as well is important for the EU.

Achieving these goals, the EU was awarded the Nobel Peace Prize for advancing the causes of peace, reconciliation, democracy and human rights in Europe. This results in the longest duration of peace in Europe than it was previous.

There were two reasons of the EU creation:

1. After the Second world war there was only one world leader – the USA, and Europe lost its leading position. So, they needed to counter-balance the US.
2. Both world wars were started by a European country – Germany – to control this country further some measures had to be taken.

The goal of European integration was to create a system where nation states would no longer follow such destructive policy.

At the beginning We would emphasize that there were two approaches to the EU creation: functionalism and federalism.

Functionalism – building cooperation among countries through the integration of one or more highly important economic function shared by all of them (the UK, Ireland, Norway, etc.).

Federalism – directly establishing a European political federation (the Six). Some countries committed themselves to the highest degree of integration.

So, On May 9, 1950, French Foreign Minister Robert Schuman announced a plan, that was proposed by French entrepreneur – Jean Monnet. To control the forces of war, Monnet suggested to take European coal and steel production under a common control. These industries were chosen because at that moment they were the most military industries.

The Schuman Declaration was regarded as the first step towards achieving a united Europe – an ideal that in the past had been pursued only by force.

The Six countries – Belgium, the Federal Republic of Germany, Italy, Luxembourg and the Netherlands accepted the French proposal, and signed the European Coal and Steel Community (ECSC) Treaty in Paris on April 18,

1951 (History of Union's origin). It can be called the first step to the creation of future EU.

The ECSC created a free-trade area for several key economic and military resources: coal, coke, steel, scrap, and iron ore. The ECSC was quite successful and led to increasing coal and steel trade between the Six by 129 percent in the first five years.

Then leaders of these countries decided to continue unification of Europe on the economic front alone. It was proposed to create a common market. And the result of negotiation was the next step – European Economic Community (EEC) and European Atomic Energy Community (EAEC or Euratom).

EEC aimed to merge separate national markets into a single market that would ensure the free movement of goods, people, capital and services with a wide measure of common economic policies, and EAEC was targeted to further use of nuclear energy but just for peaceful purposes, in contrast to application of nuclear bombs in Japan by the US. The Six signed the treaties creating these two Communities on March 25, 1957 in Rome. It should be noted, that the principle of equal pay for equal work for women and men became part of the Treaty of Rome in 1957.

In 1973 the UK, Ireland and Denmark joined the EU. In 1981 – Greece. In 5 years – Spain and Portugal.

Great changes took place in 1989 when the Berlin Wall fell. This led to the reunification of Germany. The Soviet Union itself ceased to exist in December 1991.

At the same time, the Member States were negotiating a new treaty, which was adopted by heads of state or government in Maastricht in December 1991. By adding intergovernmental cooperation (in areas such as foreign policy, justice and internal affairs) to the existing Community system, the Maastricht Treaty created the European Union. It came into force on 1 November 1993.

Also by the Maastricht Treaty (the Treaty of the EU) were proclaimed the EU citizenship for all members of the

countries of the EU, creation of central banking system, further steps towards Europe being a single market and introduction the Euro.

Three more countries – Austria, Finland and Sweden – joined the EU in 1995, bringing its membership to 15. But Norway hasn't become a member of the EU yet, despite the fact that it could twice become the member of the EU, but opted to decline following referendums.

Moreover, the EU was closed to the enlargement for 9 years and the aim for this was achieving the deep integration within these 15 countries and increase EU economic sphere. By then, Europe was facing the growing challenges of globalization.

Today, more than 440 million citizens from 27 Member States enjoy the benefits of European cooperation. And 25 years after the roadmap towards the euro was agreed, the euro has become the world's second most traded currency and is part of the daily life of 340 million citizens in 19 countries.

Thus, we explored the stages of formation of the EU – one of the most important partners of Ukraine and the world. As we can see, the stages of its formation were quite difficult and began with some industries, gradually penetrating into others.

At the present moment the EU is regulated by the two principal treaties: Treaty on European Union (TEU; Maas-tricht Treaty, effective since 1993) and the Treaty on the Functioning of the European Union (TFEU). The Lisbon Treaty also made the Charter of Fundamental Rights legally binding, though it remains a separate document.

There was an attempt to adopt the Constitutional Treaty – the highest level of integration. In 2003, the EU produced a draft Constitutional Treaty designed to replace all the existing treaties as the sole legal document governing the operation of the EU. The Constitutional Treaty merges the three "pillars" although special procedures are maintained in the fields of foreign policy, security and defence.

The Treaty was signed in October 2004 by representatives of 25 member

states of the EU. Later it was ratified by 18 states. However, following votes against it in referendums in France and the Netherlands, in 2005 the process was stopped and in other countries referendums were cancelled (Table 1).

This table shows the share of the world in exports and imports of goods in 2018. We can see that in 2018 the world's largest exporters of goods were China and the EU in the current 27 countries. The United States exported slightly less (11%), and the following countries significantly less – Japan 3 times less than the EU and China. Among the largest importers of finished products are the United States

(16%), the EU (14%) and China (13%). In other words, we see that the EU is firmly in a strong position in world trade, competing with China and the United States.

In the next table we will present the main trading partners of the EU for exports and imports in 2019 (Table 2).

This table presents the EU's main trading partners in 2019 in the world. Thus, the main exporters of the EU products were the United States (18%) and the United Kingdom (15%). As for the United Kingdom, it should be noted that at that time it was still a member of the EU, i.e. trade relations were stronger than with other countries, which

Table 1. Shares in the World Market for Exports and Imports of Goods, 2018

Country	Shares for exports	Shares for imports
China	15 %	13 %
EU-27	15 %	14 %
United States	11 %	16 %
Japan	5 %	5 %
South Korea	4 %	3 %
United Kingdom	3 %	4 %
Rest of the world	46 %	46 %

Source: Eurostat

Table 2. Main Trading Partners of the EU-27 for Exports and Imports of Goods in 2019

Country	Partners for exports	Partners for imports
United States	18 %	12 %
United Kingdom	15 %	10 %
China	9 %	19 %
Switzerland	7 %	6 %
Russia	4 %	7 %
Turkey	3 %	4 %
Japan	3 %	3 %
Rest of the world	41 %	39 %

Source: Eurostat

explains such a large figure. China (9%) and Switzerland (7%) are also among the main importers of the EU products. The Russian Federation is characterized by lower indicators – 4% and Turkey with Japan – 3% each. From this we see that the main countries to which the EU exported its products were not only the surrounding countries (the UK and Switzerland), but also countries from other continents and parts of the world – the USA, China, Japan, etc., which is an important indicator of the global role of the EU.

Among the countries from which the EU imported products are China (19%, which is 10% more than imports to China from the EU), the United States (12%) and the United Kingdom (10%). The figures for other countries do not differ much from the previous ones except for the Russian Federation (imports into the EU from Russia are 3% higher than exports). In general, it can be concluded that the EU imports more from the region of developing countries than they buy in the EU, which is explained by the pricing policy of these countries.

Table 3 shows the EU countries and their share in foreign trade outside the EU in 2019.

This table shows that the country with the largest share of both exports

and imports is Germany (30% of exports and 21% of imports). Germany is considered the locomotive of the EU's economic development, which is confirmed by these data. In exports, the second place is occupied by France (12%), followed by Italy (11%) and the Netherlands (10%). Slightly smaller positions are in Belgium (7%), Spain (6%) and Ireland (4%). The share of other countries alone is insignificant and in total is less than the share of Germany alone. Germany also remains the leader in imports, but the Netherlands is in second place, with imports 8% higher than exports. This can be explained by the fact that the Netherlands is a small kingdom that does not have much industry and has to buy products from abroad. The share of France itself is not too small in imports – 11%. Belgium and Spain import more (both countries 8% each) and Poland is a significant importer rather than an exporter.

Thus, we see that the EU has an important place in the world at this time, has achieved its goal and competing with the main economically powerful systems – the United States, China and Japan. These countries are not only competitors but also major partners in international trade with each other.

Since the authors of the research represent the Ukrainian side, Ukrainian-Eu-

ropean relations should be considered, because Ukraine's path to the EU is quite problematic and contradictory.

Ukraine's integration processes are an important aspect of its current functioning and justify the current state of geopolitics. Focus on European integration is the main driver of economic, political and social development of our country. Ukraine's main priority at this time is to reach the appropriate level for full membership in the European Union. Historically, relations between Ukraine and the EU can be represented in the following stages in Table 4.

Thus, we see that from the very beginning of its independence, Ukraine has been moving towards joining the EU, and attempts to change this course have led to an armed conflict in the country.

At present, the EU is a strategic partner of Ukraine in foreign trade. Thus, according to Eurostat, statistics on trade in goods of the EU and Ukraine for 2013 – 2018 are provided. The data in Table 2 show trade in products between the 28 EU countries (28 countries were still members at the time) and Ukraine in millions of euros.

Table 5 shows that the volume of EU trade with Ukraine has been growing every year since 2015. From 2013 to 2015, there was a significant decline in trade, which can be explained by the aggravation of the political situation in Ukraine. At present, there is a sufficient increase in imports to the EU from Ukraine, which has a positive impact on the economy of our country, because the main partner of Ukraine in foreign trade for a long time remained the Russian Federation. We are currently building new ties with developed EU countries and increasing sales. It should be noted that the difference between exports to Ukraine and imports from it decreased significantly from 10 million euros in 2013 to 4 million euros in 2018. That is, imports from our country are developing faster than before, which is characterized by a positive side Ukrainian producer, quality of its products and competitiveness.

In 2018, Ukraine mainly exported base metals and articles thereof

Table 3. Extra EU-27 Trade in Goods in 2019

Country	Exports	Imports
Germany	30%	21%
France	12%	11%
Italy	11%	9%
The Netherlands	10%	18%
Belgium	7%	8%
Spain	6%	8%
Ireland	4%	
Poland		4%
Other EU Member States	21%	39%

Source: Eurostat

Table 4. Stages of the Ukraine and the EU Relations

Nº	Year	Characteristic
1	December 1991	The Minister of Foreign Affairs of the Netherlands, who held the EU presidency at the time, recognized Ukraine's independence.
2	July 1993	Ukraine announced for the first time its orientation towards European integration in the Resolution of the Verkhovna Rada of Ukraine "Main Directions of Ukraine's Foreign Policy".
3	November 2002	Resolution of the Verkhovna Rada of Ukraine "On Parliamentary Hearings on Cooperation between Ukraine and the EU".
4	February 2007	Declaration of the Verkhovna Rada of Ukraine on the start of negotiations on a new agreement between Ukraine and the EU.
5	July 2010	Adoption of the Law "On the Fundamentals of Domestic and Foreign Policy", where an important element of Ukraine's foreign policy is to ensure its integration into the European political, economic and legal sphere in order to obtain EU membership.
6	May 2011	Resolution of the Verkhovna Rada of Ukraine "On the recommendations of parliamentary hearings on the topic: On the state and prospects of economic relations between Ukraine and the EU and the Customs Union".
7	November 2013	The refusal of the President of Ukraine to sign the Association with the EU provoked mass protests, which resulted in the formation of "Euromaidan".
8	March 2014	The Verkhovna Rada of Ukraine adopted the Resolution "On reaffirming Ukraine's course towards EU integration and priority measures in this direction.
9	2014	Signing and ratification of the Association Agreement between Ukraine and the EU.
10	June 2017	Visa-free regime for citizens of Ukraine began to operate

** The table is based on the material of Representation of Ukraine to the European Unions.*

Table 5. Foreign Trade in Goods Between the EU-28 and Ukraine, in 2013–2018, Million Euros

Year	2013	2014	2015	2016	2017	2018
Export EU	23.899	16.995	14.033	16.568	20.194	22.065
Import EU	13.882	13.734	12.844	13.182	16.683	18.019
Balance	10.017	3.262	1.190	3.386	3.511	4.046
Total	37.781	30.729	26.877	29.749	36.877	40.085

Source: Eurostat

(21.9% of total), vegetable products (18.9%), mineral products (15.0%), machinery and appliances (11.8%). Ukraine's export profile is now more diversified than a decade ago when 70% of exports consisted on vegetable products, base metals and mineral products. Today, other categories such as animal products,

foodstuff and machinery products, feature much more prominently on the export list. Footwear and articles of stone, although still relatively low have seen exports increasing by more than 50% over the last 10 years (Ukraine and the EU).

Table 6 presents the EU support of Ukraine in post-Maidan period.

As can be seen from Table 6, the EU allocates a lot of money to support Ukraine. During the 5 years from 2014 to 2019, the EU budget provided assistance in the amount of 6461.5 million euros, which is quite a large figure. Realizing that by defending its right to choose the path of integration, Ukraine has been hit by the Russian Federation

Table 6. *The Volume of Post-Maidan Support of Ukraine*

Source	Amount of money (million Euro)
1. European Union Budget (2014–2019)	6461.5
1.1. Overall development assistance 2014–2019	1472.2
1.2. Foreign policy instrument	246.5
1.3. Other support from the EU budget	332.8
1.4. Macro financial assistance (concessional loans)	4410
2. European Financial Institutions	8600
2.1. European Investment Bank (2014–2016)	4600
2.2. European Bank for Reconstruction and Development (for five years)	4000
Total:	15061.5

Source: *Ukraine and the EU*. URL: https://eeas.europa.eu/headquarters/headquarters-homepage/1937/node/1937_pl

and has lost its important economic and trade partner, and it takes time to improve its economic performance, the EU is helping. Through the European Financial Institutions, Ukraine received assistance in the amount of EUR 8.600 million during the period. This is provided in the form of grants, micro-credits and other assistance to entrepreneurs, which provides an opportunity to support and develop small and medium-sized businesses and further develop large ones.

Results and Discussion

In general, the evolutionary development of relations between Ukraine and the EU has been ambiguous, but at present integration intentions are documented and supported by the actions of both political power and its citizens. Currently, the EU is a major partner in many areas of our state and shapes its socio-economic development.

From the abovementioned, we see that the EU has a long history of development, which is quite complex in terms of legal regulation of the functioning of the community. In January

2020, there was an unprecedented case – the UK withdrew from the EU. At present, it is the only EU member state that has left the community. Nevertheless, according to statistics, the EU has a significant place in the world as a trading partner of many developed and developing countries. For Ukraine today, the EU is becoming a strategic external partner, because we have chosen the integration path of development and intend to become a full member of the EU.

Future Research

Unresolved issues remain regarding the socio-economic development of the EU, forecasts of its further development and the main problems within the group. Possible obstacles to Ukraine's full integration into the EU and the consequences of such unification need further analysis. It is important to study the main economic and political problems in Ukraine that hinder the acquisition of the EU candidate status. All these issues will be considered in further studies by the authors.

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Деліні М. М., Суханова А. В.

Еволюційний аспект і сучасний стан розвитку Європейського Союзу

У статті розглядається еволюційний аспект становлення Європейського Союзу (ЄС) через етапи його створення та розвитку, основні чинники його появи. Досліджено сучасний стан ЄС, його економічні процеси та основні торговельні партнери. Особливу увагу приділено розвитку українсько-європейських відносин як в плані інтеграційних, так і економічних.

Ключові слова: інтеграція, економічна інтеграція, Європейський Союз, країни-члени ЄС, експорт, імпорт, безвізовий режим.

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JEL Classification F34

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Gdp-Linked Warrants: Theory and Practice

The paper provides a review of theoretical and practical aspects of GDP-linked warrants emission. Theoretical problems related to these securities are explored by way of comparison of original GDP-linked bonds and GDP-linked warrants, issued in the course of debt restructuring; practical aspects are examined by means of a comparative overview of terms and conditions of most recent emissions of such financial instruments by Argentina, Greece, and Ukraine. Intrinsic discrepancies between theory and practice, combined with detected trends of tightening of terms and conditions of each successive emission, qualify authors for rationalization of the need of national and international monitoring over foreign debt restructuring negotiations.

Keywords: GDP-linked warrants, moral hazard, Ukraine, debt restructuring negotiations, monitoring.

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Introduction

In 2015 while negotiating ways and means of restructuring of Ukrainian sovereign debt and practicality of the emission of GDP-linked warrants it was a common knowledge that “previous issuances of GDP-linked securities have been hampered by flawed, incomplete contracts and by moral hazard, pricing and liquidity issues” (Park S., Samples T., 2015). That is why in 2015 the main task of creditors was to “address some of these shortcom-

ings with meaningful improvements in contract design”.

As it turned out, from the point of view of creditors this task was successfully completed: issued in 2015 GDP-linked warrants (i) provided for independent sources of GDP data to damp down investors’ concerns about data manipulation; (ii) included cross-series collective action clauses, simplifying the process of modification and/or restructuring of securities, if necessary; (iii) provided tailored mechanisms for investor protections, reading into the contract put options, instrumental in

case of certain covenant violations. In many respects due to these covenants Ukrainian GDP-linked warrants in 2017 have surged more than 50%, at the end of 2019 were traded at a cash price of 98% (Hogg R. 2020) at the beginning of 2020 (before Covid-19 pandemic) they had hit par (Ukraine’s GDP, 2020) and on January 2020 even exceeded nominal by 0.13%. Such widely acknowledged success of these warrants has solidified some eminent scholars’ opinion on the expediency of full-scaled primal (original) GDP-linked notes the issuance (by contrast with

the emission of warrants in the course of debt restructuring).

Literary Review

The start of the first wave of interest to GDP-linked securities is dated by the late 1980s, when the process of Brady bonds emission was initiated. Generally recognized presumption that partial debt forgiveness can actually raise the expected repayments to the creditors, and at the same time give greater incentive to the country for favorable adjustment (Sachs J., 1989), has triggered the search of reasonable ways of sovereign debt restructuring – both in practice and in academic literature. In conjunction with Costa Rica, Bulgaria, Bosnia and Herzegovina issuing bonds with certain elements of indexation to their national GDP (or GDP per capita or GDP growth), the issue of GDP-linked warrants became high-profile topic in the research papers of Robert Shiller (1993), John Williamson (2005), Eduardo Borensztein and Paolo Mauro (2002), Stephany Griffith-Jones and Krishnan Sharma (2006), Joseph Stiglitz (2010) and others.

Pursuant to their research GDP-linked warrants (also known as Value-Recovery Rights – VRR or Growth Linked Warrants – GLW) were the new class of securities, issued in the process of debt restructurings with a purpose of compensating investors who let part of their principal and/or interest disappear in a restructuring by way of promising a share of the ‘better future’ (always providing only an upside, never a downside).

Next wave of interest to GDP-linked securities is associated with the possibility of the emission of original GDP-linked bonds – securities to be issued within the context of a long-term treasury management program that aims to address a problem of financial needs of the sovereign in the context of economic cycles; primary objective of such securities – to lay the groundwork for correlation of the payments on principal amount and/or interest with some sort of GDP index.

On 30 November, 2015, participants of the workshop on GDP-linked bonds, hosted by the Bank of England, “broadly endorsed the benefits of GDP-linked bonds – of fiscal policy stabilization, contractually-agreed risk-sharing, avoidance of the deadweight costs of debt crises” (Bank, 2015); arising from this meeting of economists, lawyers and businessmen was the presentation of the indicative term sheet for such securities ‘The London Term Sheet’ (English law version).

At the top level the idea for sovereign contingent debt was revived at the G20 meeting in Chengdu, China, in 2016. Meeting next year in Baden-Baden G20 finance ministers and central bank governors endorsed a “Compass for GDP-linked bonds”, which was developed jointly by the G20 countries, stating that GDP-linked bonds could be instrumental in improving the sustainability of public finances.

Comprehensive analysis of the theoretical problems of GDP-indexed securities is provided in the papers of almost all already mentioned experts; their main arguments were recently consolidated in collection of essays ‘Sovereign GDP-Linked Bonds: Rationale and Design’, edited by James Benford, Jonathan Ostry and Robert Shiller (2018). Virtually all of them handled the problem from the point of view of creditor/investor.

The **main objective** of this paper is to look into the matter from the point of view of the issuer of GDP-linked warrants/bonds (based on the comparative analysis of background, terms and condition of GDP-indexed bonds issued by Ukraine with those of Argentina and Greece).

Analyses

Summarizing main arguments of the advocates of GDP-linked bonds and/or warrants, assessing them from investors’ perspective, it is essential to mention the following:

- GDP-linked bonds, referred to by Robert Shiller as the “mother of all markets”, are determined as “per-

petual claims” (Shiller R., 2018) on country wealth. These securities are designed in order to provide for investors an opportunity to take a position on countries’ future growth prospects, thus being a “claim on the income of an entire economy” (Kopf C. in Sovereign GDP, 2018, pp. 74–75).

- VRR are the financial instruments to be traded on the market of behemoth size: in 2019 global GDP surpassed \$142 trillion; its size far outweighs capitalized value of world’s stock markets.
- GDP-linked securities allow investors to better diversify their portfolio both domestically and internationally; when GDP-linked bonds will be issued by a number of countries, investors will expect high returns when some of these countries do very well.
- GLW securities due to their design are believed to offer higher level of protection against payment default in the long run.

Advocates of GDP-linked securities also describe some advantages of GDP-linked securities from the point of view of sovereign obligors:

- VRR increase the issuer’s resilience to negative growth shocks by linking debt payments to the issuer’s capacity to service debts.
- GDP-linked security is an attractive instrument “because it can ensure that debt stays in step with the growth of the economy in the long run and can create fiscal space for countercyclical policies during recessions (Sovereign GDP-Linked, 2018, p.14). Shifting the fiscal burden of sovereign debt to the more favorable economic scenarios, they are devised as an automatic stabilizer.
- GLW is an instrument of international risk sharing; GDP-indexed bonds allow the indebted sovereign to enhance country’s external viability, growth and integration into the world economy.

Proceeding from numerous advantages of GDP-linked securities, lawyers, economists and financial experts at

present are keeping on the front-burner practical issues of the design of such securities, the main of them being choice of the index, method of its measurement, data quality concerns, currency denomination, recourse period, pricing, uncertainty about liquidity, questions of contractual design and availability of covenants. This paper is dealing mainly with economic issues, leaving legal technicalities (such as problem of Governing law, Collective action clause, Pari passu clause and other covenants) to legal experts.

Dealing with economic problems any economist should start with the clarification of economic essence of VRR. According to Investopedia, warrants, being just one type of equity derivative (Fairly A., 2020), give the right, but not the obligation, to buy or sell a security – most commonly an equity – at a certain price before expiration. As a Spanish multinational financial services company Banco Bilbao Vizcaya Argentaria (BBVA) specifies, “a **warrant** is a **securitized option**. In other words, an option on an asset in the form of a security that has an official listing, and it is traded in an organized market. Its price is therefore set transparently” (Furio E., 2020).

Thus by analogy the GDP-linked warrant can be determined as a derivative (the price of which is defined by the share of hair-cut), that gives investors the right to receive part of the issuer wealth – certain proportion of GDP.

Academic papers describe VRR as a debt instrument in the context of international risk-sharing (Athanasoulis S. and Shiller R., 2001) and debt relief for sovereigns; but in practice, rating the terms of Ukrainian sovereign debt restructuring in 2015 one has to pay attention to a ‘Put Event’, in case of which “the Issuer shall, at the option of a Holder ... repurchase the Security held by such Holder on the relevant Put Date at a price equal to the Notional Amount of the Security” (See definition of “Put Event” in ‘Exchange Offer Memorandum Dated 23 September 2015’, p.66). Therefore, these specific creditor protection mechanisms,

that were absent in other comparable securities (defined by Wilkinson (2015) as “a pure innovation in design of the Ukraine GDP-linked Securities”) *transform Ukrainian GLW from risk-sharing derivative into direct claim on future wealth of the sovereign*.

Practicalities of designing GDP-linked securities start with the choice of an economic indicator, that the sovereign produces and revises, the options being GDP, rate of GDP growth and GDP per capita. It is generally acknowledged that the last index is the most problematic in usage, as it is sensitive to population statistics, the reliability of which is often questionable – contrary to GDP data, which are standardized, comparable across countries, concrete and regularly published (by countries themselves as well as by international organizations).

Additional stumbling block in choosing the index is a controversial question: whether to take into account the share of the shadow economy, not included in official statistics (and in case of positive answer – how to measure it). In Ukraine, for example, at the time of debt restructuring this share was valued by foreign experts (Shadow, 2018) up to 42.9% (the average for 158 countries being 27.78% – Shadow, 2015).

Up until recently one of the controversial issues was the determination of the data source. Importance of this issue is demonstrated by ongoing legal battles (between Argentinian government and US and British hedge funds – holders of GDP warrants), caused by the decision of Argentinian government to discontinue publishing of the Actual Real GDP in constant 1993 prices (metric agreed by the parties when issuing warrants) and to replace real GDP calculation effective 2014 in constant 2004 prices. Change of the source data has given the chance to Argentina to claim that its growth had not exceeded the trigger in 2013, while New York-based hedge fund Aurelius Capital claimed that it did and filed a lawsuit for alleged payment shortfall for more than \$80 million. It is notable that in January 2020 senior U.S. District

judge Loretta Preska decided in favor of Argentina, stating that “the relevant contractual terms clearly and plainly indicate that the calculations material to Aurelius’s breach of contract claim must rely on enumerated economic metrics produced by the Argentinian government”.

Drawing the moral of this experience creditors of Ukraine insisted on using data on GDP growth based on IMF’s World Economic Outlook, thus enabling investors to monitor data through the IMF’s annual observance reports and any assessments by IMF staff on data quality.

Another problem arising after choosing the index is selection of specific unit of measurement: in current or constant prices, in local or foreign currency units, using market and factor prices etc.

Importance of the choice is evident in terms of the Ukrainian GDP growth data: compared to the previous year GDP growth in 2016 in UAH by 20.4%, in USD the same growth at the same period was estimated at 2.9% (one seventh as much), in 2014 – in UAH – growth was 7.7%, while data in US currency demonstrated economic shrinking: minus 28.1%.

In dealing with this issue Missale and Bacchiocchi (2012) proposed, that the choice of using nominal or real GDP values when issuing VRR should be determined by the currency in which these securities are denominated. They reasonably asserted that, if the loans were denominated in key foreign currencies, then a linkage to real GDP in local currency units is needed to prevent the issuing country from the double-charge of balancing the inflation rate and paying for an associated depreciation of the local currency. At the other end of the scale, if the loans were denominated in local currencies, they should be linked to nominal GDP (in local currency units) for two reasons (i) linkage to nominal GDP would provide insurance to the borrower against unexpected deflation and thus help to stabilize the debt-to-GDP ratio; (ii) nominal indexation would remove inflationary temptations and offer some

protection to the lender against a depreciation of the exchange rate.

In view of the foregoing both versions of the Indicative Term Sheet (2015 and 2016), developed by the ad hoc working group on GDP-linked bonds, reason that in issuing such bonds '*only domestic currency*' should be used. Theoretical ground for this perceived risk transfer from the issuer to investor is the inverse correlation between nominal GDP in domestic currency and the exchange rate of local currency. Whereas currency depreciation boosts nominal GDP (both via its positive impulse on the cost of exports and/or via the increase in import prices), foreign holders of domestic currency GDP-linked securities have a natural hedge against currency losses.

Contrariwise, the choice of domestic currency is not optional when GDP-linked warrants are issued in the course of previous debt restructuring: the currency risk is always laid on sovereign debtors, which is justified by currency denomination of restructured credits (see 'Original sin' hypothesis); it is no wonder that Ukrainian GDP warrants were denominated in USD and EUR. But it is a truism that such denomination is fraught with higher vulnerability of debtor country in the event of adverse external shock.

Next important matter of argument to be addressed while designing GDP-linked securities is their time to run.

When speaking about bonds, Robert Shiller and Mark Kamstra advocated a concept of a perpetual GDP-linked bond, setting the time to maturity to infinity (Sovereign GDP-Linked, **2018, p.8**). On the issue of warrants senior economist at the Bank of England Mark Joy, as well as the majority of experts, advocates a long-term maturity, i.e. a lifespan of 10 to 20 years, enough to span more than one business cycle; the longer the maturity, the better the hedge the GDP-linked bond provides against lower trend growth (Sovereign GDP-Linked, **2018, p.55**).

Indicative term sheet (The London Term Sheet) tender an offer of the sufficiently long term to provide for a

smoothing of payments over a number of economic cycles, for example 10 or more years. Ukrainian GDP-linked warrants were scheduled in 2015 to be valid *unprecedentedly long* 25 years – till 2040.

Closely connected with the problem of maturity is an issue of time-frame of payments – i.e. the time lag between the end of the year and payments for that year. Technically the need of such period is necessitated by rather a long period, needed for the compilation and publishing the data. In many countries it takes not less than three months, and after that a lot of times GDP was revised in many countries, even years later.

Data revisions are of two types: regular, periodic changes that result from the inclusion of more accurate information and infrequent fundamental changes in methodology. The first of these results from the late arrival of useful data (like information from tax authorities, census surveys, and the like). The example of the second type is provided by **Stephen Cecchetti and Kim Schoenholtz** (2017): in 2013, the US Bureau of Economic Affairs altered the classification of research and development in its comprehensive revision of the US national income and product accounts. Formerly treated as intermediate inputs and hence ignored, they were reclassified as investment, which is a final good. This adjustment raised the level of GDP on average by about 3.2%. At the time, Treasury debt held by private investors totalled \$9.964.5 billion, or 62% of GDP. If this had all been in the form of GDP-principal-indexed bonds, the value of government debt would have jumped by \$325 billion.

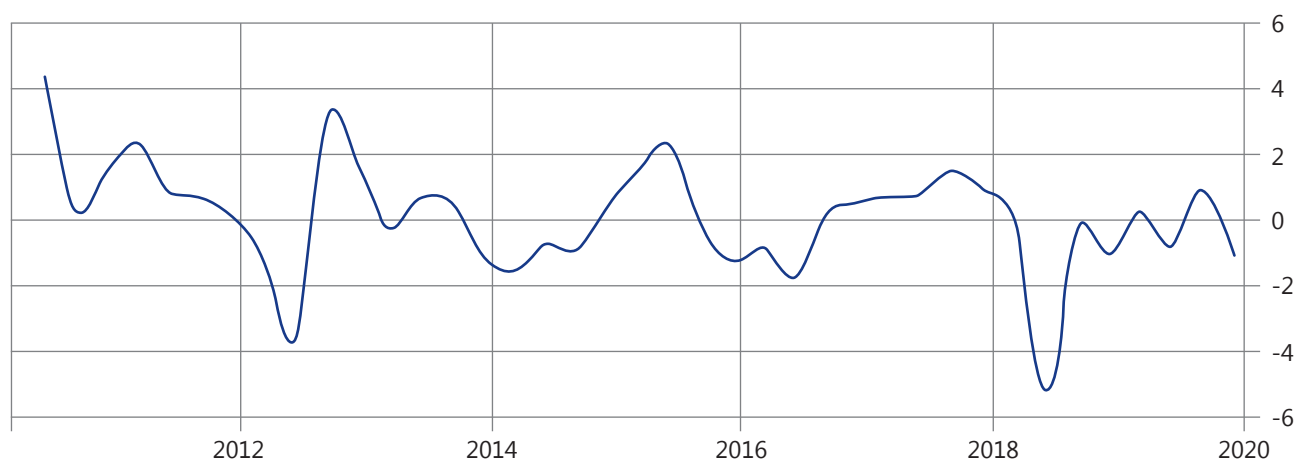
As specified by Mark Joy (2018), for both the issuer and the investor there is a trade-off over the optimal length of the indexation lag. If the lag is too short, it is likely that the early estimates of GDP that bond payments are linked to will have to be revised when better data comes along. Meanwhile if the lag is too long, then payments may turn out to be indexed to previously high levels of GDP, when in

fact the economy has already turned downwards, but the payment schedule demands large payouts in the following years.

This theoretical argument can be pictured by the data on Argentina (Ukraine's predecessor as an issuer of GDP-linked warrants) GDP growth rate: extreme volatility of this index provides for sizable payments during the period of GDP plunge (see Fig. 1), when diminished government's tax receipts makes servicing of sovereign debt almost unaffordable.

For Ukraine postponement of payment is scheduled for 2 years – it can be considered as advantage for Ukraine, as well as a disadvantage: the latter characteristic can be demonstrated by high payments that would be driven by good GDP data in 2019, but have to be disbursed in 2021 – after Covid-19 pandemic and anticipated economic collapse caused by it.

Alongside with applied points of VRR design academicians are preoccupied with the problem of GDP-linked securities pricing. Numerous articles published over the course of last decades focused on the pricing of GDP-linked products, although with a different methodological approach. Some of them used fundamental valuation dividend-discounting method, others – Black-Scholes type pricing model or CAMP; there are papers based on a Brownian motion for the GDP and Monte Carlo simulations on foreign currency – all of the authors searching the best way to determine the insurance premium that investors might demand to cover the risk of weak growth prospects. Nicolas Carnot and Stéphanie Pamies Sumner (2017) presented their vision of the components (sub-premiums) of this premium – namely the raised interest for GDP-linked bonds. According to them such sub-premiums should be a liquidity premium, given the narrow size of the GLBs market in its early stage of development; a novelty premium, reflecting the new/unfamiliar nature of the investment product; a growth risk (or indexation) premium, compensating investors for taking on



■ Fig. 1. Argentina GDP Growth Rate.

Source: Argentina GDP Growth Rate. 2020

some of a country's economic growth risk; a default risk premium, which could actually play a mitigating role. In total different researches guesstimate this premium to be in the range of 35 to 370 basic points.

Proceeding from theory of GDP-linked bonds engineering to practice of issuing GDP-linked warrants, it is interesting to compare theoretical findings with the reality of Ukrainian debt restructuring in 2015. In theory, since the warrant is usually issued along with a debt issue of which the warrant is a part, the yield on the bond that has a warrant attached may be slightly lower than a similar bond that has no warrant attached (Janakiramanan S., 2014). In reality *the cost of servicing* of New Notes, issued in the process of Ukrainian debt restructuring, was raised from 7.22% to 7.75%.

The list of economic terms and conditions to be designed while issuing GDP-linked securities certainly must be enlarged by the dilemma of what to index: principal or coupon.

In academic literature there are two canonical models for a choice of a point of reference for GDP-linked securities: (i) Borensztein and Mauro version, linking only the coupon to the growth rate (with the principal remaining fixed – a “floater”) and (ii) Shiller's version, which indexes both

the coupon and the principal to the level of nominal GDP (the coupon on the bond being paid as a fixed proportion of this principal, also varies with nominal GDP); they are referred to by Robert Shiller as ‘trills’, and in academic papers – as ‘principal-indexed’.

While issuing GDP-linked warrants there is no sense in choosing point of reference, as the warrants have no coupons; both variables are used as ‘trigger’ event.

Pursuant to IMF Working Paper How to Evaluate GDP-Linked Warrants: Price and Repayment Capacity (Miyajima, 2006), the ideal GLWs should be designed in such a way, that the trigger conditions were clearly identifiable and the payment amount easily calculated. Thus the trigger for the repayments should reflect (a) the actual real GDP levels exceeding the potential levels determined upon issuance, and (b) the actual growth rates of real GDP exceeding predetermined level. Condition (a) ensures that a country recovering from a severe GDP contraction by growing above potential will not pay on the warrants until the actual GDP level has finally recovered and exceeded its long-term potential trend.

Quantification of trigger conditions is the subject-matter of the talks on restructuring. Whereas the creditors are motivated to fix the lowest threshold

(to arrange future payments), debtor countries aim at higher figures. In 2015 under the terms of Ukrainian sovereign debt restructuring the *threshold was fixed at the extremely low level* of \$125 billion: during preceding the deal seven years GDP of Ukraine was below this threshold only once – in 2009 (\$117.08 billion), while in the last prewar year (2013) it exceeded \$175 billion (GDP of Ukraine, 2020).

Three more specific for Ukraine features are the following:

I. High level of its economy dependence on external factors: being an export-oriented country Ukraine's GDP is affected both by the prices of world market and currency exchange rate (which for the last year was influenced mostly by non-residents trading in Ukrainian T-bills).

II. Unavailability of any cap for repayments: while the cap for Argentinian securities has been set at 48% of their value (limiting possible maximum payable amount on these securities at \$29.8 billion), and Greek GDP-linked warrants had an annual payment cap of 1% of their notional amount, Ukrainian VRR are not limited by the notional amount of the warrants and have no cap at all for the last 15 years (starting from 2026 till 2040).

III. Extremely high portion of GDP growth increment to be paid to war-

rant holders: while Argentina was required to pay 5% of its GDP excess, and each annual payment on Greece VRR could not exceed 1% of their notional value, Ukraine is required to pay 40% of the growth beyond 4%.

As a result, possible total amount of payments on warrants varies with the expected rates of growth and experts' expectations. The highest figure, according to calculations of professional employee of Investment Capital Ukraine LLC is \$76.78 billion in scenario of stable growth of 7% (Kotovych, 2015); according to calculation of Ivan Bohdan and Anastasiia Sviridovska (2019), highest figure will exceed \$82 billion (in case of 5.7% growth). Estimates of Ukrainian Treasury Minister Sergiy Marchenko are more optimistic: only \$22 billion (Payments, 2020).

Premised on these assessments and keeping in mind notional value of warrants (\$3.6 billion) it is tough to swallow definition of this deal by Valeria Gontareva (then Chairwoman of National Bank of Ukraine and active participant of the negotiations on restructuration) as "successful restructuring" (Gontareva, 2020)

Conclusions

1. GDP-linked warrants in many cases appeared to be extremely profitable investments. As an example Juan Cruces and Tim Samples (2016) compared the ex-post returns of one dollar invested in 2005 in different securities (given that all interim cash-flows – dividends or coupons – paid by each holding were reinvested in that same security). They have found "astronomical returns" on Argentina's GDP-linked warrants, having calculated that in 2015 total return would be: on US 10-year Treasuries – \$1.68, on Apple – \$12.89, on Argentina exchange bonds in USD-EUR – \$3.38, and on Argentina GDP warrants in USD-EUR – \$16.17. As for Ukrainian GDP-linked warrants, Ukraine reputedly has to pay only during 2021–2024 19.1 billion hryvnias.

Such cost advantages of GDP-linked warrants are hardly surprising,

considering the fact that they are usually issued at a time when the issuer is deep into economic shock, on the verge of default and debtor's bargaining power is next to nothing.

2. Comparing theoretical and practical issues of VRR emission it is important to focus attention on the problem of 'moral hazard'. Almost all the experts, quoted in this paper name 'moral hazard' as one of the main factors, standing in the way of widespread emission and circulation of GDP-linked warrants/bonds. They mention only one aspect of this problem: according to UNDP experts, "the contractual arrangements underlying GDP-linked securities can in theory create incentives for debt issuing countries to pursue growth reducing or, at least, growth dampening, policies, as a way of limiting GDP-linked interest payments on their debt" (Warren-Rodriguez, 2015), thus causing a 'moral hazard problems'. But, as experience gained while negotiating Ukrainian VRR has proven, there is another aspect of this problem, no less important: politicians and public officers of the majority of indebted countries (especially of those, whose sovereign debts need restructuring) tend to have relatively short time horizons; for them short-term profit maximizing (temporary exemption of payments) decisions are most wished for, irrespective of the threat of feasible future losses. In the long run such undue over-compromising policy is fraught with incommensurable losses for debtor countries.

Awareness of the fact, that such losses are more than likely to happen has already compelled current Ukrainian policymakers to assume preventive measures: in August 2020 10% of outstanding GDP-linked warrants (UKRAIN'40) were repurchased by Ukraine on the Irish Stock Exchange.

Abovementioned facts validate reasonableness of Ivan Bohdan and Anastasiia Sviridovska (2019) conclusion of the necessity of (I) reforming the decision-making process within a public finance system and (II) increasing the responsibility of civil servants to prevent damage to the country. By

analogy with the Ukrainian law on parliamentary control over the privatization of state property it would be reasonable, to our opinion, to introduce legislation on parliamentary control over external borrowings.

3. One more aspect of 'moral hazard' problem is related to insatiability of creditors. Their successful efforts to take advantage of financially and economically beleaguered sovereigns can in future lead to the default of the emitent of GDP-linked warrants, thus endangering repayments to other creditors. That is why the requisition of other creditors and/or International Monetary Fund monitoring of such restructuring talks and having their say seems reasonable.

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ОВДП: теорія та практика

Стаття містить огляд теоретичних та практичних аспектів викидів гарантований цінних паперів, пов'язаних з ВВП. Теоретичні проблеми досліджуються через порівняння оригінальних облігацій, пов'язаних з ВВП, та ордерів, пов'язаних з ВВП, виданих під час реструктуризації боргу; практичні аспекти розглядаються за допомогою порівняльного огляду термінів та умов останніх випусків таких фінансових інструментів Аргентиною, Грецією та Україною. Внутрішні розбіжності між теорією та практикою у поєднанні з виявленими тенденціями до посилення строків та умов кожної послідовної емісії дозволяють зробити висновок щодо раціоналізації потреби національного та міжнародного моніторингу переговорів про реструктуризацію зовнішнього боргу.

Ключові слова: ОВДП, моральний ризик, Україна, переговори про реструктуризацію боргу, моніторинг.

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Evolution of Approaches to Organization and Management in the Hotel Industry

This article is aimed at studying the evolution of the hotel industry in the context of organization and management and arrangement of the stages of its formation as an independent type of business, which in the future will expand the ability to understand trends in this industry and develop new and improve existing management methods in this area. In modern society, the hotel industry is a major factor and basic component not only of tourism infrastructure, but also the service sector in general. Therefore, the problem of the evolutionary way of developing approaches to the organization and management of the hotel industry, especially in the context of the national economy, requires in-depth research to substantiate new principles and methods of hotel business management, develop ways to improve its efficiency and improvements. We can witness an evolutionary periodization developed regarding the upgrading of approaches to organization and management in the hotel industry, which consists of 12 stages. The authors substantiate the specific organizational and managerial features and characteristics of each stage. There is a revelation of the modern tendencies of the hotel industry development worldwide. The necessity for further research in the field of science is emphasized, as they will have significant prospects to be applied in practice both by individual companies and entire countries in terms of increased competition.

Keywords: management, organization, hotel industry, evolution.

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Topicality

In a modern society, the hotel industry is a key factor and a basic component not only of tourism infrastructure, but service industry as a whole as well. The

hotel industry state has a powerful influence on the creation and development of tourism services, the dynamics of the development of key elements of

the national economy: trade, transport, telecommunications, communications, construction, etc. Accordingly, the creation of a highly efficient and

innovative hotel industry plays a leading role in economic transformation in any country.

At the same time, the modern development of the hotel industry is based on approaches that have also undergone changes during the historical transformations in society. Thus, the hotel industry as a leading socio-economic and cultural category is closely linked to the development of culture, travel, social networking and communication. It reflects the distinctive cultural features of different eras and peoples embodied in the types and facilities of accommodation, methods and models of guest servicing used by the accommodation facilities. The latter is closely related to the organization and management approaches in the hotel industry.

The historical method in the study of the hotel industry reveals a stage-by-stage evolution of approaches to the organization and development of the hotel industry, the peculiarities and tendencies of this sphere, and thus improves the organization and management of both the individual hotel and the industry as a whole. It is important to establish evolutionary transformations in the motives of travel and tourism, communication, cultural, and economic features that have influenced the development of approaches to the organization and management of the hotel industry. At the same time, it will also reveal the feedback, namely the influence of organization and management of the hotel industry on the motives and nature of travel, economic and cultural development of society. Accordingly, the existing theoretical and methodological base in the field of hotel business development management will be enriched.

Therefore, the issue of the evolution of the development of approaches to organization and management in the hotel industry, especially in the context of national economy development, requires in-depth research to substantiate new principles and methods of hotel business management, to develop ways to improve its efficiency and development proposals.

Publications Analysis

In recent years, research in the hotel industry has become more widespread. The study of approaches to organization and management in this area is also relevant for Ukraine. This is explained by the active European integration processes in our country, which positively influences the tourism industry, as well as by certain crisis phenomena related, first of all, by external aggression, which suppresses the tourism industry as a whole and compels Ukrainian hotel business entrepreneurs to look for new approaches to the organization of the industry to increase the efficiency. Thus, such researchers as O.Yu. Davydova [1], L.D. Zavidna [2], V.M. Zaitseva [3], M.P. Mal'ska, I.H. Pandiak [4], O.O. Lupych [5], N.I. Danko, V.P. Novikov [6], N.V. Bilokin [7] and others. Despite the considerable amount of scientific work of these scientists, the evolution of the hotel industry development through the prism of organization and management in the hotel industry has not been fully explored.

This article is aimed at studying the evolution of the hotel industry in the context of organization and management and arrangement of the stages of its formation as an independent type of business, which in the future will expand the ability to understand trends in this industry and develop new and improve existing management methods in this area. Accordingly, the object of study is the hotel industry, and the subject is the historical aspects of its evolution.

Main Material Presentation

The main factors for the establishment and development of the hotel industry area as follows:

- economic, which is to increase the income of the population, the considerable financial and economic potential of individual districts and regions, which leads to the development of tourist and recreational

complexes, first of all of the hotel industry;

- social, which determines the development of social relations, demographic and migration processes, and, accordingly, the necessity for a hospitality infrastructure for their implementation;
- cultural, which reflect the mental characteristics of society, its traditions and religion affected the motives, needs and values of travelers. This caused the organization of the hospitality complex and defined the profile of its specialization;
- scientific and technological progress that accelerates the use of the latest science and technology achievements and causes a change in the forms and methods of functioning of hotel complexes, namely the use of modern technologies, technical means, information systems in their functioning;
- political, which are a complex of legislative and regulatory acts of the state, which influence the functional characteristics and organization of hospitality, construction and accommodation facilities equipment conditions, creation of organization forms of the hotel industry. At the same time the development of new territories determines the geographical spread of the principles and methods of organization of the sphere of hospitality of a certain state;
- natural and resource, which means the development of recreational natural resources and landscapes and causes the creation of recreational infrastructure, followed by the hotel industry;
- historical, that means a concrete reflection of the evolution of forms and methods of organization of the hotel industry and its facilities as a whole, as well as the replacement of the traditions of hotel industry management into the other ones.

The first hotel establishments are recorded to have emerged for thousands of years BC as necessary for the provision of travelers with a place to stay, relax and eat. Accordingly, the

state of development of the hospitality system has had a significant impact on the intensity and distance of travel, the dissemination of information and, in general, the economy of major centers and regions. The means and methods of hospitality reflected the material and cultural traits, as well as the tradition of guests reception from different nations.

The earliest trips and stops at guest houses are mentioned in ancient sources and are associated with the regions of Ancient Egypt, the Middle East and Greece. These were the regions between which the most intensive trips were made for the purpose of trade, pilgrimage, conquest, as well as recreation, entertainment and cultural knowledge. At that time, the hotel industry was focused on expanding trade relations in the Middle East and Ancient Greece. Correspondingly, long journeys facilitated the organization of an extensive network of institutions not only for the provision of food services but typical accommodation facilities as well, which meant the organization of guesthouses.

Particularly different were the guesthouses of ancient Greece. They were characterized by an orientation in the economy to the architecture, style and widespread use of advanced technologies for the convenient stay of the guests. Due to the chosen approach to organization the Ancient Greece witnessed two types of guesthouses established – private, named *katagogii* and state – *pandokei* have become widespread. The guesthouses of major cities provided for constant water supply, which at that time was an advanced technology in servicing the population. In addition, the organization of toilets and landscaping was special. The activities of such establishments were often focused on wealthy guests – often attended by civil servants, wealthy patricians, theaters, military personnel and religious figures.

The hotel industry was further developed in the Roman Empire. The Roman state during this period actively participated in the organization of the hotel industry. The guesthouses net-

work was largely owned by state and became particularly extensive. Unlike Ancient Greece and Egypt, the guesthouses were located not only in cities but also on their outskirts – in villages along the main transport arteries. At the same time, for the first time in the organization and management of the hotel industry, the factor of distance played a powerful role. The guesthouses were arranged in such a way that civil servants and authorities did not get tired on their way, taking a rest in each of them. In addition, there was a strict social differentiation, which reflected on the features of service. For example, state-owned hospitality services were provided to officials strictly by a special government pass. In total, the number of the comfortable guesthouses reached about ten thousand.

In addition to state-owned guesthouses, a high level of organization was provided by private guesthouses, which were equipped by wealthy landowners on the outskirts of their estates. Among them were gladiators who had invested their savings in hospitality industry.

It should be noted that the Roman Empire was the first in the world to organize the guesthouses, focused on wellness procedures. Treatment was carried out with procedures with mineral and thermal waters as well as mountain air. This way, until the III century of BC a network of wellness centers has already been established on the Adriatic coast, and in the Alps there are elite mountain complexes, the services of which were used only by the state elite of the Roman society [4].

Compared to the development of the Southern European hospitality system, it was quite archaic in the Caucasus and the Middle East. Guest complexes, as a rule, were a common tent. However, the hospitality industry in Armenia has developed significantly. Thus, at this stage of the evolution of the hotel industry, there was a considerable diversity in development, which was observed even in the XX century.

With the fall of the Roman Empire, the peculiarities of the hospitality network formation were determined pri-

marily by an ideological factor, namely, religious (Christian) traditions. In compliance with this, the most numerous category of guests involved priests, pilgrims, missionaries who visited holy places. Due to this, there was a necessity for the guesthouses located near temples and monasteries. That means, in organization and management of the hospitality industry as whole and individual hospitality complexes, was religion at the forefront.

This way, Charlemagne introduced a decree that obliged all monasteries and churches to keep pilgrims, that is, the latter actually acted as hospitality complexes. In contrast to the organization in the Roman Empire, living conditions in such guesthouses were modest, close to the monasteries. That is, the focus on restraint and economy in the organization of the economy. And in fact, the hospitality industry was not on the leading role in the economy of the states. The management of the guesthouses was provided by clergy and persons serving in religious institutions. Despite the modesty, the organization of food in such establishments was better than in suburban guesthouses, as temples and churches had considerable areas of agricultural effort.

The powerful scale of the influence of religion on the development of the hospitality industry is evidenced by the task of individual knightly orders, which were to protect the pilgrims and create the necessary terms of hospitality on their way to the holy places [4].

It should be noted that urban guilds or merchant unions played a significant role in the hospitality industry of the Middle Ages. In fact, it was a new method of organizing hospitality management. For a reasonable fee, the guild provided a place to stay and eat at a local restaurant. Such services have always been provided by the London residence of the Heisen Union. Living conditions were no less strict and close to monasteries [4].

In the regions with tempestuous trade and pilgrimage to temples, the hospitality industry has been particularly favorable, which has led to the

emergence of guilds of permanent yard owners. The most favorable for the activity of such guilds was the period of the Crusades of the XII-XIII centuries. Such guilds were formed in centers of intense economic life, trade, and religious activity. They were formed in Italy, Switzerland, France and other countries of that time. The main tasks of such guilds were envisaged by the statute separately for the organization and guests, compliance with the statutory norms was strictly controlled [4]. This time witnesses beginning of an active cooperation of private owners and the state (the emergence of the first forms of public-private partnership). Thus, in Florence in the XIII century the guild of owners of guesthouses provided the functioning of the city gates and directed the guests to the guild, where the guests were housed in hospitality establishments.

Activation in the late Middle Ages, as well as the growth of political and economic communications, led to the emergence of private hotels. Most of the roadside hotels provided extremely modest living conditions (resembling modern hostels in the form of organization). It should be noted that the impetus for the activation of private commercial hotels, as a form of government that changed the guesthouses of monasteries in the late Middle Ages was the process of secularization of monastery lands (the process introduced by King Henry VIII of England). However, since the abolition of monasteries in England and Wales since then, travelers have not been able to get free night stays.

This stage is associated with the emergence of the concept of "hospitality". The English word "hospitality" comes from the Old French "hospice", which means a house for travelers reception. One of the oldest establishments of this type is the Hotel Dieu, which was founded in the fourteenth century as a hospital and shelter for the poor. The following institution is continuously functioning today as a modern hospital [8].

The Modern Stage is the forerunner of the modern hotel industry. At this

time, the organization and management of the hotel industry is associated with the transformation of economic and cultural life. There is a significant revival of the economy, especially trade and trade communications. At the same time, the sphere of employment is growing, the number and duration of travel is dynamically increasing, which in turn causes an evolution in hospitality, namely the increase in the number and variety of accommodation facilities. The hotel complexes are constantly being refined and modernized, become clear in their specialization as well. Quality of servicing is also constantly increasing.

The first large-scale hotels appeared in Europe, especially in France, in the XVI century. They were organizations that provided lodging places in private palaces and state mansions. The latest were the first ones to get the name "hotel". They originated first and foremost in major cities and focused on hosting important guests. Some of the hotels acted as political centers – residences of important political figures. Among the most famous then Paris hotels are the Carnival and the Bourbon Palace.

At the same stage, the construction of hotels along important transport routes is expanding. A significant factor in increasing their number has been the development of stagecoach. First of all, it concerns the construction of hotels of the same type of planning and servicing, which are oriented towards the reception of guests of equal abundance. Thus in cities there are the first multi-storey hotels. One of the first hotels in Europe, the Hotel Henry IV, was built in Nantes. This hotel was designed for 60 people and was considered one of the best at those times.

Subsequently, a century later, in England, a completely new type of hospitality – banquet yards and clubs. In fact, a new stage in the evolutionary development of the hotel industry is forming in England. Such banquet halls combined the functions of institutions for receptions, celebrations of solemn events, and also provided accommodation, catering and more. At

this stage, the Pantheon Banquet Hall was built in London, which differed from other colossal sizes, costly construction and interior design, and elite service.

Almost at the same time in France there were apartment buildings with separate apartments for rent. That is, at this time actually begins the modern type of long-term rental real estate. At the same time, requirements for the comfort of living in hospitality facilities have increased. Thus, the number of household rooms increased in hotels, the size of restrooms increased, water, sewerage, room lighting were widely used, primarily due to the increase in window space. That is, the management and organization of the hotel industry is being reoriented to comfort and practicality.

The development of approaches to the management of the hotel industry in the US should be noted separately. This state was actively mastered from the XVII century, due to the intensive emigration of immigrants from Europe. Thus, the need for temporary housing was particularly acute. Architectural features, organization and management, service, as well as staff, especially at the stage of hospitality sphere formation, were created like European ones. The orientation of individual hotel complexes on the culture of certain countries was observed, depending on the needs of the client. The US hotel industry has seen a significant impact of the English metropolis.

In 1794, the first hotel was built in New York to serve as a purely commercial institution for the temporary accommodation of persons. Its opening was the beginning of the construction of similar hotels in other cities of the country. Subsequently, the first luxury Tremont luxury hotel was founded in Boston. It became a kind of benchmark, guided by which an intensive chain of luxury hotels in all cities of the United States was developed.

In addition, for the first time in US hotels, modern concepts such as the lobby, reception, etc., are needed to provide high-quality, well-to-do customers. At the same time the de-

velopment of the railway connection witnesses creation of a new form of hotels, which were focused on passengers servicing – roadside dining rooms with small hotel rooms for overnight stay.

The next stage in the development of the hotel industry in both the United States and Europe has been the development of hotel-type dormitories, which have been promoted by dynamic industrial development. The management and development of such hotels focused on the working class. They were characterized by ascetic living conditions for a large number of persons. Each building had a large courtyard located next to, with separate apartments on each floor, supplemented by a toilet and a bathroom. The complex familisteri was supplemented by a cooperative shop, a manger, a restaurant, a dispensary, a hospital, a theater, a school, a laundry and a place for swimming on the river.

At the same time, for the rich, there are hotels with a high level of comfort, aimed at rich guests, first of all, politicians of the highest rank, military generality, intelligentsia. The location of the luxury hotels tended to the largest administrative centers, famous recreation and wellness centers.

In the middle of the XIX century, the hotel industry is beginning to become actively involved in marketing, as the number of hospitality establishments has been steadily increasing, with their functionality and structure expanding, as well as new servicing standards being created. Thus, an important point in advertising hotel businesses is the release in 1854 in England, the first hotel guide. He had detailed information about thousands of hotels, with addresses, facilities and types of services. The publishing house of this directory was the first in history to promote hotel services to the costumer market. Subsequently, similar directories and promotional booklets were published in the majority of countries.

And the same stage witnesses first travel clubs appearing in many European countries that bring together people with a common interest, espe-

cially travel. For the functioning of the clubs, the necessary infrastructure was provided, that is club houses, routes were arranged, including hotels of temporary accommodation.

The newest stage in the development of approaches to the organization of hotel business is in the period after the Second World War. The characteristic features of the development of the hotel industry are related to the spread of mass tourism, which has become an object of interest of a large part of the population, especially in developed countries. An increase in the number of trips associated with high business activity of the population led to the formation in the 1950s and 1970s of the XX century of a powerful network of accommodation facilities. At the same time, transport began to play an important role, which became an increasing factor of accessibility.

Amid the rapid growth in the number of hotel businesses, the global hospitality industry has begun to grow into a multi-billion-dollar industry with gigantic revenue in all segments of the industry.

Since the 1980s, to this day, the hotel industry, organization and management have evolved to specialize and diversify hotel services, corporatization and transnationalization, use of information technology in management and automation, capital integration, use of scientific achievements in economics and management.

In the modern structure of hotel enterprises, along with typical full-service hotels, specialized accommodation establishments are actively developing, which in their activity are focused on serving certain segments and circles of persons (for example, participants of congresses and conferences).

An important direction of optimization of technological process of management of hotel industry is diversification of production. This is due, first of all, to the expansion of production capacity of the hotel enterprises due to the rational use of resources. It is widely used management information systems and placement organizations.

Thus, 12 evolutionary stages in the development of approaches to organization and management in the hotel industry have been identified, which are summarized in Table 1.

The modern hotel industry in the world is characterized by a number of different types of management, represented by both single management and corporate management, franchising, consortia, as well as various variations of their combination. A significant number of hotel owners base their management on professional management, which services are purchased from specialist management companies on a contractual basis. Nowadays, the usual form of management means operation by the individual companies not only of own hotels but also the hotel business relating to other owners. Part of the ownership of a hotel can be represented in a joint stock form, that means the owners possess a controlling stake or represent only a small part of it, can sell franchise rights, as well as own a part of the property included in the consortium. Other market participants are engaged only in management or franchising [4].

One of the major trends in the hospitality industry in recent decades by large hotel corporations has been the involvement of large real estate investment funds. In combination with other forms of financing, investment funds have fundamentally changed the structure of the hotel industry organization, separating ownership and hotel management. With the introduction of this type of financing, a new type of hotel owners has emerged who only owns profitable real estate and administrators who provide effective management in a highly competitive environment [4].

Conclusion

For hundreds of years, the hotel industry has undergone significant transformational changes that have been influenced by a number of factors, namely social events, scientific and technological progress, changes

Table 1. Key Characteristics of the Evolutionary Stages of the Development of Approaches to the Organization and Management of the Hotel Industry

Evolutionary stage	Main organizational and managerial features	Characteristics
Ancient Stage VI-I millennium BC	The first primitive methods of management, natural exchange. Orientation in the management of wealthy traveling merchants, military, statesmen and theaters	Public and private institutions have emerged guesthouses (both state and private) and public houses (usually private)
Antique Stage I millennium BC–V century AD	The factor of distance and social differentiation of the population, as well as the medical sphere, played a significant role.	First temporary residential care-oriented institutions emerging
Theocratic stage (early Middle Ages) V–IX centuries.	Orientation in the organization and management of religion and clergy. Dominance of the factor of restraint and economy in organizing a permanent farm	Temporary housing for monasteries and churches for pilgrims, missionaries, priests and other religious figures
Medieval stage IX–XIII centuries.	Emergence of urban guilds as a form of organization and management of hotel services. Cooperation of private owners and the state in the field of temporary accommodation	Like the previous stage, temporary housing was ascetic
Late Middle Ages Stage XIII–XVI centuries	Rapid development of private hotel farms due to the process of secularization of monastery lands	Emergence of the concept of “hospitality” – the reception of travelers
Early Modern Stage XVI–XVII centuries	Increase in the number and variety of accommodation facilities, delineation of clear features in the specialization of hotel complexes	Hotel complexes are constantly being improved. Quality of service is constantly increasing. Construction of the first major hotels and residences
Modern Stage XVII–XVIII centuries	Orientation in the leisure organization and management	New type of hospitality emerging, that is banquets and clubs. Development of long-term rental real estate
American stage XVII–XVIII centuries	Orientation to the needs of the client and certain sections of society, especially migrants and rich people. The actual founding of a real hotel industry	The first purely commercial hotel built, as well as the first luxury hotel. Modern concepts emerge: lobby, reception, and etc.
Early Industrial Stage XVIII–XIX centuries	Orientation to the working class. Large industrial owners become the main investors in the construction of temporary housing complexes.	Emergence of dormitories.
Industrial Stage XIX–XX centuries	Active involvement of marketing. Issue of hotel directories. The emergence of the first traveling clubs	Active expansion of the functionality and structure of hotels
Postwar Stage beg. of the XX century – end of the 70’s of the XX century.	Targeting the mass tourist. The global hospitality industry is beginning to grow into a multi-billion-dollar business with corporate governance	Building powerful hotel complexes. Development of network hotels
Newest Stage 80’s of the XX century – present	Orientation to specialization and diversification of hotel services. Dynamic processes of corporatization and transnationalization. Dissemination of information technology and automation. Establishment of hotel associations, etc.	Specialized accommodation facilities (for congress and conference participants) are actively developing alongside full-service hotels

in social development priorities, and etc. The study showed that it has undergone the most significant changes since the XIII century, when the hotel business actually began to form. The identified 12 steps, unlike previous research, allow us to track the evolution of approaches to organization and management in the hotel industry – from the primitive ways of organizing and managing the hotel industry to the latest processes of corporatization and transnationalization.

Further prospects for research in this field of science may imply the establishment of the characteristic features of the organization and management of the hotel industry in our country, because this industry, as well as tourism in general, are now increasingly stronger in the economies of most countries of the world. In Ukraine, while overcoming external global problems (military aggression, global economic shocks, epidemiological situation), the tourism sector and thus the hotel industry will have significant potential for growth, which will be facilitated by European integration processes. In this case, further scientific research in the field of economy and hotel management will have significant prospects, since both individual companies and entire countries will need to develop new approaches to carrying out this type of business in terms of increased competition.

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Еволюція підходів до організації та управління в готельній промисловості

Статтю присвячено вивченню еволюції готельного господарства в контексті організації й управління та організації етапів її становлення як самостійного виду бізнесу, що в майбутньому розширить можливості розуміння тенденцій у цій галузі та розвитку методів управління в ній. У сучасному суспільстві готельна індустрія є головним фактором та базовим компонентом не тільки туристичної інфраструктури, а й сфери послуг загалом. Тому проблема еволюційного шляху вироблення підходів до організації та управління готельною індустрією, особливо в контексті національної економіки, вимагає глибоких досліджень для обґрунтування нових принципів та методів управління готельним бізнесом, розробки шляхів підвищення його ефективності. Ми можемо спостерігати еволюційну періодизацію, розроблену щодо вдосконалення підходів до організації та управління в готельному господарстві, яка складається з 12 етапів. Автори обґрунтовують конкретні організаційно-управлінські особливості та характеристики кожного етапу. Відкриваються сучасні тенденції розвитку готельного господарства у всьому світі. Підкреслюється необхідність подальших досліджень у галузі науки, оскільки вони матимуть значні перспективи для застосування на практиці як окремими компаніями, так і цілими країнами в умовах посиленої конкуренції.

Ключові слова: менеджмент, організація, готельне господарство, еволюція.

УДК 338.4

JEL classification L83

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Study of the Way to Overcome the Crisis by Development of International Tourism Business in Ukraine in Cooperation with Poland

Crisis trends in the economies of eastern Europe from time to time make themselves felt, touching many sectors of the economy at once. In the conditions of the Ukrainian crisis, as well as a number of economic shocks affecting Poland, the development of the tourism business seems very promising. Quantitative and qualitative indicators of the success of the economy of Eastern Europe indicate the need to give a tangible and non-standard impetus to the development of the economy. The article traces the importance of developing the international tourism business as a link capable of ensuring an influx of investments and economic growth in Ukraine and Poland, as well as improving their international image and investment attractiveness, becoming a prologue to the further development of their economic situation. The most urgent necessary steps for the development of tourism industries in the considered countries, as well as ways to enhance tourist flows in the region, are noted. The Polish and Ukrainian experience in the field of international tourism business is compared and recommendations for organizing public-private partnerships and international cooperation are formulated.

Keywords: international tourism business in Ukraine, Ukrainian-Polish cooperation, anti-crisis strategy, development of tourism, innovations.

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The Main Part

Nowadays, in Ukraine, the dynamics of international travel and the degree of profitability from their organization decreased in many areas of tourist flows. A number of hotels are closing. The remaining accommodation facilities

in the struggle for customers are forced to change pricing policies or optimize costs. Only a small segment of the market succeeds in successfully developing the international tourism business.

The number of international tourist arrivals is at the level of tens and hundreds of times lower than in tourist countries, as well as in any highly developed country.

In Poland, the situation on the tourism market is not so deplorable now, however, the level of tourist attractiveness of the country and the share of the tourism industry in its GDP leave a significant field for improving this industry.

At the same time, the development of the tourism industry in the future can be seen as an attempt to give an impetus to the development of the economy.

Traveling and vacationing within their own state for the Ukrainians so far remain predominantly a budget way of conducting various vacation periods. Obviously, the desire to see the world beyond the borders of own country is having an effect. This is considered a more fashionable and expensive form of travel. Nevertheless, several million Ukrainians have never been abroad before.

In the case of Poland, the entry into the EU affected the removal of travel restrictions (Marketingowa strategia Polski w sektorze turystyki na lata 2012–2020), at least within Europe, and gave a significant impetus to the development of the Polish economy. However, for the Polish population, the tradition of resting inside their own country at different calendar periods has quite deep traditions (Zdon-Korzeniowska, Rachwał 2011).

Domestic tourism is a full-fledged component of the general tourism and recreation sector of any country, which also requires attention.

Hypothesis

Among the main activities that it makes sense to undertake to improve the Ukrainian economy, we consider those that relate to the tourism industry. One of them is the development of measures to promote the development of sectors that are most promising in relation to import substitution and increasing domestic demand. The second event is the development of the concept of a program for the development of domestic and inbound tourism. The main goal of such actions

is to create favorable conditions for the sustainable development of tourism in the countries of Eastern Europe, suggesting the development of public-private partnerships in tourism, that is, active and mutually beneficial relations between government agencies, the international tourism business, foundations, international organizations, as well as domestic and foreign investors taking into account the interests of the consumer.

A number of other causes of modern trends in Ukraine and Poland are identified, their experience is compared.

Basic possibilities

The role of tourism in the economy is largely underestimated (Gotowt-Jeziorska et al. 2011). The development of tourism and related business with proper and effective organization does not require extensive consumption of natural resources (most of the resources used by the tourism business are renewable) (Pułaska-Turyna 2005), does not require a significant upfront capital investments, and it allows expanding capacities gradually; there are no strict quotas, how many tourists have the right to cross the border in one calendar period (while in the case of international trade in food and manufactured goods there are not only quotas, but also complete bans).

Many areas of activity, starting from serious investments, take part in creating a tourism product: take at least capital investments in the hotel sector (Sullivan 2003). It constantly goes to the whole infrastructure: hotel equipment, food, tourist facilities, transport, logistics – everything relates to tourism, and this money remains in Poland.

The development of domestic tourism within the country is important because of the need to popularize folk culture, historical heritage, natural wealth (Степанов et al. 2018). Traveling during the Easter, Christmas, New Year and May holidays, the holiday season contribute to the knowledge of

the population of their own or a foreign country, as well as inter-regional and international cultural exchange.

Ukraine as a country located in a territory with a temperate climate, beautiful landscapes and a variety of sceneries, having a fairly large territory by European standards, having an average population density indicator, having access to two seas and through which other types of transport corridors also run, thanks to its convenient and advantageous geographical position is initially a rather favorable territory for the development of international tourism business.

With its beautiful nature, magnificent historical sites, ample space and communications, many regions have not been able to wait for a significant flow of foreign tourists. This is due to the inertia of the information space, as well as the need for a high-quality and well-thought-out strategy for training personnel and infrastructure, as well as objects of tourist interest in new cross-border flows. At the same time, it is important to understand such a strategy both at the level of state leadership, and at the regional and grassroots level, and on the part of the international tourism business in various forms.

All this makes it possible to create a clear tourism development system, develop tourism products, and commercialize them.

Regional tourism organizations in Poland are clearly defined legal entities that can apply for various financing programs in the field of tourism and infrastructure development from the EU and raise grant money, both Polish and foreign, or contribute to this process. Another objective is to extend the tourist season and promote weekend tourism among the Poles in the low season.

With the right approach, the international tourism business in any country increases employment, reviving the regions where a new tourism program starts. The demand for such recreational resources as pure nature, protected areas, natural tracts and other elements of modern recreation is being actualized.

Another thing that attracts external and internal tourists is the events taking place in different parts of the country. Festivals that offer different genres of arts and crafts, thematic contests, local cuisine festivals, fairs throughout the different seasons add color to the country and make it recognizable and beloved among foreign tourists.

Considering Poland as a country that at one time gained EU membership as a result of the enlargement of the European Union, and also taking into account the economic processes associated with Brexit and various internal crises, as well as a significant amount of Polish credit debt, this country, like Ukraine, is interested in increasing the volume of tourist flows, cross-border cooperation and improving the international tourist image.

It is worth noting the increase in the number of overnight stays of foreign tourists since 2015, which coincided with the phenomenon of deflation in Poland. At the same time, among other reasons for the growth of inbound tourism during this period, one has to note that instability in Ukraine overshadowed the image effect of Euro 2012, allowing them to take advantage of Poland to a greater extent, and also reoriented some tourists who want to visit eastern Europe instead of Ukraine, including to Poland. Also, the development trends of Ukraine, Belarus and the European part of Russia predetermine the use of Poland as a transit point when traveling to Europe (often with an overnight stay), as well as the implementation by citizens of these countries of tourist trips with an overnight stay in Poland, as preceding future trips to work or study. The increase in the number of tourists from EU countries who spent vacation in Poland is due to the assignment of the "blue flag of UNESCO" to the Baltic beaches, an increase in sanitary standards and the inclusion of Polish holiday destinations, as well as the introduction of multilingual services. An important role is played by improving infrastructure, increasing the operational speed of bus and rail transport and increasing the intensity of passenger aviation.

The increase in domestic tourism activity is due, among other things, to a decrease in the number of low-income people and the emergence of funds from the population that are free from "maintaining health and providing basic vital functions", which are used, including for tourism. So, the minimum wage in the country rises annually, and always from January 1 with the beginning of a new reporting period. If in 2007 the minimum wage was 936 zlotys, in 2017–2000 zlotys, and in 2019–2250 zlotys, then in 2020 it will amount to 2600 zlotys, showing a record increase. Moreover, from January 1, 2017, the right of the employer to pay only 80% of the pay to employees working for the first year is canceled.

At the same time, Ukraine needs to get rid of the stereotypes about itself as a poor and dangerous country in various respects for foreigners. Very true is the proposal of President of Ukraine Volodymyr Zelensky, proposing, in the wake of Brexit, to strengthen economic cooperation with European countries. Including this may be relevant in tourism.

Financial and Social Impact

The tourism and hospitality industry, as well as the economy as a whole, cannot avoid a certain kind of negative consequences of the impact of crisis periods (Павлов et al. 2016). At the same time, the construction of new hotels, the resumption of activities of temporarily closed establishments, and the invitation to visit new travelers to the country can provide a sufficiently significant influx of financial resources.

The connection of the first priority of the Anti-Crisis Measures Program with the development of the tourism industry is that one of the main social functions of tourism is the restoration of the health and working ability of citizens. As part of the second priority, one can consider the reorientation of the flow of domestic tourists from outbound tourism to domestic tourism, which will help support tourism and service enterprises during the eco-

nomical downturn and reduce the outflow of funds abroad. The third priority includes the development of aircraft and shipbuilding, financing of transport infrastructure and updating the passenger transport fleet. Transport and infrastructure problems are one of the main ones on the path of tourism development in Ukraine and Poland.

The economic and social functions of international tourism are primarily the following:

- Development of infrastructure facilities: hotel and restaurant establishments, travel agencies, retail and recreational facilities, etc.
- Activity of enterprises of the tourism complex creates additional jobs, replenishes the budget by paying direct and indirect taxes.
- In the case of large international tourist flows due to an increase in solvent demand for goods and services, related sectors of the economy are also developing, food and light industry, transport, trade, and services.
- Provides ample opportunities to improve international business activity and, accordingly, the country's investment attractiveness at the international level, and makes it possible to attract investment.
- An increase in the well-being of the local population due to the creation of new jobs also in turn develops the economy, because the earned funds are spent and support domestic production.
- An indirect positive effect on the country's economy is also observed due to international cultural mutual enrichment and exchange of experience.

Currently, the role quickly grows of tourism programs and destinations, which are associated with comfort, outdoor activities, types of tourism such as green, urban, cheerleader and cultural exchange.

The whole complex of factors influencing the development of the international tourism business can be divided into the following groups:

- Not directly dependent on the activities of the links in the tourism

industry (motivational, economic, geographical, socio-political, environmental and others).

- Based on the scientific, technical, methodological, organizational and other similar progress of the international tourism business.

The investment attractiveness of tourism as an industry lies in the relatively quick return on investment (Soboń, Rogozińska-Mitrut 2005).

The global trends towards an increase in the degree of population mobility and the share of the service sector in the sectoral structure of the economy, increased openness of countries, their integration into the world economy and other globalization processes against the backdrop of very rapid scientific and technological progress testify to the promise of international tourism business.

In order to stimulate both entry and internal flows, the governments of the leading countries of the world tourism industry are adopting anti-crisis programs.

In particular, advertising funds should be spent on a more active campaign to advertise local boutique hotels and unique Eastern European cuisine; development of tourism programs for new types of recreation and extreme sports.

An advertising campaign of a country abroad should focus on the availability and convenience of leisure in the proposed country.

During our study, a Crisis Management Program was developed for the Ukrainian and Polish international tourism businesses. In our study, several priority areas of anti-crisis measures were identified. From the point of view of tourism development, the most important of them are:

- activation of domestic demand for domestic recreation as the basis for the restoration of economic growth.
- stimulating innovation and restructuring the economy of the tourism industry.
- full implementation of social obligations of the state to the population and the development of human potential.

In addition, several regulatory documents should be adopted to expand tourism opportunities and reduce the taxation of travel agencies.

The traditional problem of Ukraine as a country belonging, according to various estimates, to developing countries or to the so-called "countries with economies in transition" is that due to insufficient investment attractiveness, instability of both the socio-political and economic situation in the country, concerns both citizens and enterprises facing possible risks, the absence in the territory of the country of large capital suitable for investment in the international tourism industry, the presence of a large external debt, a massive outflow of scientific and generally qualified workers outside Ukraine – as before, failed to develop with sufficient efficiency a number of profitable sectors of the tourism industry.

Now this country mainly exports mineral resources, food and light industry products, but due to low profitability this is not enough, and an increase in production in these sectors will lead to the depletion of environmental resources, non-renewable minerals and other resources.

Given this circumstance, the international tourism business is by its nature a relatively "painless" and financially lifting way to begin to strengthen the country's position in international markets (Mantecón 2010).

Currently, the international tourism business is common and demonstrates trends for further development, and also provides a wide range of various services. This area of commercial activity consists in making a profit from the sale or resale of a tourist product and providing various services to travelers.

Based on these reasons, further competent and appropriate support for the development of the international tourism business, judging by the experience of Poland and other EU countries, can help diversify the Ukrainian economy and create new jobs, as well as give an impetus to other industries by increasing demand for their products.

In the structure of both inbound and outbound tourism in the current

difficult economic situation of Ukraine, a significant bias is observed. And if the structure of outbound tourism with all the efforts of travel agencies can be corrected only in conjunction with the overall growth and stabilization of the economy, then the service of inbound tourists can be organized at a relatively high level even in a country with an average level of development, since the low price level of such a region attracts potential visitors.

Experience of Poland and Ukrainian Issues

Many of these problems existed in Poland earlier, however, they were to some extent smoothed out or compensated for by the joint actions of the Polish authorities and business representatives; active and conscious position of society, as well as with the active support of international programs, including those operating in the European Union.

In this sense, the experience of Poland in recent decades can be considered as a positive example of the successful implementation of the anti-crisis strategy in the country of Eastern Europe from among the countries of the former "socialist camp" and to determine its advantages for Ukraine.

Taking into account also some difference between the Polish and Ukrainian realities (with the unconditional presence of similarities), it cannot be said that in Ukraine it is necessary to repeat the Polish path, especially since over the last 20–30 years, due to the sharp progress of digital technologies, huge changes in technical and technological aspects (Rudyk 2019), and some things are already outdated, but there is much to compare the current situation, the dynamics and characteristics of development in Ukraine and Poland as two neighboring countries with a mutual history and the source data are very visual.

If Ukraine succeeds in further resolving a number of problems that are important at the present stage and rehabilitating its international tourist

image as the territory where the zone of radiation pollution is located, and a country characterized by an insufficient level of medicine services and the law enforcement system; where there is a geopolitical conflict (which creates the impression of the danger of travel in Ukraine among potential foreign incoming tourists), then in this way the further development of the international management of the tourism business in Ukraine will be able to move from the "dead point".

The principles of the international management of the international tourism business in modern Ukrainian conditions should include:

- maximum compliance with hospitality for foreigners, political correctness and apoliticality; the formation of a culture of interethnic communication in society;
- taking into account local specifics, traditions and customs, geographical location, as well as the state and degree of popularity of attractions;
- the introduction of quantitative and integrated economic analysis methods;
- closer cooperation with authorities responsible for migration policy, security, education, medicine and infrastructure;
- the creation of new ones, as well as the arrangement, strengthening, repair and further maintenance of existing transport access roads to local attractions;
- a systematic search for insufficiently known historical or cultural figures, their popularization and the creation of new museum complexes, memorial structures, manor museums, literary and artistic events dedicated to these personalities, as well as the search for other, completely non-standard forms of perpetuating their memory;
- the creation of completely new modern attractions, such as advanced engineering and construction facilities, urban "know-how", etc.;
- international cooperation and attracting international tourists;
- state support for initiatives of small and medium-sized businesses in the field of international tourism business.

At the same time, the Ukrainian approach to the international management of the tourism business should be improved by not only resolving these problems, but also by creating infrastructure consistent with modern world standards (Sapun, Seleznova 2018) and developing the local population, as well as service personnel working in the service sector and international tourism business in particular, the formation of a sufficient level of culture of hospitality (Sapun et al. 2018), in which case the prospects of the international tourism business in Ukraine couldn't be big enough, because in the future the international travel business will somehow remain an important part of both the national and the global market in services in the global economy as a whole, serving a large number of customers.

So, in the international management of the tourism business of Ukraine, it is necessary to pay the greatest attention, including to several areas of improvement in the work of the international tourism business management in Ukraine that are relevant in a crisis situation:

1. To develop types of tourism that are affordable for the citizens with lower income: suburban and local tourism, tourism using hostels and tents; and also develop tourist routes where the move itself is positioned as one of the interesting aspects of the trip.
2. To popularize among foreign citizens who are interested in trips to eastern Europe, the opportunities for "green", informative, pilgrimage tourism in Ukraine and holidays in the Carpathian Mountains, as well as on the Black Sea and Azov sea coasts of Ukraine;
3. To expand cooperation with domestic and international charitable foundations, corporations interested in organizing programs for the rehabilitation and recreation of their employees in Ukraine.
4. To develop programs for the development of tourism and support for the international tourism business at the regional and state levels.
5. To deepen the analysis of tourism activities through the proposed methods.
6. Carry out short-term forecasts of possible changes in the number of inbound and outbound tourists, considering the phenomenon of seasonal fluctuations.
7. The correct positioning of tourism products using simulation.
8. Greater emphasis on intermodal transport and individual tour planning. So, the wishes of a particular person, family or group of friends can be specific, which can be done by connecting to different tourist groups at different stages of travel.
9. To take into account in management practice the positive and negative aspects of the influence of the facts of the business environment on the development of international tourism business.

Given the opportunities, as well as investment, resource, geographical and other potential, among the innovative areas of the international tourism business, the service of such tourist flows may become promising:

- Cruise trips along the Dnieper, Southern Bug, Dniester, Black and Azov Seas. Organization of inbound cruises in Ukraine for residents of countries adjacent to these bodies of water is possible. This direction is already being developed by the Nibulon company. In addition, the largest area in Europe (after Russia) in Ukraine allows you to organize the so-called "land cruises" and just informative tourism.
- Adventure tourism is possible in the Montenegro mountain range (in the vicinity of Goverla), in the caves of Western Podolia, on the Snake Island, in the depths of the Black Sea. Adventure tourism is possible through narrow gauge railways operating in the Vinnitsa, Rivne and Transcarpathian regions, through the forests of Polesye and Volyn and the like.
- The mountainous and coastal regions of Ukraine can become powerful exporters of services to residents of Belarus, Poland and the countries

of the eastern Baltic, because the Baltic Sea is cold, and in Belarus there are no mountains, no sea.

Also, in the case of developing a positive image of the state and the domestic system of international tourism business, the role of Ukraine as a third country in the international management of the tourism business (Soboń 2005), which would sell packages of tourism services or provide transport and other services for those tourists whose route is not Ukraine, is possible (one more type of export of touring services).

There are already some successes in this direction (for example, some Ukrainian airlines, using the example of Ukraine's International Airlines, offer flights from one foreign country to another with an organized transfer in Kiev, some of the Ukrainian tourist operators already provide services to citizens of neighboring Moldova with a start in Odessa or in other Ukrainian cities, etc.), but so far this segment is still underdeveloped.

At the same time, there is a need to take into account the potential risks that international tourism may pose for the environment (including a variety of garbage, exhaust emissions, physical deterioration of inventory and plantings on the territory of tourist sites, as well as monuments of nature and art, etc.). In view of this, it is important to use safe technology, waste sorting or reuse whenever possible.

There is also the possibility of epidemiological threats (both in the form of severe or endemic human infectious diseases, and the likely spread of quarantine weeds, agricultural pests, animal pathogens, etc.) (Sapun et al. 2018). However, in the future tourism (including the international tourism) should become more environmentally friendly, since the ecology of the planet is in danger and has no boundaries (Sanchez 2013).

The risk of dishonesty of international tourists or enterprises that work in the international tourism business, which can manifest itself both during the travel process itself and about

making payments or making the required documentary formalities, is also becoming acute.

So, under the guise of international tourist travel by unscrupulous persons, visa documents may be misused, smuggled and otherwise violated while crossing the border, illegal employment of citizens in another country with various consequences, labor exploitation and trafficking in persons, misuse of stay in the country and tourist visas etc.

The development of Ukraine's international tourism business along with the development of other sectors of the economy can contribute to the economic growth of Ukraine and its way out of the crisis, is a promising sector of the international economy that requires a competent management approach, in particular, using management tools, and the economy and international management are unique as the basis of research in the field of international tourism business and a link that provides system approach to research.

Conclusions

In this paper was discussed the strengthening of cooperation between Ukraine and Poland in the field of international tourism business. The study identified the important advantages and disadvantages of the Ukrainian and Polish models, as well as an anti-crisis strategy for further action in this area. The conditions for the development of the international tourism business and its impact on the economic activity of this industry are determined.

The prospects for the development of the international tourism business are formulated. A strategy for the development is proposed with the aim of increasing its financial and economic independence, as well as its stability. In particular, the authors proposed the development of a number of tourism programs and the implementation of a number of changes in positioning, development of unused opportunities and reserves, as well as innovative and highly profitable new types of tourism.

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Йоанна Рогозінська-Мітрут, Сапун К. В., Януш Собонь, Селєзньова Р. В.

Шляхи подолання кризових явищ шляхом розвитку міжнародного туристичного бізнесу в Україні в співпраці з Польщею

Кризові тенденції в економіках Східної Європи час від часу дають про себе знати, торкаючись багатьох галузей економіки одночасно. В умовах української кризи, а також низки економічних потрясінь, що впливають на Польщу, розвиток туристичного бізнесу видається дуже перспективним. Кількісні та якісні показники успіху економіки Східної Європи свідчать про необхідність надати відчутний та нестандартний поштовх розвитку економіки. У статті простежується важливість розвитку міжнародного туристичного бізнесу як ланки, здатної забезпечити приплив інвестицій та економічне зростання в Україну та Польщу, а також поліпшити їх міжнародний імідж та інвестиційну привабливість, ставши прологом для подальшого розвитку їх економічної діяльності. Відзначено найбільш невідкладні кроки для розвитку туристичної галузі в розглянутих країнах, а також шляхи посилення туристичних потоків у регіоні. Порівнюється польський та український досвід у галузі міжнародного туристичного бізнесу та формулюються рекомендації щодо організації державно-приватного партнерства та міжнародної співпраці.

Ключові слова: міжнародний туристичний бізнес в Україні, українсько-польська співпраця, антикризова стратегія, розвиток туризму, інновації.

УДК 331.44 : 37.072

JEL classification I21, I25, O31, P46

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“Academic Capitalism”: Pros and Cons of the Development of Science and Higher Education

The environment of academic capitalism, which has covered almost the entire field of science and higher education, has both positive (PROS) and negative (KONS) influences on them. Academic capitalism has sharply accelerated the commercialization of the results of applied research and development of universities and research institutes and has allowed these organizations and institutions to significantly capitalize on their intellectual capital. This gave impetus to the development of progressive innovations and outstanding inventions. For example, in the system of higher education there is an intensive innovative development, which, of course, can be attributed to the positive impact of academic capitalism on the development of material, technical, scientific and engineering potential of universities and colleges.

On the other hand, the pursuit of profit and the general search for opportunities to commercialize R&D results, mainly the results of applied research and experimental development, leads to a significant reduction in demand and attention to the development of fundamental science and the search for basic scientific values. This leads to a slowdown in the production of new basic fundamental knowledge and a slowdown in the intellectual development of society.

Many recent scientific publications have also criticized the impact of academic capitalism on science and higher education. Excessive entrepreneurial activity of universities in the direction of profiting from the development and commercialization of applied research instead of purely scientific activities and basic basic research leads to the loss of the position of universities and colleges as “temples of science”. There may still be a small number of academic institutions of higher education and research that continue to conduct basic research that is difficult to commercialize but that is genuine “scientific knowledge,” or in other words, knowledge of humanity.

This paper analyzes the innovative changes in the higher education system caused by the environment of academic capitalism. The negative impact of academic capitalism on the sphere of higher education and science is also analyzed.

Keywords: academic capitalism; entrepreneurial university; innovations in higher education; innovative development of higher education.

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The environment of academic capitalism has now engulfed almost the entire sphere of science and higher education. Perhaps there are still a small number of academic institutions of higher education and research that continue to carry out fundamental scientific research, which is difficult to commercialize, but which is true "scientific knowledge" or, in other words, the knowledge of humanity.

Academic capitalism, which has become a reality, has dramatically accelerated the commercialization of the results of applied research and development of universities and research institutes. Allowed these organizations to significantly capitalize their intellectual capital, gave impetus to the development of innovations and inventions. In particular, an intensive innovative development is observed in the system of higher education, which, of course, can be attributed to the positive influence of academic capitalism on the development of the material, technical, scientific and engineering potential of universities and colleges.

This is PROS.

On the other hand, the general pursuit of profit and commercialization of R&D results, mainly the results of applied scientific research and experimental development, leads to a significant decrease in demand and government attention to the development of fundamental science. This leads to a slowdown in the production of new basic fundamental knowledge and a slowdown in the intellectual development of society.

This is CONS.

Let us further consider some aspects of innovation in the higher education system caused by the spread of market relations in the field of science and higher education (what belongs to PROS).

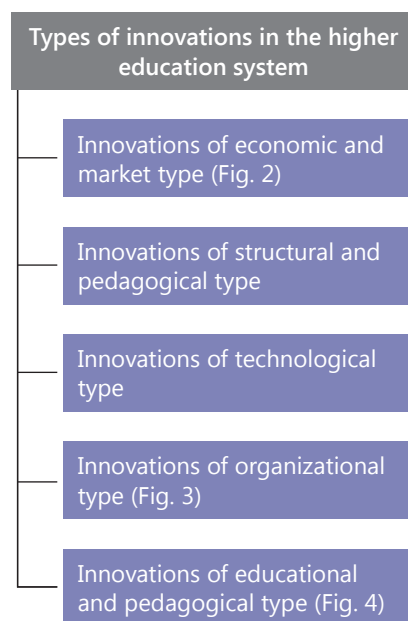
Summarizing the results of a comprehensive study of the phenomenon of academic (university) entrepreneurship [1–14], it should be noted that business institutions of higher education implement their activities in higher education in the current market laws of the economic system, interact with

internal forces of society (respond to its challenges and inquiries) are under the influence of globalization pressure of the world community (as schematically shown in Fig. 4 [1]).

Innovations in the higher education system should directly lead to innovative changes. It is reasonable to consider HEI's innovative activity in the higher education system as an economic category related to the capitalization and commercialization of intellectual products – knowledge, technology, educational and scientific services, etc.

Let's consider further the types of such innovations in the higher education system that can lead to innovative changes, and their classification. These can be innovations of the following types: economic and market; technological; organizational; structural and pedagogical; educational and pedagogical (Fig. 1). Most of them are either directly or indirectly initiated by academic capitalism.

Innovations of economic and market type (see Fig. 2) unite caused by scientific and technical and in-



■ Fig. 1. Types of innovations in the higher education system that can lead to innovative changes

dustrial and economic development of society and the spread of market economic relations in all areas of socio-economic activity of mankind, the commercialization of educational and scientific and technical activities of HEI and all higher education (innovations of economic and industrial development, depending on market requirements).

Economic and market innovations include such innovations that allow to reduce the budget funding for higher education and science to obtain the necessary resources not only for survival but also for the prosperity of HEI:

1. New forms and types of financing of education and crediting of educational services, educational institutions of various types, statutory (including – educational, scientific, scientific and technical, educational and cultural) activity of educational institutions; diversification of funding sources; formation of various funds, grants, endowment institute.
2. Commercialization of educational results (contractual forms of education, educational, consulting, expert and other services), scientific and scientific-technical activities (R&D, technology transfer) HEI, obtaining additional financial income from extracurricular activities (lease of property, organization of mass activities for local and regional communities, etc.).
3. Participation of HEI in innovative socio-economic local, regional and national development, opening of new directions of business activity, enterprises and spheres of industry.
4. Close cooperation with industry and business: joint implementation of R&D, targeted training, opening and supporting joint ventures, joint participation in joint stock companies.
5. Active participation of HEI in:
 - › business development;
 - › education, training and preparation of entrepreneurs of different types and leaders for industry and social sphere;
 - › developing and lobbying the necessary regulations for the devel-



Fig. 2. Innovations of economic and market type in higher education

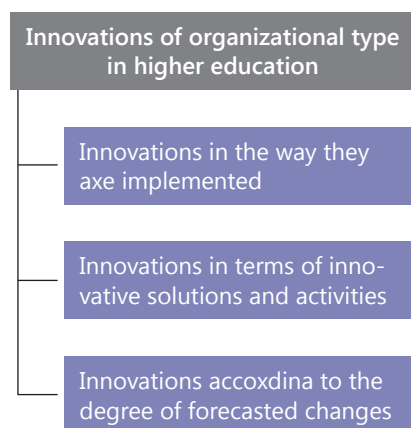
- opment and support of entrepreneurship;
- › promoting the competitiveness of the country's industrial and economic potential.
- 6. Development of academic (university) entrepreneurship – commercialization of R&D results, receipt of financial income from licensing and patent activities, as well as share-

holder dividends from the activities of startup (spin-off and spin-out) companies.

- 7. Active participation of HEI in competition with other HEIs, improvement of own image, quality of educational and scientific services, access to foreign educational markets, wide internationalization of educational and scientific activity, use of international educational standards, etc.

Note that *innovations in economic and industrial development, dependent on market requirements*, are the most painful, debatable and unacceptable for a significant number of educators and scientists. The intrusion of market mechanisms into the academic sphere contradicts in many respects the notion of “pure science and education”, which are independent of financial interventions and financial pressure. However, it is also clear that in the context of total commercialization of all spheres of human life, global financial crises and the constant reduction of funding for science and education (and especially higher education), the question of “to be or not to be” really faces a significant number of HEIs and research institutions, and also a large number of educators and scientists in all countries of the world. In those countries where education and science are actually supported, the necessary conditions have already been created for their civilized alternative financial support.

Innovations of technological type are innovations in the system of education and pedagogical activities caused by the development of science and technology, search and acquisition of new knowledge, dissemination (transfer) and introduction of new knowledge and new technologies, application of innovative information technologies, computer equipment, remote forms of training, web design, use of information and communication networks, Internet and Intranet, information and innovation management, as well as innovation marketing (*innovations of scientific and technological progress*).



■ Fig. 3. Innovations of organizational type in the higher education system

Innovations of organizational type (Fig. 3) are:

- Planned, systematic, periodic, urgent, sudden, spontaneous, random innovations (innovations in the way they are implemented).
- Innovations local, mass, global, etc. (innovations in the scope of innovative solutions and activities).
- Innovations that correct, modify, improve, modernize, radical, revolutionary, etc. (innovations according to the degree of predicted changes).

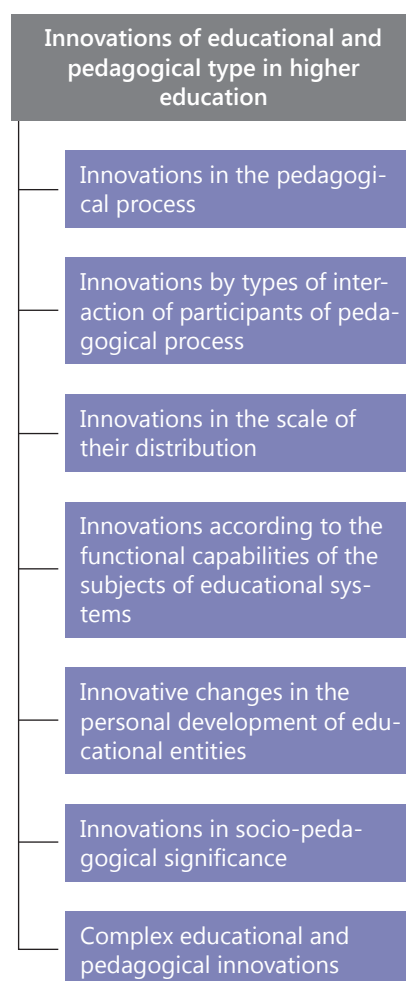
Innovations of educational and pedagogical type (Fig. 4) are:

- Innovations in the educational process, training course, in the field of education, at the level of the education system, in the management of the educational process (education), etc. (*innovations in the pedagogical process*).
- Innovations in collective and group education, in individual types of education (under the guidance of a teacher), tutoring, alternative, family education, etc. (*innovations by types of interaction of participants in the pedagogical process*).
- Innovations in the development of certain abilities of students, teachers, educators, namely: development and improvement of their knowledge, skills, abilities, competencies, etc. (*innovative changes in the personal development of educational entities*).

- Innovations-conditions that ensure the renewal of the educational environment, socio-cultural conditions, etc.; innovations-educational products (pedagogical tools, projects, technologies, etc.); managerial innovations – new solutions in the structure of educational systems and management procedures that ensure their functioning (*innovations in the functionality of the subjects of educational systems*).
- Innovations in the activities of one teacher, methodological association of teachers, at school, in a group of schools, in the region, at the state level, at the international level, etc.

el, at the international level, etc. Innovations in the activity of one HEI teacher, faculty, all HEI, all HEI of the region, state, at the level of the system of international higher education (*innovations on the scale of their distribution*).

- Innovations that combine different types of pedagogical innovations in the education system and are innovations in educational institutions of a certain type, for specific professional and typological groups of teachers (*innovations in socio-pedagogical significance*).
- Innovations that combine different types of pedagogical innovations in the education system (*comprehensive educational and pedagogical innovations*).



■ Fig. 4. Innovations of educational and pedagogical type in the system of higher education

Innovations of structural and pedagogical type are innovations in the formation of goals, objectives and content of education (teaching and education), in forms, methods, techniques, in learning technologies, in teaching aids, in the diagnostic system, in control, in evaluation of results, etc. (*innovations in the structural elements of educational systems*).

Innovative information technologies, information and innovation management, as well as innovative marketing are widely used in the management of innovation in education and uniting in the group of means and tools for innovation management in education (Fig. 5). They can take place in almost all types of the above pedagogical innovations in the education system, which can lead to innovative changes to achieve new quantitative and qualitative parameters of education.

Information technologies in education use computer technology, Internet and Intranet, remote methods of organization and management of educational activities, are used to develop a variety of information retrieval systems and information, advertising and marketing materials (using web design).

Information management in education, based on the use of information technology, is a subsystem of decision-

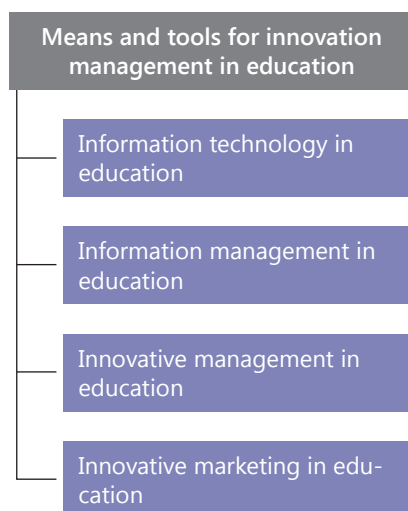


Fig. 5. Means and tools for innovation management in education

making and aims to manage the processes of creation, processing and distribution of information in the field of education. One of the main functions of information management in the field of education is to develop an organizational structure that would provide timely and objective information in the right place, at the right time and in a convenient way to make effective decisions. The introduction of information management in education is dictated by the following circumstances: scientific and technical development of society, integration and effective use of funds for development, application and effective use of information technology (set of information resources, tools, methods and technologies that contribute to the effective management of educational activities), including – development and implementation of management decisions in the field of education; the need to integrate all the data that determine the efficiency and effectiveness of the education system as a whole and each of the educational entities (its components).

Innovative management in education is a system of strategic management of innovation processes in order to study the main directions of educational, scientific, technical and industrial activities and justify a set of

measures for the implementation of innovation strategy. Its tasks are:

- development of plans and programs of innovative activities in the field of education;
- development and implementation of a unified innovation policy in the field of education;
- training of scientific and pedagogical specialists and providing all areas of educational activities;
- providing educational activities with the necessary resources (material, labor, financial, information);
- planning and selection of the best projects of educational innovations (innovations) and control over its development;
- creation of special groups of management and control over innovation activities in the field of education at all stages.

Innovative marketing in education ensures the effectiveness of the educational system and educational institutions in the market of innovations in education, aimed at forming or identifying demand for educational services in order to best meet market demands and needs of society. Innovative marketing is based on the use of new ideas for educational services and technologies that best contribute to achieving the goals of the education system and individual educational institutions.

Innovative marketing in education is a function of innovation management in education. It begins with the search for new ideas for educational services and technologies that can best meet existing and potential demand with their subsequent materialization and commercialization, and ends with the stage of saturating the life cycle of innovation. Carrying out of marketing researches is necessary for the purpose: studying of a conjuncture of the market of educational services; identification of inquiries, tastes and preferences of consumers of educational services; forecasting the dynamics of demand for educational innovations; developing a marketing strategy for innovation in education, etc.

The purpose of innovative marketing in the field of education is to achieve the final practical result of innovation. It:

- focused on gaining a certain market share of educational innovations in accordance with the long-term goal for which the innovative project was developed;
- integrates research, production and marketing activities into the educational management system;
- focuses on the long-term perspective, which requires marketing research, obtaining on their basis innovations that ensure highly efficient economic activity in the field of education;
- adapts to the requirements of potential consumers of innovation in education with a simultaneous targeted impact on their interests.

Consider in more detail the content of innovations of the types discussed above, as well as some possible areas of practical innovation in education.

Innovations of scientific and technological progress. These may include:

- Use of information technologies in the process of innovation management of the education system (including HEI as a subject of the higher education system): information and innovation management, as well as innovation marketing.
- Organization of distance learning – implementation of distance courses (disciplines, subjects from the curriculum), automated control of students' knowledge (testing), teleconferences and Internet conferences and seminars based on on-line information technologies, software platforms such as Blackboard, etc., use of local intranet communication systems, etc.
- Use of information technology in the educational process: learning web design and the use of IT technology in professional activities. Including: e-business (E-business), automation of research and design, automation of decision-making and production processes, information technology in business, management, marketing, etc.

Organization of distance learning courses according to the scheme: invi-

tation of foreign specialists – teachers of foreign HEI for teaching (reading) introductory (instructional) lectures → distance learning of the discipline (course) → remote 3–4 intermediate tests in the presence of a dean's representative → conducting the final exam according to the course (subject) – remotely, in the presence of the dean (deputy dean) → remote assessment → enrollment (entry) of the assessment in the electronic record book (transcript) of the student.

- The use of the latest methods and technologies in the implementation of universities and other HEI and research institutes of basic and applied research; search, comprehension and dissemination of new knowledge; design and construction of new equipment; development and transfer of new advanced technologies; implementation of R&D results for local (local), regional and national socio-economic innovation development.
- Creation and launch of new spin-off and startup companies by research business universities.

Innovations in the structural elements of educational systems. The main purpose of such innovations is the training (education and upbringing) of a modern specialist of international level, who:

- fluent in the national, state (Ukrainian) language, foreign languages – English and second (European or Eastern), Russian;
- has the necessary professional knowledge and skills;
- is able to use a computer, information technology and software;
- is able to work in a team;
- has high moral and ethical principles and humanistic beliefs;
- focused on a healthy lifestyle and environmental behavior;
- patriotic and ready for integration into the international community.

The following new progressive tendencies in forms, methods, receptions and technologies of training are important for improvement and increase of efficiency of preparation of experts:

- Organization of included training – study abroad: study of courses (dis-

ciplines) according to the curricula of American HEI in foreign HEI, theoretical and practical (industrial) practice in foreign (abroad) and joint (with foreign and Ukrainian capital) companies, firms, corporations, financial institutions, enterprises.

- Organization of international theoretical and practical seminars for students, scientists, teachers and staff on business management, the role of leadership in socio-political life and economic activity of the world with the invitation of foreign experts.
- Invitation of specialists from foreign countries to read individual lectures, lecture series and teach courses (disciplines) in the curriculum in English (German).

Also very important for the integration of scientific and pedagogical and logistical potential and the introduction of innovations in education, science and technology, development of new technologies and new knowledge is the practice of combining different types of HEI in training, research and production complexes and technology parks.

Innovations in the pedagogical process. Such innovations include:

- Introduction of a system of credit-module training, intermediate (3–4 times during the semester) testing for each course (discipline) with the issuance of an integrated assessment for the entire passed (mastered) course (discipline).
- Maintaining an electronic transcript (transcript) of each student, abandonment of the practice of "rearranging" unsatisfactory grades (scores) from exams (exams, tests, tests) with the right to re-listen to the course (discipline).
- Organization of the educational process on the principles of interdisciplinarity and multidisciplinary. This allows HEI students to plan their workload and time in such a way as to gain more useful knowledge, to choose at will those additional courses (disciplines) in which there is a need, to receive (if necessary) a related (second) profession (specialization).

Innovations by types of interaction of participants of pedagogical process. The use of the latest information technologies, Internet and Intranet networks, distance learning systems in HEI lead to the reformatting of the division of students from academic study groups, courses (in their usual sense) into virtual temporary units (individual choice of students). Depending on the students' choice, they can study remotely or individually (individually) or in a group (collectively). You can study remotely both at HEI and at home.

Innovative changes in the personal development of educational entities. This type of innovation includes:

- new forms and methods of testing the knowledge, skills and abilities of pupils, students, teachers;
- continuous improvement of knowledge of HEI graduates, employees and teachers through continuous training and professional development throughout life;
- organization of systematic exchange of students and teachers between domestic and foreign HEI, as well as – exchange of HEI experience of different countries;
- invitations for teaching activities – lectures, seminars and workshops of famous scientists, specialists in various fields of economics, successful entrepreneurs;
- organization of theoretical and practical training of students in real conditions of economics, research and economic activity.

Innovations in the functionality of educational systems.

Innovations-conditions that ensure the renewal of the educational environment, socio-cultural conditions, innovations-educational products and management innovations may include:

- Organization of the educational process according to the curricula of leading HEI economically developed countries. From business – entrepreneurship, marketing and management (including management in the field of international business) – primarily in the American programs BBA and MBA, as well as curricula and

HEI programs of other countries (UK, Germany, France, Spain, Scandinavia countries, Benelux countries, etc.).

- Combining Ukrainian standard curricula with the curricula of leading foreign HEIs in order to integrate the best achievements of domestic and foreign higher education systems in a specific field of knowledge, science and technology.
- Democratization of the educational process, providing students with greater opportunities for free choice of disciplines from the curriculum, expanding the list of disciplines of free choice of students and HEI in the curriculum.
- Involvement of student assets of HEI and the public in the process of improving the educational process and statutory activities of the institution.

Innovations in the scale of their distribution. It is desirable to innovate in the activities of each individual teacher of a particular educational institution, and all educational institutions: in the region, at the state level, at the international level (innovations and innovations in the activities of each HEI teacher, faculty, all HEI, all HEI region, state, at the level of the international higher education system).

Innovations in socio-pedagogical significance. Important at the present stage of globalization of the world economy and social globalization processes is the creation of innovative international temporary teams of teachers. This primarily applies to Ukrainian HEIs. Invitation of well-known specialists in various fields of knowledge, science and technology will improve the quality of the educational process, encourage students to learn English (international language of business, science and technology) and other foreign languages, allow them to communicate freely with colleagues from abroad, read foreign literature in the original, independently study the world's scientific and technological achievements.

The complex or *comprehensive educational and pedagogical innovations* that combine different types of peda-

gogical innovations in the education system include:

- creation of innovative educational institutions: virtual HEI; open HEI; international (joint) institutions, including – institutions of international education;
- creation of international education programs – based on a combination of foreign and domestic curricula and programs with teaching disciplines in both native, national language and foreign (English or other) language;
- creation of innovative educational programs based on interdisciplinary and multidisciplinary curricula, new information technologies, distance and open learning, individualization and intensification of learning.

Innovations in the way they are implemented. It is advisable to carry out planned, systematic and periodic educational innovations, namely:

- Introduce new technologies, develop new and improve basic educational technologies, organize the educational process and research activities in HEI.
- Develop new forms, methods and content of education, respond flexibly to the demands of social development, the market of educational services, the requirements of economics and production.

Innovations in terms of innovative solutions and activities. Innovations should take place both in individual departments of educational institutions and in educational institutions as a whole. Innovations in public, municipal and private HEIs contribute to the spread of innovations throughout the education system.

As for *innovations according to the degree of forecasted changes*, all types of innovations that lead to the further development of science and technology, the formation of a modern specialist of international level are necessary.

Innovations of economic and industrial development, depending on market requirements, create new opportunities, forms and sources for further development and support of the education sys-

tem, its structural components, opening of new specialties, professions in educational institutions, promote compliance of education, research and education. cultural services to the market needs of society. These include:

- Participation of private capital in the creation and financing of educational institutions of various levels, educational and research programs, lending to students and researchers.
- Creation of new (own) educational institutions for corporations, companies, productions and enterprises in vocational training, advanced training, provision of related professions.
- Creation of the latest training, research and production complexes (with the participation of various types of HEI, research institutions and industrial enterprises), technology parks, etc.
- Development of academic (university) entrepreneurship: interest and stimulation of teachers and scientists to carry out research, discoveries and inventions, disclosure of information on the results of R&D, their patenting and licensing for further practical implementation.
- Commercialization of educational results: contractual forms of providing educational, consulting, expert and other professional services.
- Commercialization of the results of scientific and scientific-technical activity of HEI through: patenting and licensing of discoveries, inventions, other important results of R&D; technology transfer; formation and launch together with industrial enterprises (business structures) of new companies (spin-off, spin-out, start-up), etc.

It is also worth emphasizing that these innovations can be of the following types:

- Radical (basic) innovations – revolutionary changes in the development of technology and society, the formation of new industries.
- Increasing, modifying (improving) innovations – improving the properties of existing equipment, technologies and services.

From the above we can conclude that innovation in higher education is a process of creating, implementing and disseminating in the practice of higher education new ideas, tools, scientific, pedagogical, organizational and managerial and economic methods and technologies, which increase the achievement of structural components of the higher education system and its transition to a qualitatively higher level. This activity is aimed at building a knowledge society with an innovation-oriented type of economy and is related to:

- formation and accumulation of new knowledge;
- use and commercialization of research and development results;
- transformation of scientific research and development, other scientific and technological achievements into new or improved products, technologies, services introduced to the market, into new or improved technological processes used in practice, or new approaches to social services;
- formation of intellectual and formation of human capital;
- the use of new tools, methods and technologies to accelerate the economic growth of society.

In view of this, innovative activities in the field of higher education, science, educational, scientific, educational and cultural services have a socio-economic essence, combines a set of organizational, economic and social actions aimed at creating a knowledge society with innovation-oriented type of economy. Such innovative activity is associated with the formation, capitalization and commercialization of intellectual products – knowledge, technology, educational and scientific services, etc. and is one that should develop faster, contributing to real reform and renewal of education in accordance with new requirements and demands of society and time. One of its most important components is the innovative activity of entrepreneurial universities, which is essentially “academic” or university entrepreneurship, characteristic of the new capitalist environment – “academic capitalism”.

Since the adoption by the US government of the Bay-Dole Act (the Law on Patents and Amendments to the Trademark Act) on December 12, 1980, the era of rapid economic growth in the country began, which became a prerequisite for the phenomenon of “academic capitalism”. According to S. Slaughter and L. Leslie [2], the essence of “academic capitalism” is the transformation of scientific and teaching activities into a kind of entrepreneurship: the implementation of research projects is directly dependent on the receipt of cash subsidies from individual corporations. Within the framework of “academic capitalism”, the activities of research institutes and centers within the university structure are aimed at increasing the potential for public application of knowledge. The authors give the following interpretation of academic capitalism: “To conserve or increase resources, researchers and faculty had to increasingly compete for foreign dollars, which proved to be related to market-oriented research related to various applied, commercial, strategic and targeted research. And whether the money comes in the form of research grants and contracts, partnerships with industry and government, technology transfer, or in the form of attracting more students who can offer higher tuition fees. We call academic capitalism the market or market-like activity of a scientific and educational organization, as well as its employees to attract external funds” [2]. Note that the term “academic capitalism” was first introduced in 1990 by E. Hackett [3] to denote important structural changes in science.

“Academic capitalism” sets new directions for the development of modern higher education and manifests itself on three levels: institutional, departmental, individual. Academic capitalism at the institutional level is realized against the background of changes in the funding of higher education institutions, the reduction of public funding and the need to find sources of additional funds. The study of academic capitalism at the departmental level is of interest because it

is here that various activities are carried out, employees adapt to new values. At the individual level, within the framework of academic capitalism, there is a revision of the distribution of time between the main activities of the teaching staff: teaching, research, services [4].

S. Slaughter, G. Rhoades [5] note that as colleges and universities become more entrepreneurial in the post-industrial economy, they focus on knowledge less as a public good than as a commodity to be used for profit-making activities. The authors emphasize the more aggressive involvement of US free trade in the new knowledge-based economy, and note the significant efforts of colleges and universities to develop, market and sell research products, analyze the competition of services and consumers of goods in the private market.

Following the changes in the policy and practice of educational and scientific activities, revealing new social networks and schemes of knowledge creation and dissemination, as well as new organizational structures and expanded management potential for communication between free economic zones and markets, the authors express concern about the development of nonprofit basic science. Depicting the higher academic capitalist regime of knowledge formation and marketing (i.e., teaching), which is expressed in the work of teachers, the activities of departments and administrative behavior, they note the attraction of business interests and commercialization of knowledge over the so-called pure science. At the same time, they reveal internal contradictions in the regime of free economic activity, noting the new state of state subsidies, which become embedded in new revenue streams, as well as shifting the emphasis from educational and research services to student clients to attract resources from them. The authors understand the trajectory of American higher education from non-profit educational and research-oriented to commercially-oriented to generate profits from the widespread distribution of new goods

HEIs – the results of educational and scientific activities with a bias towards applied research commissioned by external corporations.

In the last decades of the twentieth century, the leading role of higher education was the development of theoretical and applied aspects of economics. As the penetration of market relations and entrepreneurship in purely academic activities, as well as in other intangible (humanitarian) spheres of human activity has become inevitable and in fact already happened, there is an urgent need to improve scientific knowledge and provisions of economics and search for new areas of economic research in the field of intangible production. Thus appeared such new areas of economics as: knowledge economy; socially-oriented economy; economics of social activity; economics of education; business economics; economics of innovation; higher education innovation, etc.

It is advisable to note that the theoretical foundations of the emergence of university entrepreneurship and the transformation of ordinary universities and colleges into entrepreneurial HEIs, special features and conditions for successful transformation and existence of university entrepreneurship in different countries are also discussed in research books and articles [6–11].

Next, let's focus on those aspects of academic capitalism that relate to CONS.

It is important to emphasize that many scientific publications have recently appeared criticizing academic capitalism and the over-entrepreneurial activities of HEIs in the direction of profiting from the development and commercialization of applied research instead of pure scientific activity and basic fundamental research [12–14]. For example, R. Münch [12] notes that academic capitalism is a unique hybrid that combines the scientific search for truth and economic maximization of profits. It turns universities into enterprises that compete for capital accumulation, and enterprises into producers of knowledge who are looking for new discoveries that can be turned

into patents and profitable goods. Academic capitalism is at the intersection of research, maximizing economic profits and innovation policy. It exacerbates the institutional conflicts of interest associated with corporate funding for academic research. The logic of the accumulation of academic capital is well reflected in the essence of the business university. The consequences of accumulating academic capital for science are increased inequality, excessive investment at the top, in top free economic zones, and underinvestment among ordinary free economic zones, and the organizational consequences of accumulating academic capital are increased quality assurance for a variety of applied research and creativity.

Under academic capitalism, forms of management and control were transferred to the University of Entrepreneurship from capitalist enterprises. The university's leadership gained decision-making power, while the senate and faculty councils lost much of their influence, causing a heated conflict between the university's authorized leadership and the "disadvantaged staff." Management assumes the authority to position their university in the fight for ranking positions, always with a view to rising to a higher level university at the next stage of their own careers. These are so-called "general administrative universities", especially typical of middle-class academic universities. University management must be able to take strategic action: their targeted arrangements and the allocation of performance-related resources are used mainly to compete other universities. Accreditation of training courses and strengthening of teaching quality management measures, for example, through regular evaluation of training courses and seminars by students, emphasize the new understanding of students that they are "clients" of HEIs and are in the academic business sector. Enhanced market autonomy of the University of Entrepreneurship implies a decrease in academic freedom and increased control by the university management.

The University of Entrepreneurship is a capitalist enterprise that applies

comprehensive management control to penetrate all operational processes and focus on the strategic goal of maximizing profits. Today, control in business freelancers works primarily through the tool of marketing business processes, which have become research, student education, other educational and research and related services that were previously the prerogative of ordinary academic universities. This marketing of operational processes is complemented by a comprehensive control system that determines the profitability of even the smallest technological units of educational activities using indicators at any time and shows what to do in what place (at the department, in the research laboratory, at the interdepartmental level) to increase overall profitability. The workforce in the business free enterprise consists of employees-entrepreneurs who work under the general guidance of the founders and appointed by them entrepreneurship-oriented rector, his deputies, councils, etc. As the marketing activity of entrepreneurial free trade is aimed at purely market achievements – additional financial income, profit, image, competitiveness in the markets of applied research orders and potential entrants, basic science is now left without the necessary attention, which inhibits the development of science, technology and education.

Conclusion

Academic capitalism encompassed all spheres of scientific, research, educational activity, as well as other spheres of social and economic activity of modern society. Obviously, it is important to strengthen the positive impact of academic capitalism – PROS and at the same time reduce its negative impact – CONS. And, if the rapid development of academic or university entrepreneurship already provides tangible benefits for the economic growth of countries, regions and the entrepreneurial universities themselves, then the slowdown and reduction in basic fundamental scientific re-

search requires immediate active and constructive intervention of responsible government bodies and institutions. The future of both fundamental science and basic knowledge of mankind, as well as the intellectual and scientific and technical capital of society, depends on purposeful government actions. And this, in turn, is the necessary basis and foundation for the further development of all countries.

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Романовський О. О., Романовська Ю. Ю.

"Академічний капіталізм": плюси та мінуси в розвитку науки й вищої освіти

Середовище академічного капіталізму, яке охопило майже всю сферу науки та вищої освіти, здійснює на них як позитивний (ПРОС), так і негативний (КОНС) вплив. Академічний капіталізм різко прискорив комерціалізацію результатів прикладних досліджень і розробок університетів та науково-дослідних інститутів і дозволив цим організаціям і установам значно капіталізувати свій інтелектуальний капітал. Це надало поштовху розвитку прогресивних інновацій та видатних винаходів. Наприклад, у системі вищої освіти спостерігається інтенсивний інноваційний розвиток, що, безумовно, можна віднести до позитивного впливу академічного капіталізму на розвиток матеріального, технічного, наукового та інженерного потенціалу університетів та коледжів.

З іншого боку, гонитва за прибутком та загальний пошук можливостей комерціалізації результатів НДДКР, переважно результатів прикладних наукових досліджень та експериментальних розробок, призводить до значного зменшення попиту та уваги до розвитку фундаментальної науки та пошуку базових наукових цінностей. Це призводить до уповільнення виробництва нових базових фундаментальних знань та уповільнення інтелектуального розвитку суспільства.

Також у багатьох наукових публікаціях, що з'явилися останнім часом, піддаються критиці наслідки впливу академічного капіталізму на сферу науки й вищої освіти. Надмірна підприємницька діяльність ВНЗ у напрямку отримання прибутку від розвитку та комерціалізації прикладних досліджень замість чисто наукової діяльності та основних фундаментальних досліджень призводить до втрати позицій університетів і коледжів як "храмів науки". Можливо, все ще існує невелика кількість академічних закладів вищої освіти та досліджень, що продовжують проводити фундаментальні наукові дослідження, які важко комерціалізувати, але які є справжніми "науковими знаннями", або, іншими словами, знаннями про людство.

У даній роботі аналізуються інноваційні зміни в системі вищої освіти, викликані середовищем академічного капіталізму. Також аналізується негативний вплив академічного капіталізму на сферу вищої освіти й науки.

Ключові слова: академічний капіталізм; підприємницький університет; інновації у вищій освіті; інноваційний розвиток сфери вищої освіти.

УДК 37.378

JEL classification A23, Q01, O12

Paul R. Thomas

Teaching Multi-Stakeholder Sustainable Innovation

Higher education has a crucial role to play in the global transition sustainable development. A shift from an educational paradigm that teaches linear and unsustainable innovation activity, to one that teaches circular and sustainable innovation activity, is a fundamental requirement if global sustainable development goals are to be met through future innovation. The educational model currently forming the foundation for most MBA programs remains primarily focused on teaching maximization of shareholder profit within a private, for-profit business context. A 'sustainable' business is usually defined as one that has successfully met purely financial goals for the benefit of shareholders, often ignoring other vital stakeholder interests, most importantly: natural, human and social capital. On the base of UACU we grounded that today models of business instruction must focus student innovation activity on the design and implementation of multi-stakeholder innovations. Innovations that meet a need or solve a problem within foundational sectors of civilization. Innovations that are adaptable and applicable to widely divergent sectors, from private for-profit business to social charities. Business education must be built upon a foundation of analytic skills, an ethical framework, and a commitment to promoting 'sustainable' innovations.

Keywords: education, sustainable development, MBA, innovations.

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Introduction

Higher education has a crucial role to play in the global transition from non-sustainable human activities to those based on sustainable models of organization and operation. A shift from an educational paradigm that teaches linear and unsustainable innovation activity, to one that teaches circular and sustainable innovation ac-

tivity, is a fundamental requirement if global sustainable development goals are to be met through future innovation.

The educational model currently forming the foundation for most MBA programs remains primarily focused on teaching maximization of shareholder profit within a private, for-profit

business context. A 'sustainable' business is usually defined as one that has successfully met purely financial goals for the benefit of shareholders, often ignoring other vital stakeholder interests, most importantly: natural, human and social capital.

At UACU, an innovative educational curriculum for Master of Business

Administration students has been developed that centers skill-based coursework around a three-semester Keystone Course, wherein students apply what they've learned in the various skill-specific courses to develop their own sustainable innovation activity. A student's innovation can be designed for implementation into whichever sector of human activity the student may choose to work within. It could be a start-up company operating as a sustainable for-profit business; or it could be a new government program designed to promote transition to micro-scale renewable energy; or a new social-sector program designed to improve access to affordable housing for low-income citizens; or an NGO-supported program to improve some aspect of public health or access to education; the opportunities for innovation are endless.

Theoretical Foundation

The theoretical foundation supporting how sustainable innovation is taught at UACU starts with the causal recognition that social change drives technological change, not the reverse. Technological change spurs iterative innovations to meet individual needs and solve societal problems. Some successful innovations disrupt existing markets, as well as disrupt existing societal relationships. The process continues as societal decisions, behaviors and demands continue to evolve and technology and innovation respond.

For example, a growing societal understanding of the environmental, economic and social costs of unchecked climate change created demand for carbon-neutral products and services. This in turn spurred technological change in power generation and transportation fuels. Numerous technological improvements in renewable energy power generation, electric vehicles, alternative transportation fuels, etc. have resulted from this societal change in behavior and demands.

Successful implementation of technological change through sustainable

innovations in products and services related to renewable energy and transportation fuels, have disrupted existing power and transportation markets: for example, sales of gasoline-powered vehicles have declined relative to electric battery-powered vehicles; and solar and wind power generation have increased relative to fossil fuel power generation.

A Model of Sustainable Innovation

Sustainable innovation is defined very broadly to include design and implementation within:

- Businesses, either for-profit or not-for-profit.
- Governments, all levels and functions.
- Non-governmental entities.
- Social sectors, both tangible and intangible subsectors.

The educational approach includes study of current innovations, both successful and unsuccessful, and understanding ongoing sustainability challenges, unmet consumer needs, and unresolved problems in foundational areas of civilization, including for example:

- Green energy.
- New materials.
- Mobility.
- Food.
- Buildings.

- The circular economy of reuse, repair, repurpose and recycle.

Particular attention is given to designing and implementing sustainable innovations that contribute to meeting global sustainability goals. A core principle is that to be sustainable, economic profit from successful innovation must be shared equitably amongst fundamental sustainability stakeholders. These include:

- Natural Capital: air, water, soil, above-ground and below-ground resources.
- Human Capital: all people directly or indirectly involved with or affected by innovation activity.
- Social Capital: both tangible assets such as transportation infrastructure, schools, etc. as well as intangible social systems (e.g. community organizations, government regulatory bodies or public opinion) directly or indirectly affected through interaction with an innovation activity.
- Produced Capital: all tangible and intangible assets that support, or are a product of, an innovation activity.
- Financial Capital: including all forms from cash to debt to equity to receivables, prepaid expenses, etc.

For an innovation to be sustainable, it must be designed and implemented in such a way as to create and maintain a positive feedback system that incorporates all of the five major stakeholders into a single, coherent,

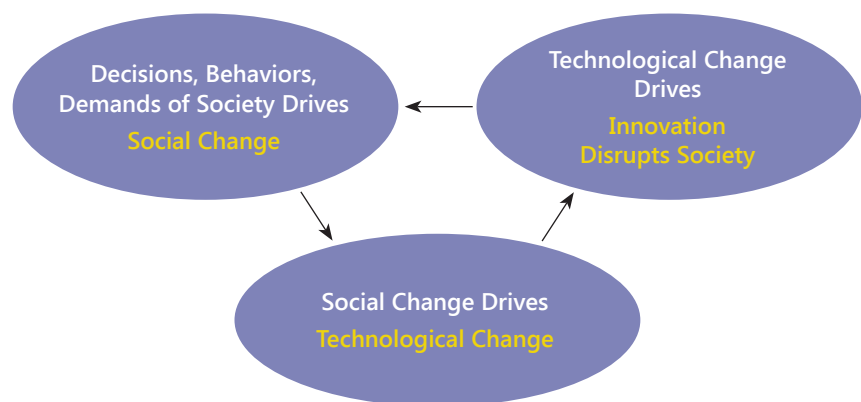


Fig. 1. Social change, technological change, innovation and market disruption

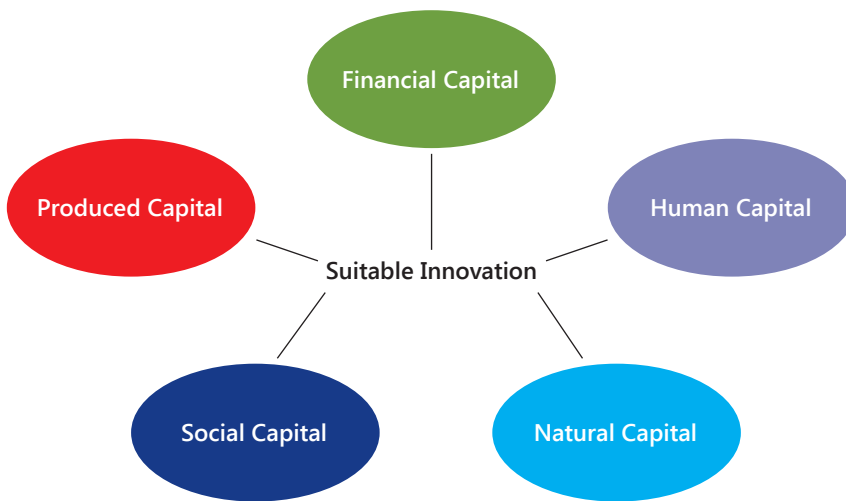


Fig. 2. Sustainable Innovation Within a Multi-Stakeholder Paradigm

self-reinforcing paradigm of contributions and remunerations.

Whereas current record-keeping systems (for example, financial statements,) measure production and consumption of financial capital (for example, sales, net profit, etc.) and also produced capital (physical products of all types), but with little to no measurement or recording of the consumption (or maintenance or enhancement of value) of natural, social or human capital. A holistic educational approach incorporates design and implementation planning for sustainable innovation activities that includes a full accounting of contributions and costs attributed to all stakeholders.

Educational Model

The educational model for sustainable innovation is systematic, based on four analytic stages of identification and design of sustainable innovation activities, development of optimal implementation plans, and identification and compensation of all contributions and claims of multi-stakeholders.

A sustainable innovation is one that meets an identifiable human need or solves an individual or societal problem, while meeting all legal, technical and financial requirements.

Scholars of innovation recognize that a consumer does not need a drill, rather the consumer 'needs a hole' and goes to the market to find the optimal solution that will best meet the need or solve the problem – this is referred to as the 'job to be done'; see for example (Christiansen, 2016).

Skill-specific coursework focusses on technics for in-depth analyses of

the positive and negatives effects of the innovation on the most important, but often overlooked, components of multi-stakeholder innovation: human, social and natural capital. Work in these areas draws upon a wide variety of case studies of successful and failed innovations, and ongoing developments within the foundational sectors of the economy as listed above.

Conclusion

Today's business students are tomorrow's innovators. Business school programs, particularly MBA programs, need to teach sustainable innovation within a paradigm that rejects the outdated, myopic focus on maximizing shareholder profit. Sustainable innovations, and the meeting of global sustainable development goals, requires new educational models.

Models of business instruction must focus student innovation activity on the design and implementation of multi-stakeholder innovations. Innovations that meet a need or solve a problem within foundational sectors of civilization. Innovations that are adaptable

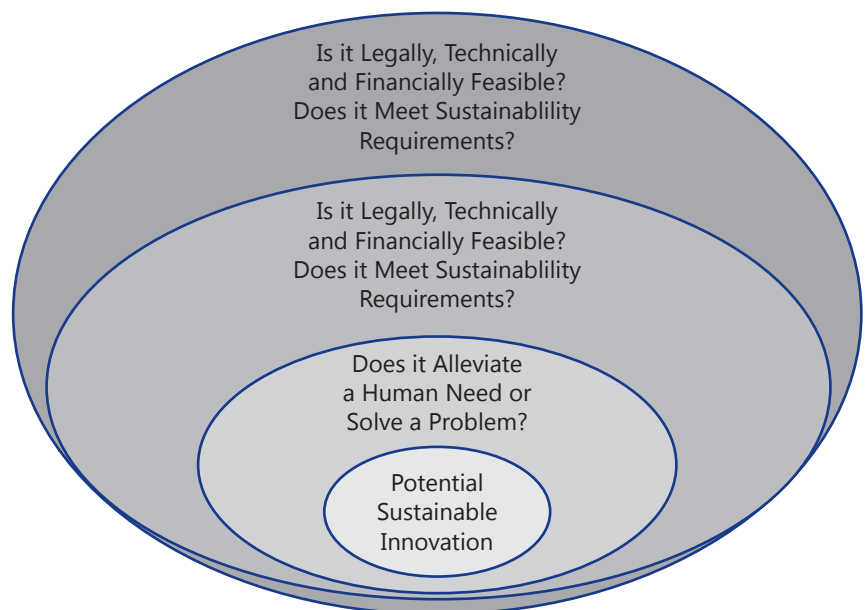


Fig. 3. Sustainable Innovation, Analytic Approach

and applicable to widely divergent sectors, from private for-profit business to social charities. Business education must be built upon a foundation of analytic skills, an ethical framework, and a commitment to promoting 'sustainable' innovations.

Пол Р. Томас

Навчання стійких інновацій з багатьма зацікавленими сторонами

Вища освіта відіграє вирішальну роль у переході до сталого розвитку. Перехід від освітньої парадигми, яка навчає лінійної та нестійкої інноваційної діяльності, до тієї, яка навчає циркулярної та стійкої інноваційної діяльності, наразі є фундаментальною вимогою для досягнення цілей глобального сталого розвитку через майбутні інновації. Освітня модель, яка в даний час формує основу для більшості програм MBA, залишається переважно сфокусованою на навчанні максимізації прибутку акціонерів у приватному комерційному бізнес-контексті. Зазвичай "сталий" бізнес визначають як такий, який успішно досяг суто фінансових цілей на користь акціонерів, часто ігноруючи інші життєво важливі інтереси зацікавлених сторін, зокрема, природний, людський та соціальний капітал. На прикладі УАУК ми продемонстрували, що сьогодні моделі бізнес-навчання повинні зосереджувати студентську інноваційну діяльність на розробці та впровадженні багатосторонніх інновацій. Інноваціях, які відповідають потребі або вирішують проблему в основних секторах цивілізації. Інноваціях, які можна адаптувати та застосувати до різних галузей, від приватного комерційного бізнесу до соціальних благодійних організацій. Бізнес-освіта повинна будуватися на основі аналітичних навичок, етичних рамок та прихильності просуванню „стійких” інновацій.

Ключові слова: освіта, сталий розвиток, MBA, інновації.

УДК 65.014.1

JEL classification D02

Olga O. Verkhohlyad

National Human Capital or National Institutions: Multilevel Theory Perspective

This article contributes management insight into the economic debate on the primacy of national human capital or national institutions in national economic development. The article utilized TIMSS Assessment results and the World Competitiveness Reports data for its statistical analysis via the use of multiple regressions. According to the statistical analysis, national human capital has significantly less effect on national economic development than the national institutional measures. The article employed the Multilevel theory of organizations to explain this phenomenon and extrapolated it to the level of a country. The Multilevel model of human capital creation explains how the collective organizational human capital resource is created out of individual-level organizational members' knowledge, skills and abilities thanks to the presence of enabling factors. The article shows that national institutions are such enabling factors on country level. Utilization of the human capital resource of a country's citizens is mediated by the factor of national institutions. With the absence of high quality institutions individual human capital of a country's citizens does not agglomerate into the national human capital resource. Unless open and transparent well-developed national institutions exist, the country will not have good economic development even though the human capital level of its citizens is adequate. Investing money in education without building a system of strong national institutions will not bring the desired results.

Keywords: multilevel theory of organization, national human capital, national institutions, national economic development.

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Introduction

The importance of human capital toward individual and national economic welfare has been convincingly demonstrated by multiple researchers throughout a number of years (Becker, 1964; Heckman et al., 2006). How-

ever, different aspects of this global issue still need to be dealt with. One of such aspects is the question of the primacy of national human capital or national institutions toward national economic development. There is dis-

cussion in academic literature on this issue, which has produced two different opinions. One group of researchers states that the most important determinant of economic growth is human capital of the country (Glaes-

er et al., 2004; Hanushek & Woessmann, 2010; Hanushek & Woessmann, 2016). This group of authors stresses that better human capital leads to the development of good institutions and higher levels of economic growth. They propose that economic "growth rates can be considered as a function of workers' skills along with other systematic factors... This formulation suggests that nations or states with more human capital tend to continue to make greater productivity gains than nations or states with less human capital" (Hanushek et al., 2017, p. 450). This group of authors suggests that "developing countries have room for improving their economic performance by moving toward better institutions. Once they have corrected the imperfect economic institutions, they must return on relying on knowledge capital for any further improvements in growth" (Hanushek & Woessmann, 2016, p.15). Another group of researchers argues that differences in economic institutions is the major source of cross-country differences in economic development and prosperity (Acemoglu et al., 2004; Glaeser et al., 2004; Acemoglu & Robinson, 2012; Acemoglu et al., 2014; Constantine, 2017), and that "correcting imperfect economic institutions" is often impossible. These authors state that "economic institutions are social decisions chosen for their consequences." (Acemoglu et al., 2004, p.2). Consequently, it is impossible to simply correct the institutions in such countries. National human capital does lead to economic growth but only in the environment of effective economic institutions.

This article studies the raised issue by utilizing international statistical data on human capital, national institutions and GDP. Following Introduction, the second section of the paper evaluates statistical data in search of measured relationships between GDP, human capital and institutions. The third section of the paper provides insights for these discoveries from Management perspective while the fourth section provides conclusions and suggestions.

Statistical Analysis

This Section establishes statistical relationships between national economic development, national human capital and national institutions. It provides grounds for the choice of proxies for these factors.

Data

To establish relationship between national GDP, national human capital and national institutions, the first step is to establish measures of these factors. How can human capital be proxied? Historically, most of research on human capital utilized the measure of years of schooling as the only measure of human capital. During the past decade, however, it has been suggested that other proxies needed to be used together with or instead of the school attainment measure as the school attainment measure has low explanatory power (Flossmann, et al., 2007; Lundberg, 2017). A number of authors (Hanushek & Woessmann, 2008; Hanushek et al., 2017) developed a human capital measure which is a measure of variation in cognitive skills of workers, suggesting that measure to be a better measure of human capital than the school attainment factor. Following the educational production function literature, variation in cognitive skills (i.e. "knowledge capital") can be used as a direct measure of human capital input into empirical analysis of economic growth (Hanushek et al., 2017). Such a measure is a composite measure of cognitive skills developed by different sources (school, family and individual talent and ability) (Hanushek & Woessmann, 2012). The real importance for economic welfare on the individual or national levels is not simply in the number of school years that workers bring to the labor market, but their cognitive skills produced during those years (Heckman et al., 2006; Anger & Heineck, 2010; Hanushek & Woessmann, 2012; Hanushek, 2017). Consequently, a cognitive skills measure is a good index of

skill differences of workers and a good measure of human capital.

The difficulty is that a direct measure of cognitive skills in the labor force does not exist. At the same time, the measure of skills in the student body adjusted for the time when they entered the workforce can be a good proxy of this factor (Hanushek et al., 2017). Consequently, the proxy of cognitive skills measure is the measure of educational achievement across countries, which is collected via international achievement tests.

In the analysis of this article, the TIMSS Assessment statistics was utilized to measure the human capital factor and the Global Competitiveness Report statistics provided data on the institutional factor. TIMSS (The Trends in International Mathematics and Science Study) is the assessment of 4th and 8th grade student achievement in Math and Science conducted by the International Association for the Evaluation of Educational Achievement every four years in more than 60 countries since 1995 (Mullis et al., 2008; Martin et al., 2008; IEA, 2019; NCES, 2019 a; NCES 2019 b). The Global Competitiveness Report is a yearly report published by the World Economic Forum for a number of years (WEF, 2019). The Report ranks about 140 countries based on macroeconomic and business aspects, including such pillars of competitiveness as institutions, infrastructure and macroeconomic framework.

In the analysis in this paper, data for 42 countries was used. The article utilized TIMSS Assessment results for the Math and Science international test scores for the 8th grade students for 2007 (Mullis et al., 2008; Martin et al., 2008; IEA, 2019; NCES, 2019 a; NCES 2019 b). Students who were in the 8th grade in 2007, graduated from the grade school in 2011 (assuming the 12-grades system), and graduated from a four-year college in 2015. This means that in 2016 such students were fully involved in the labor force. For countries which have a grade school system shorter than the 12-grades, such students fully joined the labor force even earlier. Those students, who

did not attend college, also joined the labor force earlier and by 2016 were fully involved into the labor force. This means that the human capital proxy of Math and Science test scores of the 8th grade students measured in 2007 can be used together with the respected countries macroeconomic and institutional data of 2016. The data on institutions came from the World Competitiveness Report 2017–2018 (WEF, 2017), which presents the actual data for 2016.

A number of authors (Acemoglu et al., 2014; Hanushek & Woessmann, 2016) suggested that among diverse institutions factors, the factor of Security of Property Rights strongly affected economic development, as it provided secure property rights for a broad cross-section of society. That was why two such measures (Security of Property Rights and Intellectual Property Rights Protection) were chosen for the analysis on behalf of the Institutions factors. The researchers also stated that political institutions which placed checks on those who held po-

litical power were useful for the emergence of good economic institutions. That was why two more institutions measures of Judicial independence and Irregular Payments and Bribes were also utilized.

Consequently, the following variables were used in the analysis: GDP per capita, Security of Property Rights, Intellectual Property Rights Protection, Judicial Independence, Irregular Payments and Bribes, Math test scores, Science test scores. All variables in the analysis were standardized.

Data analysis

As the first step, simple regression analyses with GDP p/c as the dependent variable and individual human capital and institutional measures as independent variables (Math test scores, Science test scores, Security of Property Rights, Intellectual Property Rights Protection, Judicial independence and Bribes) were conducted. Because of the total number of observations utilized equaled to 42 the use

of independent variables in a multiple regression was chosen to be four maximum.

According to the results reported in Table 1, all independent variables are individually significant and affect GDP, although human capital variables are less statistically significant and influence GDP to less degree than the institutional factors. The fit of the models with the human capital variables is much smaller than the fit of the model with institutional factors. Amount of variation in GDP as explained by the model with the human capital variables is only 8.2% and 7.4% respectively, while the institutional variables explain the variation at the level of almost 70%. One standard deviation change in the human capital variables leads to change in GDP for only at the level of 0.3 SD, while this number rises to 0.7–0.8 SD when the institutional variables are utilized.

Further analyses show that human capital factor is not always significant, while most of institutions factors are always significant.

Table 1. Simple Regressions Results for Six Equations with Gdp P/C As the Dependent Variable and Human Capital and Institutional Variables as the Individual Independent Variables of Simple Regressions

	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6
	Math (human capital variable)	Science (human capital variable)	Property (institutional variable)	Judicial (institutional variable)	Intellectual (institutional variable)	Bribes (institutional variable)
F-stat	4.67*	4.25*	57.47***	59.66***	86.7***	82.75***
Adj R²	0.082	0.074	0.579	0.589	0.676	0.666
Bstd	0.322	0.306	0.768	0.774	0.827	-0.821
t-test	2.16*	2.06*	7.58***	7.72***	9.31***	-9.10***
N	42	42	42	42	42	42

Note.

Math = Math test scores

Science = Science test scores

Property = security of property rights

Judicial = judicial independence

Intellectual = intellectual property rights protection

Bribes = irregular payments and bribes

F-Stat = the fit of the model

Adj R² = amount of variation in dependent variable explained by variation in independent variable

Bstd = standardized coefficient

t-test = test statistic

* = Significant at 0.05 level

** = Significant at 0.01 level

*** = Significant at 0.001 level

N = number of observations

The second step of the analysis was conducting multiple regression analyses with individual human capital factors (either Math or Science test scores) and two institutional factors.

The following four Tables (Tables 2–5) report on the results of these analyses. According to the results reported in Tables 2–5, in multiple regression analyses with three independent variables, the human capital factors stop being significant, while institutional variables continue being significant.

Table 3 reports on the relationships between individual human capital variables and such institutional variables as Judicial Independence and Irregular Payments and Bribes. According

to the reported results, both institutional variables are statistically significant and have strong affect on GDP. One standard deviation increase on these variables leads to about 0.5 SD increase in national GDP p/c. At the same time, human capital variables are not significant.

Table 4 reports on the relationships which include such institutional variables as Intellectual Property Rights Protection and Judicial Independence. According to the results, the Intellectual Property Protection variable is significant at 0.01 level, affecting GDP at the level of b equal 0.524 and 0.536 respectively. The Judicial Independence variable is significant at 0.1 level, while

human capital variables are not significant.

Table 5 reports on the relationships which include such institutional variables as Security of Property Rights and Judicial Independence. Property Rights variable turns out to be not significant, while Judicial Independence variable is significant with b at the level of 0.480–0.510.

Table 6 reports on the analysis of the effect of individual human capital variables (Math and Science test scores separately) and three institutional variables: Security of Property Rights, Judicial Independence and Bribes variables on national GDP. Similarly to the results reported in the previous Tables,

Table 2. Multiple Regressions Results for Two Equations with Gdp P/C as the Dependent Variable and Selected Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Intellectual (institutional variable)	Bribes (institutional variable)
<i>Equation 1</i>				
t-test	not sig		2.74**	-2.46**
Bstd	not sig		0.465	-0.418
F-stat				33.95***
Adj R²				0.707
N				42
<i>Equation 2</i>				
t-test		not sig	2.75**	-2.45**
Bstd		not sig	0.465	-0.419
F-stat				33.95***
Adj R²				0.707
N				42
<i>Note.</i> Math = Math test scores Science = Science test scores Intellectual = intellectual Property Rights Protection Bribes = Irregular Payments and Bribes			F-Stat = the fit of the model Adj R ² = amount of variation in dependent variable explained by variation in independent variable Bstd = standardized coefficient t-test = test statistic * = Significant at 0.05 level ** = Significant at 0.01 level *** = Significant at 0.001 level N = number of observations	

Table 3. Multiple Regressions Results for Two Equations with Gdp P/C as the Dependent Variable and Selected Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Judicial (institutional variable)	Bribes (institutional variable)
<i>Equation 1</i>				
t-test	not sig		2.29 [*]	-2.94 ^{**}
Bstd	not sig		0.361	-0.493
F-stat				31.64 ^{***}
Adj R²				0.692
N				42
<i>Equation 2</i>				
t-test		not sig	2.25 [*]	-3.04 ^{***}
Bstd		not sig	0.352	-0.505
F-stat				31.41 ^{***}
Adj R²				0.690
N				42
<i>Note.</i> Math = Math test scores Science = Science test scores Judicial = judicial independence Bribes = irregular payments and bribes F-Stat = the fit of the model Adj R² = amount of variation in dependent variable explained by variation in independent variable Bstd = standardized coefficient t-test = test statistic [*] = Significant at 0.05 level ^{**} = Significant at 0.01 level ^{***} = Significant at 0.001 level N = number of observations				

although the human capital variables are not significant, most of institutional variables (except for the Security of property rights) continue to be strongly significant and have strong positive relationship with GDP.

Table 7 reports on the analysis which included both human capital variables (Math and Science test scores) and individual Institutional variables separately. All institutional variables are significant, while the human capital variables are not significant.

Table 8 reports on the results on multiple regressions which included both human capital variables and two out of four institutional variables. According to the reported results, all institutional variables except for Secu-

rity of Property Rights are significant and powerfully affect GDP, while the human capital variables are not significant.

Overall, according to this analysis, national human capital (as proxied by Math and Science test scores) has significantly less effect on national economic development than the institutional measures (Security of Property Rights, Judicial Independence, Intellectual Property Rights Protection and Irregular Payments and Bribes). Some countries with good level of human capital resources do not have good economic development, while others do. This analysis provides some evidence that the factor which makes the difference is the institutions factor.

The next section of the article deals with some theoretical explanation of this phenomenon.

Theoretical Background

This paper tries to find the reason for the low affect of human capital on economy when institutions are controlled for. It attempts to develop a more specific theoretical explanation that describes the process of interaction between human capital, institutions and national welfare. In its attempt to explain low affect of national human capital on national economic development this paper utilizes insights from Management literature.

Table 4. Multiple Regressions Results for Two Equations With Gdp P/C as the Dependent Variable and Selected Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Intellectual (institutional variable)	Judicial (institutional variable)
<i>Equation 1</i>				
t-test	not sig		2.87 ^{**}	1.86 (sig at 0.1.level)
P>t	not sig		0.007	0.071
Bstd	not sig		0.524	0.320
F-stat				31.23 ^{***}
Adj R²				0.689
N				42
<i>Equation 2</i>				
t-test		not sig	2.99 ^{**}	1.83 (sig at 0.1 level)
P>t		not sig	0.005	0.075
Bstd		not sig	0.536	0.311
F-stat				31.12 ^{***}
Adj R²				0.688
N				42
<i>Note.</i> Math = Math test scores Science = Science test scores Intellectual = intellectual property rights protection Judicial = judicial independence F-Stat = the fit of the model Adj R² = amount of variation in dependent variable explained by variation in independent variable Bstd = standardized coefficient t-test = test statistic * = Significant at 0.05 level ** = Significant at 0.01 level *** = Significant at 0.001 level N = number of observations				

More specifically, the paper grounds its rationale for explaining the relationship between human capital, institutions and GDP within the Multilevel theory. It employs this theory on an organizational level of a country, therefore a country is a unit of analysis.

Management literature insights

Resource-Based View of the firm suggests that a good understanding of a macro-level construct requires an understanding of its subsystems, which means that firm-level constructs are

created by lower-level psychological and behavioral mechanisms (Wright et al., 1994; Wright, et al., 2001; Wright & Haggerty, 2005; Felin & Hesterly, 2007; Teece, 2007). The Dynamic Capabilities View of the firm suggests that an organization's resource base, including human resources, is created through processes which change in response to their environment (Helfat et al., 2007; Maritan & Peteraf, 2007). This means that creation of organization-wide human capital needs to be studied in terms of its component parts (individual human capital) and the environ-

ment which influences how these individual components are agglomerated into a higher level construct.

This is why this paper suggests using the Multilevel theory to studying the national human capital resource creation, as this theory takes into consideration both of the mentioned above aspects. Multilevel theory deals with explaining, how constructs and processes are related across levels of analysis (Ostroff & Bowen, 2000; Bowen & Ostroff, 2004; Ployhart & Weekley, 2006; Ployhart & Moliterno, 2011). Multilevel research deals with

Table 5. Multiple Regressions Results for Two Equations with GDP p/c as the Dependent Variable and Selected Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Property (institutional variable)	Judicial (institutional variable)
<i>Equation 1</i>				
t-test	not sig		not sig	2.57 ^{**}
Bstd	not sig		not sig	0.510
F-stat				25.14 ^{***}
Adj R²				0.639
N				42
<i>Equation 2</i>				
t-test		not sig	not sig	2.44 [*]
Bstd		not sig	not sig	0.480
F-stat				25.04 ^{***}
Adj R²				0.638
N				42
<i>Note.</i> Math = Math test scores Science = Science test scores Property = Security of property right Judicial = judicial independence F-Stat = the fit of the model Adj R² = amount of variation in dependent variable explained by variation in independent variable Bstd = standardized coefficient t-test = test statistic * = Significant at 0.05 level ** = Significant at 0.01 level *** = Significant at 0.001 level N = number of observations				

the emergence process, explaining how phenomena at lower levels are organized to emerge as a higher-level construct which is distinct from its lower-level original parts. Kozlowski and Klein (2000) state that a phenomenon is emergent when "it originates in ... characteristics of individuals, is amplified by their interactions, and manifests as a higher-level, collective phenomenon" (p. 55).

According to a number of authors (Wright et al., 1994; Wright et al., 2001; Wright & Haggerty, 2005; Abell et al., 2008), the roots of organizational human capital lie at the individual level of individual employees' knowledge, skills, abilities and other characteristics (KSAOs). Ployhart et al. (2006) empha-

size cross-level origin of the organizational human capital resource, defining the level of theory for organizational human capital resource at the unit level, but identifying its origins in the individual KSAOs. Consequently, Ployhart and Moliterno (2011, p.128) define human capital resource as "a unit – level resource that is created from the emergence of individual's KSAOs," where the term *unit* refers generically to the organizational level of interest (firm, business unit, division, group, or team). The Multilevel Model of human capital creation explains how the collective organizational human capital resource originates in individual-level organizational members' KSAOs via the driver of the transformative process – the

"emergence enabling process" (Ployhart & Moliterno, 2011).

According to the Multilevel theory, higher-and lower-level constructs share some common features, yet are distinct from one another (Chan, 1998). This means that the organizational human capital resource, although it originates in the KSAOs of individual members, is not identical to the individual KSAOs because the determinants that create KSAOs are different from the ones which create the human capital resource. What are the determinants which create the organizational human capital resource?

According to a number of authors (Kozlowski & Ilgen, 2006; Ployhart & Moliterno, 2011), these determinants

Table 6. Multiple Regressions Results for Two Equations With Gdp P/C as the Dependent Variable and Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Property (institutional variable)	Judicial (institutional variable)	Bribes (institutional variable)
<i>Equation 1</i>					
t-test	not sig		not sig	2.06 *	-2.55 **
Bstd	not sig		not sig	0.394	-0.532
F-stat					23.19 ***
Adj R²					0.684
N					42
<i>Equation 2</i>					
t-test		not sig	not sig	1.99 *	-2.51 **
Bstd		not sig	not sig	0.376	-0.536
F-stat					22.98 ***
Adj R²					0.682
N					42
<i>Note.</i> Math = Math test scores Science = Science test scores Property = security of property rights Judicial = judicial independence Bribes = irregular payments and bribes			F-Stat = the fit of the model Adj R ² = amount of variation in dependent variable explained by variation in independent variable Bstd = standardized coefficient t-test = test statistic * = Significant at 0.05 level ** = Significant at 0.01 level *** = Significant at 0.001 level N = number of observations		

include the unit's (organizational) task complexity and emergence-enabling factors such as behavioral, cognitive and affective processes which exist among organizational members in the organizational environment. In other words, these are the task content and how unit members act, think and feel.

Task complexity term includes the demands of the organizational task.

Behavioral, cognitive and affective factors "establish the social environment that facilitates and supports the emergence of human capital resources" (Ployhart & Moliterno, 2011, p. 137). If these factors are not present, then organizational human capital resource cannot be formed. According

to Wright et al (1994, p.304), "characteristics of individuals do not provide value to the firm unless they are utilized through employee behavior."

Let's discuss the *behavioral, cognitive and affective* factors in more details.

Behavioral factor includes coordination, communication and regulatory processes that exist among organizational members. These processes make individuals' behavior interdependent (Ployhart & Moliterno, 2011). These processes are the actual behavior which organizational members employ while fulfilling the demands of the task.

Behavioral factor is present if organizational members coordinate their work toward achieving the task goal,

if they have established effective communication process which helps them in their work, and if the regulatory processes which guide the work and interaction are present and clear for everyone. Unit regulations include monitoring and regulating of behavior in terms of the organizational goals and actions toward other organizational members (Marks et al., 2001). If these factors are present, individual KSAOs become complementary. However unless effective regulatory process exists, unit members will not be able to coordinate their work and communicate well.

Cognitive factor includes the organization's climate, memory and learning (Hinsz et al., 1997; Ployhart &

Table 7. Multiple Regressions Results for Four Equations with Gdp P/C as the Dependent Variable and Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Property (institutional variable)	Judicial (institutional variable)	Intellectual (institutional variable)	Bribes (institutional variable)
<i>Equation 1</i>						
t-test	not sig	not sig	7.04 ^{***}			
Bstd	not sig	not sig	0.738			
F-stat						19.93 ^{***}
Adj R²						0.581
N						42
<i>Equation 2</i>						
t-test	not sig	not sig		7.67 ^{***}		
Bstd	not sig	not sig		0.744		
F-stat						23.43 ^{***}
Adj R²						0.621
N						42
<i>Equation 3</i>						
t-test	not sig	not sig			8.37 ^{***}	
Bstd	not sig	not sig			0.816	
F-stat						27.58 ^{***}
Adj R²						0.660
N						42
<i>Equation 4</i>						
t-test	not sig	not sig				-8.15 ^{***}
Bstd	not sig	not sig				-0.814
F-stat						26.26 ^{***}
Adj R²						0.649
N						42

Note.

Math = Math test scores

Science = Science test scores

Property = security of property rights

Judicial = judicial independence

Intellectual = intellectual property rights protection

Bribes = irregular payments and bribes

F-Stat = the fit of the model

Adj R² = amount of variation in dependent variable explained by variation in independent variable

Bstd = standardized coefficient

t-test = test statistic

* = Significant at 0.05 level

** = Significant at 0.01 level

*** = Significant at 0.001 level

N = number of observations

Table 8. Multiple Regressions Results for Four Equations with Gdp P/C as the Dependent Variable and Human Capital and Institutional Variables as Independent Variables

	Math (human capital variable)	Science (human capital variable)	Intellectual (institutional variable)	Bribes (institutional variable)	Judicial (institutional variable)	Property (institutional variable)
<i>Equation 1</i>						
t-test	not sig	not sig	2.70**	-2.42*		
P>t	not sig	not sig	0.01	0.021		
Bstd	not sig	not sig	0.465	-0.419		
F-stat						24.79***
Adj R²						0.699
N						42
<i>Equation 2</i>						
t-test	not sig	not sig		-2.90**	2.26*	
P>t	not sig	not sig		0.006	0.030	
Bstd	not sig	not sig		-0.494	0.360	
F-stat						23.11***
Adj R²						0.683
N						42
<i>Equation 3</i>						
t-test	not sig	not sig	2.83**		1.83 (sig at 0.1 level)	
P>t	not sig	not sig	0.008		0.075	
Bstd	not sig	not sig	0.524		0.320	
F-stat						22.81****
Adj R²						0.680
N						42
<i>Equation 4</i>						
t-test	not sig	not sig			2.45*	not sig
P>t	not sig	not sig			0.019	not sig
Bstd	not sig	not sig			0.500	not sig
F-stat						18.42****
Adj R²						0.630
N						42

Note.

Math = Math test scores

Science = Science test scores

Intellectual = intellectual property rights protection

Judicial = judicial independence

F-Stat = the fit of the model

Adj R² = amount of variation in dependent variable explained by variation in independent variable

Bstd = standardized coefficient

t-test = test statistic

* = Significant at 0.05 level

** = Significant at 0.01 level

*** = Significant at 0.001 level

N = number of observations

Moliterno, 2011). Unit climate “reflects the members’ shared perceptions of the unit’s leadership, goals, expectations and what is valued and rewarded..., the norms, through which unit’s members interact and communicate” (Ployhart & Moliterno, 2011, p. 138). Unit memory includes the knowledge held by the organizational members. This knowledge includes knowledge about each other and knowledge of work processes (Klimovski & Mohammed, 1994). Unit learning includes the unit’s ability to acquire and transfer information and knowledge.

Presence of this factor is evident when the organizational members have shared perception of what is valued and rewarded in the organization. They have shared perception about organizational leadership, expectations and goals. Knowledge and information are transferred effectively through the organization. However, if organizational members do not have a clear understanding of what is valued in their unit, if they do not share expectations toward what behavior is rewarded, if they hide valuable knowledge from each other, this means that this *cognitive factor* is absent.

Affective factor is the emotional ties between organizational members. This includes unit cohesion, trust and mood. The stronger the organizational cohesion, the better the organization performs and deals with difficulties (Alesina et al., 2003; Easterly et al., 2006). The higher the degree of organizational trust, the more likely organizational members transfer ideas and information among each other (Oldham, 2003). With low degree of trust, organizational members often withhold relevant information. Organizational affect represents emotional orientation of members and emotional state of entire organization. Positive emotional state enhances sharing of knowledge, creation of new ideas and improves organizational communication and exchange. Organizational human capital resource does not emerge unless employees are willing to trust each other and share their knowledge with each other. They also need to work inter-

dependently and communicate well (Mesmer-Magnus & DeChurch, 2009).

Presence of this factor is evident when organizational members feel like “swimming together in one boat,” which is the result of a certain level of organizational cohesion. In such a case organizational members experience trust and commitment toward one another. They are willing to support each other, and are open to knowledge sharing and dissemination, to open creation of new ideas. People believe that other members’ input toward common organizational performance is fair and adequate. Consequently, they themselves are willing to adequately contribute toward the common goal.

The human capital resource that gets formed is a function of all these factors: behavioral, cognitive and affective. According to Ployhart and Moliterno (2011, p.137), “these states must exist in some form if human capital resource emergence is to occur in a manner valuable for the unit.” It means that even though organizational members had outstanding level of their individual KSAOs, in the situation of the absence of the emergence-enabling environment these KSAOs will not create the human capital resource on the organizational level.

Discussion and Conclusion

Let’s now discuss each of these factors in terms of a country.

Behavioral factor. In terms of a country this factor means that unless effective regulatory processes exist, people in the country will not be able to coordinate their work well, their interaction will not be orderly, neither they will be able to hear each other as the communication process will not establish effective communication channels. Even if people had good level of individual human capital, these individual human capitals will not agglomerate to create national human capital resource.

All of the mentioned above aspects – coordination, communication, regulatory – are the area of respon-

sibility of national institutions. This is what national institutions are for. They establish the regulatory, coordination and communication processes which govern behavior of those living in a country and uphold behavior to a required standard. A broad definition of an institution as a well-established structural arrangement which is a part of society and is devoted to sustaining of a particular cause (Acemoglu et al., 2004) fully supports this idea. Thus, we can say that the *Behavioral factor* of the human capital resource emergence process is in reality a part of the national institutions factor.

Cognitive factor. In terms of a country this factor means that unless shared “rules of the game” exist, and unless these “rules of the game” are applied equally to every person in the country, people will not be able to have shared perceptions. They will have different views on what the norms are, they will have different views on what is valuable and what is rewarded, they will have different opinions on what leadership is. Even though people had adequate level of individual human capital, these individual resources will not agglomerate into national human capital resource without presence of the cognitive factor aspects. Once again, all of the mentioned above aspects which are necessary for individual human capitals to form the national human capital resource are regulated by national institutions. National institutions establish such “rules of the game.” The Cognitive factor of the human capital resource emergence process in reality belongs to the national institutions factor.

Affective factor. In terms of a country this factors means that unless national cohesion exists, people in the country will be divided into small competing groups, they will not be able to trust each other, and general positive and optimistic mood will not be prevailing in the country. Organizational cohesion will not be created by itself. It is consequence of effective work of established certain structures, which hold the society together. Such structures are national institutions. In

fact, as Easterly, Ritzen, and Woolcock (2006, p.104) put it, "key development outcomes... should be more likely associated with countries governed by effective public institutions, and... those institutions, in turn, should be more likely found in socially cohesive societies." Thus, it is possible to state that the *Affective factor* of the human capital resource emergence-enabling process is in reality a part of the national institutions factor.

What does it mean on the national level? On the national level, people in a country may have good educational level, but if the emergence enabling factors are not present, this education will not create the national human capital resource, which works toward national economic development. Individual human capital will be wasted on national level. Furthermore, the country will be constantly losing its human capital to other countries which will attract the talent. As we see, these emergence enabling factors can be suggested to include the national institutions factor.

As has been shown in the statistical analysis and subsequent theoretical explanation, unless open and transparent well-developed national institutions exist, the country should not hope for good economic development even though the human capital level of its citizens is adequate. Investing money in education without building a system of fair honorable national institutions will not bring the desired results. At the same time, building national institutions and developing national human capital should go hand-in-hand for sustained national welfare. Without adequate level of national human capital, there are no good candidates to appoint for positions in national institutions even though the national institutions were well-built.

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Верхогляд О. О.

Національний людський капітал або національні інституції: погляд з перспективи багаторівневої теорії організації

Ця стаття вносить свій внесок в економічні дебати про верховенство національного людського капіталу або національних інститутів у національному економічному розвитку. У статті для статистичного аналізу використовувалися результати TIMSS Assessment і дані World Competitiveness Reports як змінні в рівняннях множинних регресій. Згідно зі статистичним аналізом національний людський капітал надає значно менший вплив на національний економічний розвиток, ніж національні інститути. У статті використовувалася багаторівнева теорія організацій для пояснення цього феномена, яка екстраполювалася на рівень країни. Багаторівнева модель створення людського капіталу пояснює, як колективний ресурс людського капіталу організації створюється зі знань, навичок і здібностей членів організації на індивідуальному рівні завдяки наявності сприятливих факторів. У статті показано, що національні інститути є такими сприятливими факторами на рівні країни. Використання ресурсів людського капіталу громадян країни опосередковано є фактором національних інститутів. В умовах відсутності якісних інститутів індивідуальний людський капітал громадян країни не агломерується в національний людський капітал.

Ключові слова: багаторівнева теорія організації, національний людський капітал, національні інституції, національний економічний розвиток.

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JEL classification A1, B3, B20

Georgii G. Pocheptsov

Humanitarian Wars are Implemented Everywhere, From the Sphere of Economics and Politics to the Nobel Prizes

The article states that countries of the world make full use of all the tools on hand. Nowadays, when large volumes of information are transferred through social media by means of automatic bots, the world is facing a bloom of fake news and conspiracy theories, which became apparent in the context of the pandemic. Author pointed that Hybrid warfare appeals to the warring sides owing principally to the anonymity of the players. After all, everything that is happening in the wars may well be interpreted as a natural development of the situation. The paper identified three main directions that disinformation attacks are focused on: undermining trust in public institutions by reporting on civilian disobedience in the attacked countries, narratives on the success of the pandemic response activities in the attacking countries, speculations over the country of origin of the virus, for example that it is an American-manufactured bioweapon. The hypothesis of the paper that the modern world is changing many of our past skills and tools. This, among other things, fully applies to the impact on other countries which might, in the old fashioned way, be called wars but are rather struggle for domination. Even international sporting contests are regarded as military victory over a hypothetical "maneuver enemy." Ukraine is under constant shellfire, when information operations are aimed to prove the fact that Ukraine is a "failed state," while cybercorporations are designed to destroy the efficiency of banking, financial and economic spheres.

Keywords: humanitarian wars, information warfare, hybrid warfare, geopolitical stand-off, information space, virtual space, means of influence, disinformation, fake news, conspiracy theory, coronavirus pandemic

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The modern world is changing many of our past skills and tools. This, among other things, fully applies to the impact on other countries which might, in the old fashioned way, be called wars but are rather struggle for domination.

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Ukraine is under constant shellfire, when information operations are aimed to prove the fact that Ukraine is a "failed

state," while cybercorporations are designed to destroy the efficiency of banking, financial and economic spheres. Each election period also grows into a battle for life or death, for which purpose social media are actively used.

Geopolitical adversaries do not go away; they remain the same for centuries. And their tussle for dominance today is merely traced in other areas. This is not a war in the physical space, but the same aggressive actions in any other spaces. Hence the new terminology in the nomination of warfare – hybrid, information, virtual, economic, trade, financial, political, and even migration. The collapse of the USSR also was the result of such a humanitarian war. The Cold War was a war without shots being fired, or rather, it was the mass consciousness that was under fire then and subsequently flip-flopped and led in a different direction by the power elite.

We can call these types of wars humanitarian, since they operate not in the real space but in information and virtual spaces. We can also consider the goal of humanitarian warfare an attempt to block the path to the future, which is accomplished through a change in the dynamics of science and education, by downgrading it from an advanced state to a catching-up development. Or, as in the days of Stalin, genetics and cybernetics were labeled pseudo-sciences, preventing their advancement, thus halting entire scientific movements.

Whenever it is necessary to retard the development of a potential "enemy," it is done not only through economical or financial sanctions [1–4], but also by means of information attacks on mass consciousness. Everyone wants to consider themselves the very first, alongside with being the most up-front, to whom the future belongs. The wars of ideologies used to be no less internecine than the wars of religions, although both were fought for dominance in the virtual space. And yet, people died for this dominance in the real space. Today, when religions and ideologies have somewhat lost their power, wars are being waged for economic and adjacent forms of dominance. And this is what humanitarian wars are used for, the wars where souls perish rather than bodies die.

China considers its present-day economic relations with the USA even worse

than they used to be during the Cold War. China's leading expert in this field Wang says: "One question is whether the China-US rivalry will last longer and cost more on both sides than the Soviet-US competition. Another is whether an unexpected event alongside the current China-US tensions will escalate into a deadly clash" [5].

Another expert, Huang, has a similar view: "Some may say that the politicians and senators might seem to be making a lot of noise and what they say appears to be a mess ... but actually there are well-calculated moves behind the scenes. They are in fact a combination of moves in a systematic game plan" [6].

The USA and China are in a geopolitical standoff, which has been involving more and more new arrays of tools. The coronavirus pandemic has opened up new opportunities to advance this conflict. The riots and protests that erupted in the USA following George Floyd's death became another subject for manipulation. Iran, China, Russia have been actively capitalizing on both the former and the latter events as long as fear and uncertainty ease the response of mass consciousness [7–9]. Such an attack seeks to destroy the unity within the country.

Russia has long been building up means of influence on a foreign audience: "Russia, for example, launched the English-language Russia Today (later rebranded as RT) in 2005 with a relatively modest operation. Over time, RT has developed an anti-Western narrative and has become a propaganda weapon of the Kremlin. RT has simultaneously expanded its capacity to publish content in other languages including Arabic, French, German and Spanish. Through RT, the Russian government targets non-English speaking audiences to either attract support for Russia in places where the anti-Western narrative has strong resonance or promote a positive image of Russia in countries where they want to have allies and good relations" [10].

Researchers identify three main directions that disinformation attacks are focused on [11]:

- undermining trust in public institutions by reporting on civilian disobedience in the attacked countries,
- narratives on the success of the pandemic response activities in the attacking countries,
- speculations over the country of origin of the virus, for example that it is an American-manufactured bio-weapon.

Undermining the public's faith is also a frequent theme during elections [12]. In 2016, troll factories meddled in the US presidential election, exacerbating the degree of tension and controversy in the country. Amplifying tensions that already exist is always easier than starting from zero by themselves. The situation repeated itself with the race-related civil disorders in 2020. They resulted in dramatic consequences not only in politics. Business has also responded actively by introducing changes to their brand names, starting with Eskimo. Professor Jason Chambers spotted a historical precedent for such transformations in the "Frito Bandito character PepsiCo had from 1967 to 1971. Frito Bandito played into these stereotypes of a sombrero-wearing, Mexican cowboy who robbed people of their Fritos. Mexican American activists spoke out against Bandito and it took about four years for the character to finally be retired" [13].

He arrives at the conclusion that the model "ethnicity as authenticity" was operational here: "If you consider a stereotype as something being based in a perception such as 'black people aren't good at anything but music, cooking, and sports', there is a certain authenticity that comes with that perception. So you take the myth of the south and the happy black woman cooking for the white family, and suddenly you have a product that gains more 'authenticity' through that image and, as a result, sells more."

The same processes began in the cinematography. Indian Bollywood is moving away from lighter-skinned heroes [14]. White actors will no longer voice nonwhite characters [15–16].

Even more, Jesus Christ turned black for the sake of racial justice in one cathedral [17].

Powerful countries always strive for expansion in all of the three spaces, i.e. physical, information, virtual. Physical expansion is not that active nowadays, so the extension is being carried out informationally and virtually. Everyone is reading the Harry Potter series or watching "The Game of Thrones." The most renowned things become somewhat sacral: everyone has to know them.

China is very determined about the promotion of their world model for other countries [18]. It should be kept in mind that China is an ideological country. Thus, it is pushing along not simply a model of the world, but a world model with an ideological component. They simply have not yet learned to produce, say, TV series that might be of interest for the global audience, so virtual space has not become the battleground between Chinese and American movie series.

Today's virtual space has China's agents of influence in Australian TV dramas, a legion of Russian spies – in American. Russia has already occupied Norway in the Norwegian political thriller TV series "Occupied" [19–20]. Due to its plasticity, the virtual space can simulate a variety of situations. This has given impetus to the torrid development of fantasy and sci-fi shows, reproducing diverse scenarios of the future.

Culture was also used as a means of influence during the Cold War, when even the term cultural wars emerged [21–22]. The CIA then, specifically, gave financial support to exhibitions of American Abstract Impressionism painting worldwide, considering that to visually demonstrate freedom in the USA. Even Boris Pasternak was given the Nobel Prize for his novel not without the Cold War "games" [23–28].

Ivan Tolstoy, the researcher into the history that brought B. Pasternak to win the Prize, while emphasizing the fact that the award itself was well-earned, reckons the activities of the American Intelligence as follows, "It's

a totally different story, where Pasternak is a victim of "the great forces" in action beyond his own control. Fate is playing with him here. Yes, the CIA did everything to, as they used to say then, "elevate" Pasternak. Moreover, he was being "elevated" not only by Americans, but also by the British. He was being "elevated" in France, in Italy, and in Germany alike. In April 2014 the website of the Washington Post published the documents proving that the effort to promote Pasternak was a centralized process. This does not mean that, in the mass media of that time, people of the free part of the world were not allowed to do it at their own will, discretion, and to their own taste. But for all that, there existed a targeted, pre-organized and concerted campaign on exposing and promoting Pasternak across the readers, bolstering his image in public opinion. And, of course, the campaign played a big role in his being awarded the Prize. However, it is impossible to infer whether he won the Prize due to or regardless of it [29].

The Cold War was also an example of active interference in elections, with the involvement of the CIA [30]. Therefore, both sides proactively engaged in the covert type of war.

Hybrid warfare appeals to the warring sides owing principally to the anonymity of the players. After all, everything that is happening in the wars may well be interpreted as a natural development of the situation. Hybrid warfare does not confront the reality, but mimics it, like the well-known "little green men" in Crimea [31]. M. Snegovaya associates this toolkit with the "reflexive control" model of the Soviet times: "Denial and deception operations to conceal or obfuscate the presence of Russian forces in Ukraine, including sending in 'little green men' in uniforms without insignia" [32].

The same is happening to the re-interpretations not only of the events of today, but also historical facts and events, making it a matter of national security [33–34]. V. Putin's speech dedicated to the 75th anniversary of the end of World War II [35], which

sparked disapproval, primarily in the Baltic states, since it is perceived as aiming to reconsider the outcomes of the war [36–39], can be classified as a variant of hybrid warfare, namely the information operation.

British researchers interpret this toolkit from the following angle: "Too often, the focus has been on singular tactics of information operations, such as harassment or 'fake news'. This has obscured the fact that these tactics are part of broader strategies that see information as the principal agent in achieving certain geopolitical outcomes" [40]. We may say that the right information leads to the target geopolitical results.

The countries of the world make full use of all the tools on hand. Nowadays, when large volumes of information are transferred through social media by means of automatic bots, the world is facing a bloom of fake news and conspiracy theories, which became apparent in the context of the pandemic.

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Гуманітарні війни реалізуються всюди, починаючи від сфери економіки й політики і до Нобелівських премій

У статті зазначається, що країни світу в повній мірі використовують усі наявні інструменти. У наш час, коли великі обсяги інформації передаються через соціальні мережі за допомогою автоматичних ботів, світ стикається з розповсюдженням фейкових новин та теорій змови, що набрало додаткової актуальності під час пандемії. Автор зазначає, що гібридна війна апелює до ворогуючих сторін в основному завдяки анонімності гравців. Зрештою, усе, що відбувається у війнах, цілком може трактуватися як природний розвиток ситуації. У статті визначено три основні напрямки, на яких зосереджені атаки дезінформації: підрив довіри до державних установ шляхом звітування про непослух цивільного населення в атакованих країнах, розповіді про успіх заходів реагування на пандемію в країнах, що атакують, спекуляції щодо країни походження країни вірус, наприклад, що це біозброя американського виробництва. Ідея статті полягає в тому, що сучасний світ змінює багато наших минулих навичок та інструментів. Це, серед іншого, повною мірою стосується впливу на інші країни, які по-старому можна назвати війнами, але скоріше боротьбою за панування. Навіть міжнародні спортивні змагання розцінюються як військова перемога над гіпотетичним ворогом. Україна перебуває під постійним вогнем, коли інформаційні операції мають на меті довести той факт, що Україна є "невдалою державою", тоді як кіберкорпорації покликані знищити ефективність банківської, фінансової та економічної сфер.

Ключові слова: гуманітарні війни, інформаційні війни, гібридні війни, геополітичне протистояння, інформаційний простір, віртуальний простір, засоби впливу, дезінформація, фейки, конспірологія, пандемія.

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