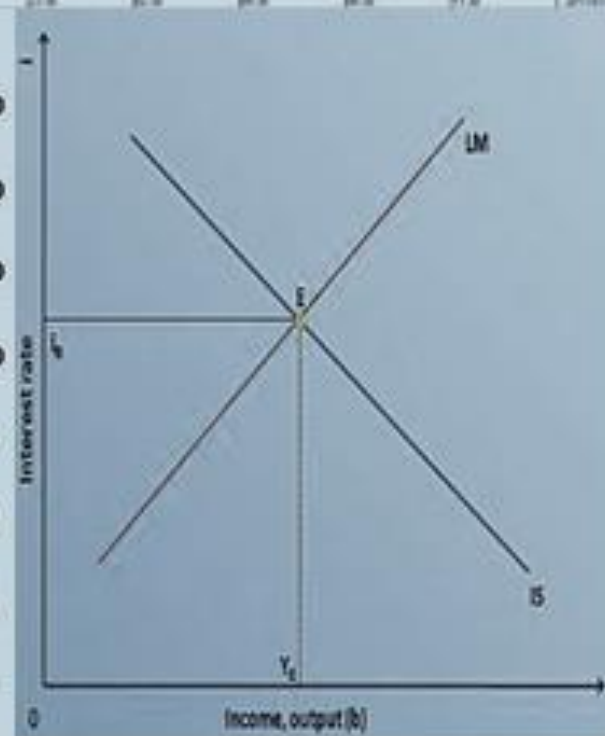


**Vol. 9, Issue 1, 2022**  
**ISSN 2343-7995 (online)**



# Hyperion Economic Journal



**HYPERION ECONOMIC JOURNAL**

**Quarterly journal published by  
Faculty of Economic Sciences  
Hyperion University of Bucharest  
Romania**

**YEAR IX, ISSUE 1, MARCH 2022  
ISSN 2343-7995 (online)**

---

**EDITORIAL BOARD**

*Co-Chief Editors:*

Mariana BĂLAN, Hyperion University of Bucharest and Institute for Economic Forecasting, Romanian Academy

Iulian PANAIT, Hyperion University of Bucharest

*Associated editors:*

Șerban ȚĂRANU, Hyperion University of Bucharest

Andrei Mihai CRISTEA, Hyperion University of Bucharest

Oana IACOB, Hyperion University of Bucharest

Irina Bakhaya, Hyperion University of Bucharest

**SCIENTIFIC BOARD**

Lucian Liviu ALBU, Institute for Economic Forecasting, Romanian Academy

Ion GHIZDEANU, Romanian National Forecasting Commission

Anca GHEORGHIU, Hyperion University of Bucharest

Dorin JULA, Ecological University of Bucharest

Mărioara IORDAN, Institute for Economic Forecasting, Romanian Academy

Sorin BRICIU, 1 December 1918 University of Alba Iulia

Ion PÂRGARU, University Politehnica of Bucharest

Ionut PURICA, Institute for Economic Forecasting, Romanian Academy

Marin ANDREICA, Bucharest University of Economic Studies

Ana Paula LOPES, University of Porto

Marina Ochkovskaya, Lomonosov Moscow State University

Maria Jose Del Pino Espejo, Universidad Pablo de Olavide Sevilla

Susana Pilar Gaitan Guia, Universidad de Sevilla

Anda GHEORGHIU, Hyperion University of Bucharest

Carmen UZLĂU, Hyperion University of Bucharest

Corina Maria ENE, Hyperion University of Bucharest

Radu LUPU, Bucharest University of Economic Studies

Tudor CIUMARA, Financial and Monetary Research Centre „Victor Slăvescu”, Romanian Academy

Iulia LUPU, Financial and Monetary Research Centre „Victor Slăvescu”, Romanian Academy

Aurelian Constantin IONESCU, Hyperion University of Bucharest

---

Editorial Office: Hyperion University, Faculty of Economic Sciences,  
Calea Calarașilor no. 169, district 3, Bucharest, 030615  
<http://www.hej.hyperion.ro> [hej@hyperion.ro](mailto:hej@hyperion.ro)

## CONTENTS

<b>Investments in Research-Development-Innovation - A Way to Overcome the Crisis Generated by Covid-19</b>	3-9
<i>Mădălina Tocan, Oana Chindriș-Văsioiu, Anca Cristea, Nicoleta Gudănescu</i>	
<b>The Impact of the Covid-19 Pandemic on Immigrants and their Children</b>	10-15
<i>Gabriela Bilevsky</i>	
<b>The European Green Deal - A New Way of Environmental Responsibility</b>	16-22
<i>Oana Chindriș-Văsioiu, Mădălina Tocan, Anca Cristea, Petru Nicolae</i>	
<b>If Private School is Supported by State, What Does It Mean, Actually, Private Education? Comparative Study at European Level</b>	23-34
<i>Laurentiu Mihai Mihaila, Gabriela Alina Paraschiva, Constanta-Valentina Mihaila</i>	
<b>Comparative Analysis of Key Performance Indicators of Major Brands in the Romanian Pharmaceutical Industry</b>	35-52
<i>Adriana Iacob (Zavincu)</i>	
<b>World Financial Scandals and the Impact on the Accounting Profession</b>	53-61
<i>Ana-Maria Comandaru (Andrei)</i>	

## INVESTMENTS IN RESEARCH-DEVELOPMENT-INNOVATION - A WAY TO OVERCOME THE CRISIS GENERATED BY COVID-19

**Mădălina TOCAN**, PhD, Associate Professor, SR III,  
Ecological University of Bucharest, Romania,  
Institute of National Economy - Romanian Academy, madalina.tocan@gmail.com

**Oana CHINDRIȘ-VĂSIOIU**, PhD, SR III,  
Institute of National Economy - Romanian Academy, oana.vasioiu@gmail.com

**Anca CRISTEA**, PhD, Lecturer, SR III,  
Hyperion University of Bucharest,  
Institute of National Economy - Romanian Academy, lcancacristea@yahoo.com

**Nicoleta GUDĂNESCU**, PhD, Associate Professor, SR III,  
Hyperion University of Bucharest,  
Institute of National Economy - Romanian Academy, n.gudanescu@gmail.com

**ABSTRACT:** *Research-development and innovation have played an important role in the Covid-19 pandemic. The world's economies have focused and are focusing on stimulating the investments in research-development-innovation in order, on the one hand, to solve the medical situation (drugs, vaccines, high-performance equipment) and, on the other hand, to boost the economic development, which is necessary to replenish depleted budgets by the measures taken to limit the effects of the Covid-19 pandemic. The present paper presents how the pandemic affected research-development and innovation (RDI). Also, the paper presents how RDI was mobilized to provide vaccines, treatments, and innovative solutions (often digital) and examines the RDI policies responses implemented in countries to stimulate research and innovation in order to find solutions to the pandemic. Many European countries prioritize the field of research and development by attracting European funds. In Romania, the phrase "research and development" is frequently mentioned in the National Plan for Investment and Economic Recovery recently published by the government, in different contexts, either related to GDP growth, improving digitalization in administration and economy, increasing competitiveness in fight SARS-CoV-2 virus and more. However, Romania hardly manages to popularize even the existing facilities in the field, so that they can be accessed by more beneficiaries.*

**Keywords:** *research, development, innovation, investments, pandemic.*

**JEL Classification:** *O30, O31, Q55*

### 1. INTRODUCTION

The Covid-19 pandemic represents a global threat to health and has led to the largest global economic crisis since World War II. In this context, attention has been focused on the research-development-innovation sector, which can provide quick solutions to the problems caused by the pandemic and are important levers in ensuring sustainable economic recovery, increasing resilience and competitiveness.

This pandemic has once again highlighted the importance of a stable research infrastructure and funding for preparedness, response and resilience for public health

emergencies. The stakes of this global pandemic have never been higher, because human lives have been lost and are still being lost, economies are being disrupted, and people's lives have changed. Stopping the Covid-19 pandemic and resolving the crisis caused by it depend to some extent on high-quality research, which provides clear, accurate, concrete and useful data. While the priority goals are the treatment and prevention of disease, research can provide key data for managing and restoring economic and social well-being.

*OECD Science, Technology and Innovation Outlook 2021* launched in January 2021, highlights that the current pandemic could cause long-term damage to RDI systems, at a time when science and innovation are needed to meet sustainable development goals and accelerate the digital transformation [6]. The pandemic has also pushed research and innovation systems to their limits, revealing gaps that need to be filled. For this reason, the organization has highlighted the need for measures to improve overall preparedness and safeguard the RDI system for future crises, recalibrate RDI policies to provide tools and capabilities to guide research and innovation efforts towards long-term goals of sustainability, inclusion and resilience.

## **2. RDI SISTEM RESPONSE TO COVID-19**

With the sudden shock of the coronavirus pandemic, the functioning of the RDI system was severely affected. Research and development organizations have seen their activities severely disrupted by measures taken to combat it. The impact on research conducted before the onset of the Covid-19 pandemic was rapid, dramatic, and no doubt will be long-term. The beginning of the pandemic restricted most scientific and clinical research or refocused it on the Covid-19 study. After the initial shock, several parts of the RDI system recovered quickly as governments lifted restrictions and eased distance measures after the first pandemic wave. Many companies in the ICT sector - already a major investor in research and development before the crisis- have recorded growth, as a number of ICT tools have proved essential in counterbalancing social distancing measures.

RDI policy responses to the crisis have focused heavily on ensuring funding for research and innovation related to Covid-19, billions of dollars being allocated to funding vaccines and therapies. Governments have also implemented funding schemes to support innovative enterprises and have helped researchers and research institutes to adapt to the new context [5]. Most countries have prepared and launched economic stimulus and recovery packages and, in particular, to protect jobs that directly or indirectly support RDI actors.

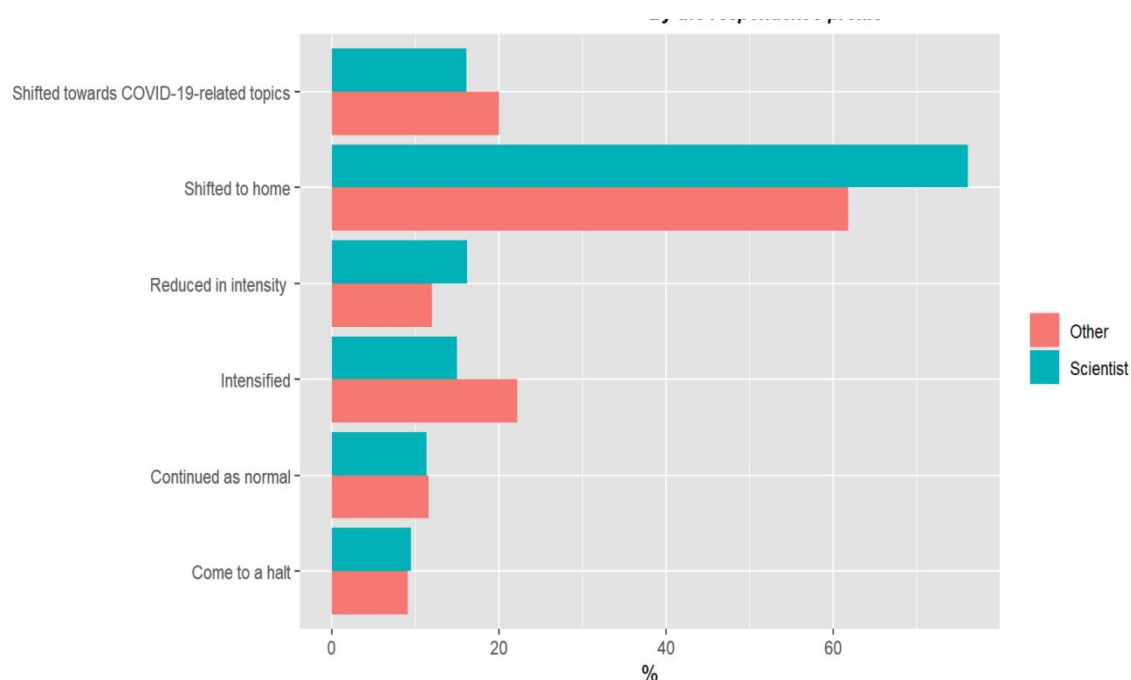
Both private and public actors from the CDI system have been actively involved in providing solutions to the Covid-19 crisis. This has led to massive investments in vaccines and treatments research, but has also produced innovations to cope with the impact of social distancing measures, such as improving digital tools for remote work. In the first months of the pandemic, a rapid increase in Covid-19 medical and health research was observed. This increase has been followed by the constant addition of research papers that have fueled the scientific debate.

In the 2021 edition of the UNESCO Scientific Report, entitled " The Race Against Time for Smarter Development", the authors note that the Covid-19 pandemic has led to a sharp increase in scientific research, as the management of the Covid-19 crisis required scientific support and cooperation government agencies, agencies and communities. The report cites open science and innovation as the main driving forces behind the international scientific collaboration that has produced innovative discoveries about Covid-19 [3].

Where traffic restrictions have been applied, many researchers have switched to remote work research [9]. A ResearchGate survey using data from 3,000 international researchers from various fields found that during the first wave of the pandemic, almost half of them focused on

writing, analyzing, publishing, and planning future research. Also, in the absence of new research data, some researchers spent more time analyzing older data sets that had not been previously explored [8]. Others have donated their time and experience to the fight against coronavirus, reusing its facilities and equipment to serve the needs of Covid-19. The results of the OECD Science Flash Survey 2020 show that almost three-quarters of scientists indicated that they have switched to working from home (Figure 1), more than half have registered or expect a decrease in the use of materials and facilities and about 40% a decrease in the time available for research. More than half of the researchers have experienced or expect a decrease in research funding [7].

**Figure 1. The impact of the pandemic on the work of researchers**



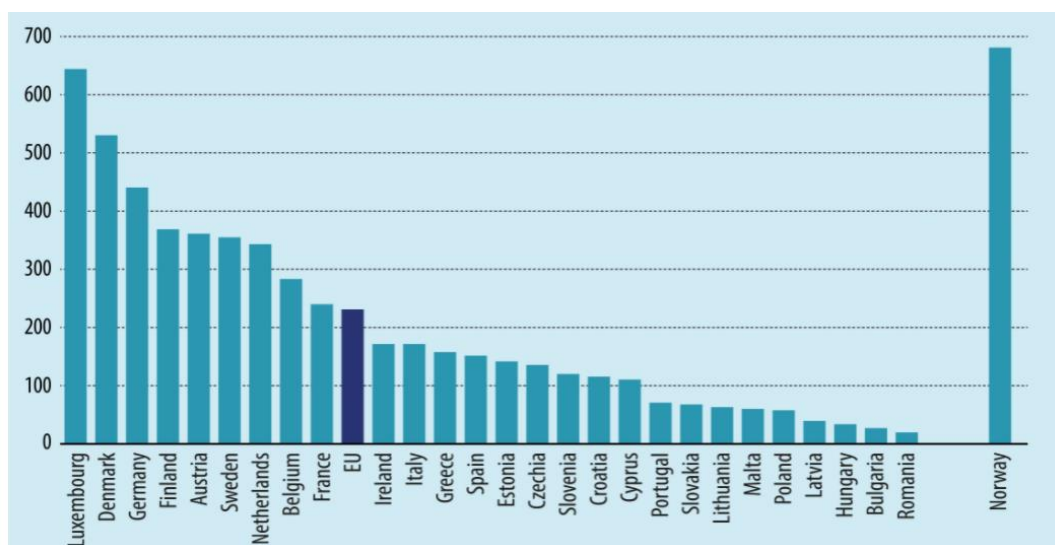
Source: OECD Science Flash Survey 2020, <https://oecdsciencesurveys.github.io/2020flashsciencecovid/>

### 3. INVESTMENTS IN RDI DURING THE CORONAVIRUS PANDEMIC

In the EU coordinated response to the Covid 19 pandemic research and development play an important role, EU wanting to support economic recovery by channeling public or private investment in research. EU countries' budget allocations for research and development in 2020 accounted for 0.8% of their gross domestic product (GDP) or EUR 100.8 billion EUR.

The average budget allocations of the 27 Member States for research and development per person were 225 EUR per person, up from 184 EUR per person in 2010. The highest allocations were in Luxembourg (648 EUR per person), followed by distance from Denmark (519 EUR) and Germany (443 EUR). Meanwhile, Romania, Bulgaria and Hungary were the countries that allocated the lowest research and development budget per person, with 15 EUR, 21 and respectively 39 EUR [2].

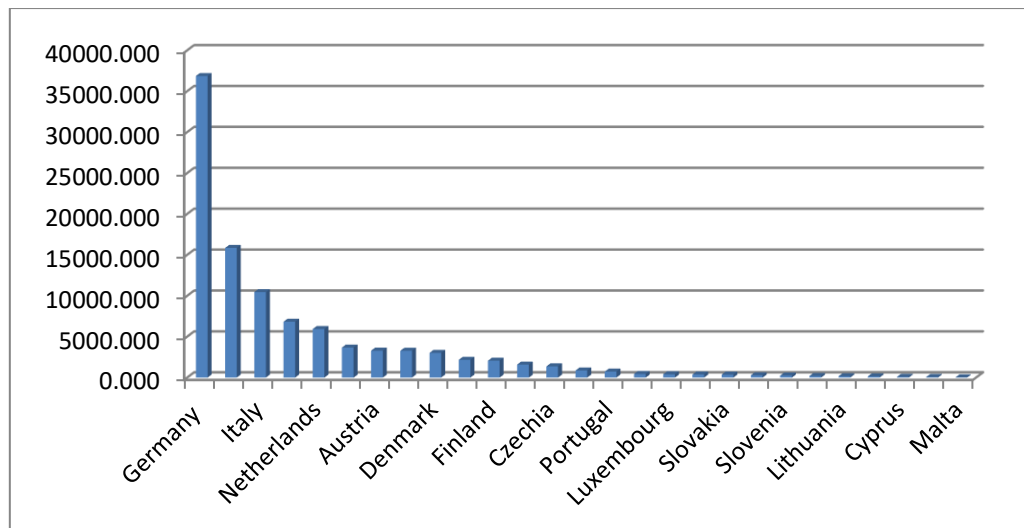
**Figure 2. Budget allocations for research and development in 2020 (euro/person)**



Source: Eurostat

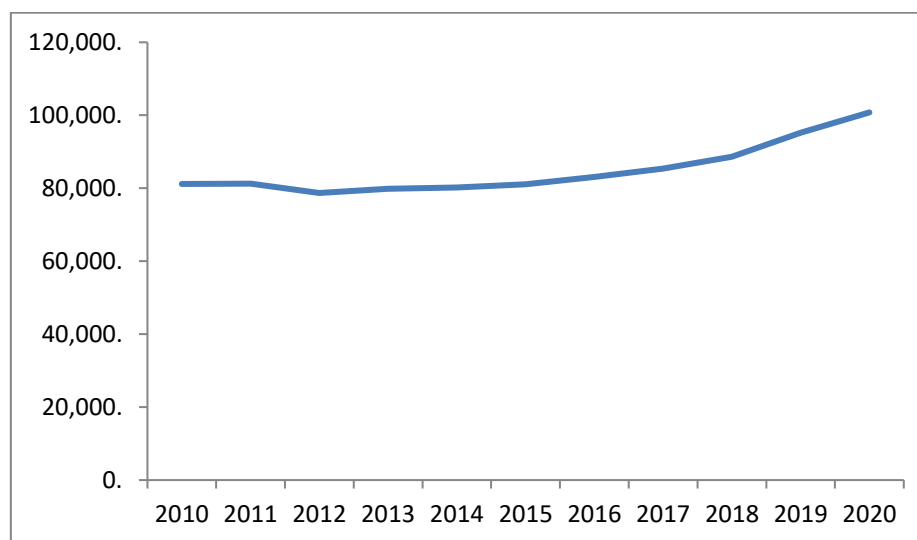
Over the last decade, the largest increases in government budget allocations per person for research and development have been in Latvia (from 14 EUR in 2010 to 42 EUR in 2020), Greece (from 62 EUR to 148 EUR), and Estonia (from 77 EUR to 141 EUR).

**Figure 3. Total budget allocations for research and development in the EU, 2020**



Source: Authors own processing based on Eurostat data

Regarding the evolution of budget allocations for research and development at EU level, as can be seen in Figure 4, they have increased since 2012, but the growth trend has been higher in 2019-2020.

**Figure 4. Evolution of budget allocations for research and development in the EU**

Source: Authors own processing based on Eurostat data

The latest official Eurostat data show the situation for 2020. According to them, the EU countries that have allocated the most funds as a percentage of GDP in 2020 are Germany, Denmark, Sweden and Austria, and those that invest the least in RDI are Romania, Malta; Cyprus, Estonia and Bulgaria. The table below shows the complete situation at EU level - in the period 2018-2020.

**Table 1. Budget allocations for RDI 2018-2020 (percentage of GDP)**

Country	2018	2019	2020
European Union	2.19	2.23	2.32
Belgium	2.86	3.17	3.52
Bulgaria	0.76	0.84	0.86
Czechia	1.9	1.93	1.99
Denmark	2.97	2.93	3.03
Germany	3.11	3.17	3.14
Estonia	1.42	1.63	1.79
Ireland	1.17	1.23	1.23
Greece	1.21	1.27	1.49
Spain	1.24	1.25	1.41
France	2.2	2.19	2.35
Croatia	0.97	1.11	1.27
Italy	1.42	1.47	1.54
Cyprus	0.62	0.74	0.85
Latvia	0.64	0.64	0.7
Lithuania	0.94	1	1.17
Luxembourg	1.17	1.16	1.13
Hungary	1.51	1.48	1.62
Malta	0.57	0.57	0.66
Netherlands	2.14	2.18	2.29
Austria	3.09	3.13	3.22
Poland	1.21	1.32	1.39

Country	2018	2019	2020
Portugal	1.35	1.4	1.58
Romania	0.5	0.48	0.47
Slovenia	1.95	2.05	2.15
Slovakia	0.84	0.83	0.92
Finland	2.76	2.8	2.94
Sweden	3.32	3.39	3.51

*Source: Authors own processing based on Eurostat data*

As far as Romania is concerned, unfortunately it has been the EU's red light for years on budget allocations as a percentage of GDP, number of researchers per thousand inhabitants, global innovation index, international patents, etc. Romania was, in 2020, the European country with the lowest budget allocations for research and development, with only 15 euros per capita, according to statistics published on Wednesday by Eurostat. These place Romania among the countries that have reduced their budget allocation for research and development in the last decade [2].

#### 4. CONCLUSIONS

The COVID-19 pandemic has generated significant uncertainty in all aspects of the global economy and society, and also the long-term impact on RDI is difficult to predict.

Statistics from previous crises indicate different challenges for future spending on RDI, which could have lasting effects on countries' innovative performance. However, the distinctive characteristics of the Covid-19 crisis suggest that the dynamics are likely to be different from those following the 2008-2009 global financial crisis and vary significantly from country to country.

Public funding for RDI could be put under pressure in the coming years due to increased levels of public debt, which could reduce funding for public universities and research institutes. The size of the funding reduction will also depend on the evolution of the number of students, sponsorships and research contracts in the institutions for which these revenues have been an important source of income. In countries that will be affected by budget cuts for RDI, there will be a risk of brain drain. The migration of highly qualified staff could increase, as did the 2008-2009 global financial crisis in countries such as Greece, Italy, Portugal and Spain.

On the other hand, the central role of the RDI in addressing the Covid-19 pandemic and the resulting economic crisis could provide a new impetus for increased political support for the RDI. This could lead to increases in public investment in RDI, including for universities and public research institutions. Health-related RDI, in particular, can benefit from such investments, especially those intended to prepare for future pandemics. Other technology sectors or areas (eg industry 4.0, artificial intelligence) could also receive more funding if they are identified as strategic for improving preparedness for future shocks and challenges, including climate change.

The Covid-19 crisis may change the role of RDI policy in recovery, as countries are trying to "rebuild better. If resilience, environmental sustainability and inclusion are key targets on the political agenda, RDI policy could play a significantly different role than it has in previous decades, when it was assessed primarily in terms of its contributions to productivity and competitiveness. long-term growth. The recent expansion of mission-oriented research and innovation (MOIP) policies already indicates a policy shift towards more directionality of RDI policies - a trend that can be strengthened after the COVID-19 crisis [4].

RDI can play a greater role in building a more environmentally sustainable, inclusive and resilient future. Environmental principles have been integrated as part of the massive

recovery packages implemented to support economic recovery. In November 2020, for example, the UK government announced a ten-point greenback plan of GBP 12 billion (\$ 17 billion) that includes investment in innovative green technologies and support for decarbonisation (including the transport, energy and construction sectors). Similarly, recovery programs can support IDUs that lead to greater resilience and inclusion. Previous RDI policies implemented to support green and inclusive growth can provide key information for the development of recovery policies [1].

## REFERENCES

1. Borowiecki, M. et al., *Supporting research for sustainable development*, OECD Science, Technology and Industry Policy Papers, No. 78, OECD Publishing, Paris, 2019 [https://www.oecd-ilibrary.org/scienceand-technology/supporting-research-for-sustainable-development\\_6c9b7be4-en](https://www.oecd-ilibrary.org/scienceand-technology/supporting-research-for-sustainable-development_6c9b7be4-en)
2. Edupedu, România, *pe ultimul loc în Europa la fondurile bugetare alocate cercetării și dezvoltării în 2020*, 2021, <https://www.edupedu.ro/romania-pe-ultimul-loc-in-europa-la-fondurile-bugetare-alocate-cercetarii-si-dezvoltarii-in-2020-eurostat/>
3. International Institute for Sustainable Development, *UNESCO Report Reveals Pandemic Impact on Scientific Research*, 2021, <https://sdg.iisd.org/news/unesco-report-reveals-pandemics-impact-on-scientific-research/>
4. Larrue, P., *The design and implementation of mission-oriented innovation policies: A new systemic policy approach to address societal challenges*, OECD Science, Technology and Industry Policy Papers, No. 100, OECD Publishing, Paris, 2021, [https://www.oecd-ilibrary.org/fr/science-and-technology/the-designand-implementation-of-mission-oriented-innovation-policies\\_3f6c76a4-en](https://www.oecd-ilibrary.org/fr/science-and-technology/the-designand-implementation-of-mission-oriented-innovation-policies_3f6c76a4-en)
5. OECD, *Crowdsourcing STI policy solutions to COVID-19*, 2020, <https://www.oecd.org/coronavirus/policy-responses/crowdsourcing-sti-policy-solutions-to-covid-19-c4f057b3/>
6. OECD, *OECD Science, Technology and Innovation Outlook 2021- Times of crisis and opportunity*, 2021 <https://www.oecd.org/sti/oecd-science-technology-and-innovation-outlook-25186167.htm>
7. OEDC, *Science in the face of the COVID-19 crisis OECD Science Flash Survey 2020*, <https://oecdsciencesurveys.github.io/2020flashsciencecovid/>
8. Research Gate, *Report: COVID-19 impact on global science community*, 2020, , [https://www.researchgate.net/institution/ResearchGate/post/5e81f09ad785cf1ab1562183\\_Report\\_COVID-19\\_impact\\_on\\_global\\_scientific\\_community](https://www.researchgate.net/institution/ResearchGate/post/5e81f09ad785cf1ab1562183_Report_COVID-19_impact_on_global_scientific_community)
9. Stenvot, L, *CNRS Labs: Research Under Lockdown*, *CNRS News*, 2020 available at <https://news.cnrs.fr/articles/cnrs-labs-research-under-lockdown>

# THE IMPACT OF THE COVID-19 PANDEMIC ON IMMIGRANTS AND THEIR CHILDREN

**Gabriela BILEVSKY, PhD,**

Institute for Economic Forecasting, Romanian Academy,

[g\\_bilevski@ipe.ro](mailto:g_bilevski@ipe.ro)

**Malina TEMIES, Ph.D.** Student, Valahia University of Targoviste

**ABSTRACT:** *The COVID-19 pandemic has had a dramatic impact on the accessibility of health, education and care services for all Europeans. This is also the case for children who have seen their schools closed in several countries and replaced by distance learning. At the same time, they were affected by the negative impact of the pandemic on their families' access to health care. Many families are living in increasingly insecure housing. In 2020, Eurofound gathered extensive data on the lives of Europeans during the pandemic. Based on these data, changes in the accessibility of education, healthcare and housing in the EU27 between 2018 and 2020 have been studied, so that these developments can be taken into account when designing measures to improve living conditions.*

**Keywords:** *Covid-19 pandemic, immigrants, education, poverty*

**JEL Classification:** *H12, O10, O40*

## 1. INTRODUCTION

The spread of the COVID-19 pandemic around the world in 2020 has led to urgent action by governments in an effort to limit the effects. These measures include restrictions on mobility and interaction with others, restricting public transportation, asking people to stay at home except in specific circumstances. Since March 2020, the WHO has declared a global pandemic, and by October 2020, the virus had infected more than 40 million people and claimed more than a million lives worldwide.

Under these conditions, the pandemic poses a particular risk to migrants worldwide. According to the OECD 2020, migrants are at higher risk of infection, especially in countries where jobs are in sectors of the labor market that expose them to risks or are most affected by the ensuing economic crisis. Social integration and inclusion are affected by the difficulty of ensuring social distancing in countries facing a higher risk of spread, with the pandemic being associated with the presence of foreigners in their communities, the arrival of the virus and the deepening of economic problems.

Closing borders meant for some migrants to be blocked in difficult situations due to the economic downturn, while other migrants have been able to benefit from exemptions from travel bans, such as those who are regular cross-border workers, seasonal workers or health professionals. The pandemic has affected the size of migration flows, as well as decisions about when to move to other countries.

## 2. EDUCATION OF MIGRANT CHILDREN IN THE COVID-19 PANDEMIC

A concern for many parents during the pandemic when schools were closed was how to organize their childcare duties, and in many cases it was necessary to become substitute

teachers for their children. The situation is worrying for migrant children, who may be left behind learning foreign languages and are in families where their parents cannot work from home, so they are deprived of their help. Large differences in living conditions lead to poor school preparation for migrant students .

### ➤ **Social connection and language learning**

One of the difficulties of the pandemic is to maintain social contact when physical meetings and events are canceled and the rules of physical distance are in place. This can be especially difficult for migrants who have not had time to develop an extensive social network in the host country.

In Sweden (Action Plan on Integration and Inclusion 2021-2027), a language learning program has launched an online initiative which establishes virtual meetings between a newcomer and a Swede, helping both the newcomer's need to continue language training and the need for both participants to stay connected to each other.

There are specific factors that affect the ability of children with immigrant parents to succeed in participating in online learning and education systems, as a consequence of disadvantaged environments for migrant pupils. The lack of fluency in the language spoken in the host country can exacerbate the difficulties associated with home schooling. Language barriers are more difficult when teaching is online and there is no parental support. In the context of online learning, without daily contacts with colleagues and few interactions with teachers, learning can be more difficult for students with immigrant parents, as they also have to overcome language barriers to learn the language of the host country. This is a challenge in some countries, where the proportion of students who do not speak the language of the host country is high. On average, almost half (48%) of 15-year-old students with immigrant parents do not speak their residence language (OECD, PISA2018 Database). This proportion was extremely high in Austria, Finland, Germany, Iceland, Luxembourg and Slovenia.

### ➤ **Impact on the education of immigrant children**

The gradual closure of schools has made online learning opportunities essential for education at all levels. Although schools are better equipped with digital tools than in previous years, access to digital learning opportunities is still not equal, immigrant children are less prepared for this new situation. In countries with a significant number of children with immigrant parents, although there are gaps compared to children with native parents, most have access to a computer and an Internet connection.

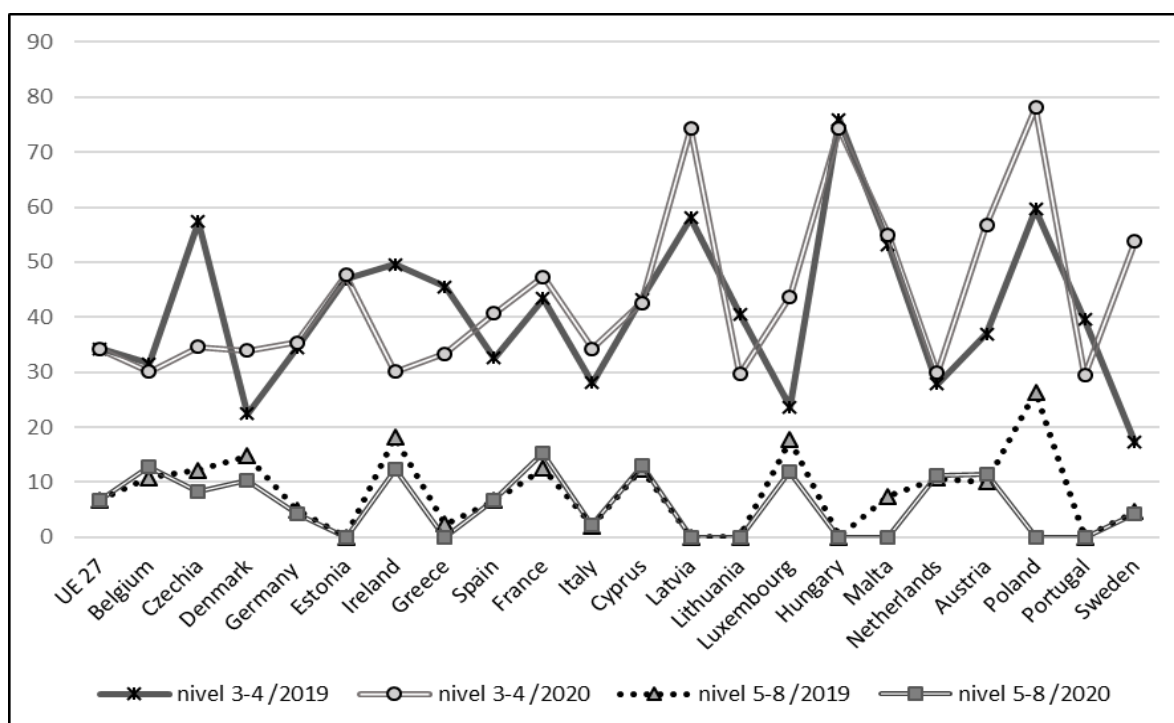
Indeed, students with immigrant parents are less likely to have access to a quiet place to study, except for foreign-born students, but at least three out of four immigrant children (OECD, PISA2018 Database) report having access to a quiet place to study at home. Online learning strengthens the role of families in supporting student learning. The majority of students with immigrant parents have parents with lower education, who have lower socio-economic resources and who may have a lower understanding of the education system. Therefore, students with immigrant parents face additional difficulties compared to their peers with native parents.

The school environment may involve community support services for children with immigrant parents. Teachers need to develop skills and resources to be able to teach in multicultural and multilingual classes in order to support children from immigrant families throughout education. Promoting interactions between immigrant and native children helps to make the education system more inclusive, by teaching democracy, the role of citizenship in preventing the attraction to violent extremist movements and encouraging adults' participation in tertiary and non-formal education.

Education enables immigrants to make full use of their skills and abilities for faster and more equitable entry into the labor market. Adapting and understanding the laws, culture and values of the host society by participating in civic orientation courses is necessary for the social integration of immigrants, but also by continuing their studies, thus increasing their level of participation in higher education and lifelong learning.

Young immigrants from the European Union aged between 15 and 24 have an education level of 3-4 (ISCED classification; maximum high school graduate) in a proportion of 34.3% in 2019 and 34.1% in 2020 (Figure 1). The largest share of immigrants at this level of training in 2019 is in Hungary, 76%, but decreasing in 2020 to 74.3%; next is Poland with 59.6% in 2019, but increasing to 78.1% in 2020; closely follows the Czech Republic with 57.3% in 2019, with a sharp decrease to 34.6% in 2020. An increasing percentage is in Austria from 36.9% in 2019 to 56.8% in 2020.

**Figure 1. The level of education of migrant citizens aged 15-24, for the years 2019 and 2020, (%)**



Source: Data processing - Population by level of education and citizenship (%) [edat\_ifs\_9911]

For tertiary education level 5-8 (higher education, doctorate), among young people aged 15-24, there is an average of 6.8% at EU level in the years considered (Figure 1.). The highest percentage of young people in higher education is in Poland, with 26.4%, followed by Luxembourg with 17.7% and Ireland with 18.1% in 2019. In 2020, there is a small change in the geographical orientation of young immigrants with higher education, albeit to a lesser magnitude than in the previous year, for France with 15.2%, followed by Cyprus with 13.1% and Belgium with 12.7%. The fewest young immigrants with a higher education level of 5-8 are in Italy with 2.1%. In these bases there are no data for the year 2020 on tertiary education level 5-8 (higher education, doctorate) for young people aged 15-24 for the States: Estonia, Greece, Latvia, Lithuania, Hungary, Malta, Poland and Portugal. For Romania and Bulgaria there are no data at any level, for the years studied for this age group.

### **3. PROTECTION OF MIGRANT ADULTS AND CHILDREN**

In the context of the pandemic, in 2020, the protection of immigrants and asylum seekers, minors and other vulnerable groups remains an important area of policy and legislation at national and EU level. To this end, the New Pact on Migration and Asylum set out further actions in the context of protection, stressing that the reform of EU rules on asylum and repatriation strengthens the guarantees and standards of protection under EU legislation for immigrant children. The best interests of the child are paramount in all decisions concerning immigrant children and ensure that the child's right to be heard is respected. The development of private sponsorship programs and humanitarian aid schemes are done to create safe channels of protection for those in need. New partnerships with third countries in the field of migration governance aim to increase the protection of the rights of immigrants and refugees.

An important trend at the national level has been the protection and care of unaccompanied minors, including the opening of new reception facilities, as well as the adaptation or expansion of existing utilities to better meet their needs.

In Belgium, additional places have been created for unaccompanied boys who are at least 17 years old and who meet the minimum criteria for autonomy.

Bulgaria has sought to improve the best interests of the child in response to concerns raised by national courts - by providing a lawyer as a legal representative for unaccompanied minors during the asylum procedure, instead of a representative of the local municipality.

Private and community sponsorship programs have emerged as a clear action related to the resettlement of refugees from third countries. A relocation program in Germany, based on the community sponsorship model, has been operationally implemented by the Federal Office for Migration and Refugees (BAMF).

The main objectives of the program are to increase reception capacity and to create a shared responsibility for the state and civil society in receiving resettled refugees. The program is run in cooperation with the government and religious organizations and includes groups of at least five volunteers who serve as "mentors" and are committed to finding housing for supported refugees and covering housing costs for two years, as well as providing support extended for one year, thus improving the general conditions of integration.

Belgium, for example, has changed its policy and banned the detention of minors based on the principle of the best interests of the child, while Italy has introduced greater rights for detained minors, such as introducing a possibility for third-country nationals in custody to remain connected with the outside world during detention and allowing detainees to lodge complaints about their condition. Moreover, Italy reduced the maximum detention period from 180 to 90 days. Lithuania has introduced an obligation to regularly review the grounds for detention of a third-country national (at least every three months). Luxembourg has focused in particular on minors, setting up an Advisory Committee on the best interests of unaccompanied minors in November 2020. An unaccompanied minor has the right to be heard by the Commission and anyone who can contribute to a better understanding of the case may be invited by the Commission in an advisory capacity (The Annual Reports on Migration and Asylum 2020).

### **4. THE IMPACT OF THE PANDEMIC ON THE AT-RISK-OF-POVERTY RATE FOR MIGRANT CHILDREN**

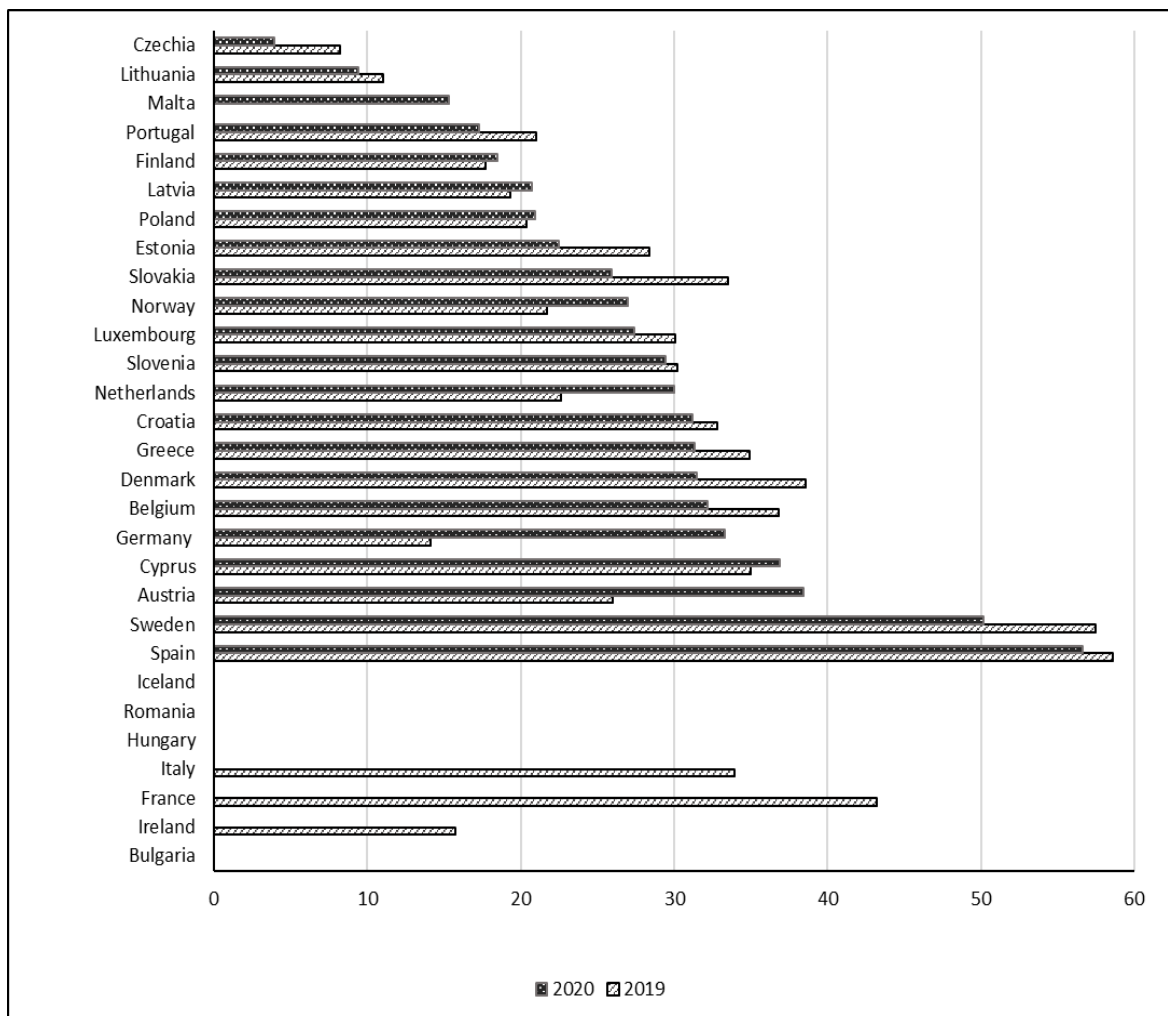
Poverty of children, who are defined as people aged 0-17, is an unfortunate phenomenon encountered both by children whose parents are citizens of the country of residence and by children who have at least one parent who has foreign nationality. There is no distinction between parents who are citizens of another EU Member State and parents who are not EU citizens.

According to European Union statistics (Eurostat Database), in the EU-27, approximately one in five children whose parents are citizens of the country of residence, representing 15.9% of the total, were in 2019 at risk of poverty. At the same time, this share for children with at least one immigrant parent is more than twice as high, at 35.8%.

As can be seen in Figure 1.2., there are no statistical reports for this indicator from countries such as Bulgaria, Iceland, Hungary, Romania, and for 2020 there are no records for Switzerland, Italy, France, Ireland.

In 2020, the highest at-risk-of-poverty rate for children with immigrant parents (Figure 1.2) was recorded in Spain with 56.6% and Sweden with 50.2%, but decreasing compared to 2019 (respectively 58.6% in Spain and 57.5% in Sweden). The next countries with the highest rates of poverty risk for children with immigrant parents are in France with 43.2% and Italy with 33.9% in 2019. In 2020 there is an increase of over 10% compared to 2019 in Austria and Germany with poverty risk rates of 38.4% and 33.3% respectively. The lowest rates of at-risk-of-poverty for children with immigrant parents were in Lithuania and the Czech Republic, with rates of 9.4% and 3.9%.

**Figure 2. Impact of the pandemic on the at-risk-of-poverty rate for migrant children aged 0-17 (%)**



Source: Data processing on the at-risk-of-poverty rate for children aged 0-17 - eurostat database [ILC\_LI33]

## 5. CONCLUSIONS

There are specific factors that affect the ability of children with immigrant parents to succeed in participating in online learning and education systems, as a consequence of disadvantaged environments for migrant pupils

Young immigrants from the European Union aged between 15 and 24 have an education level of 3-4 (maximum high school graduate) in a proportion of 34.3% in 2019 and 34.1% in 2020.

For tertiary education level 5-8 (higher education, doctorate), among young people aged 15-24, there is an average of 6.8% at EU level in the years considered.

For Romania and Bulgaria there are no data at any level, for the years studied for this age group

According to European Union statistics, in the EU-27, approximately one in five children whose parents are citizens of the country of residence, representing 15.9% of the total, were in 2019 at risk of poverty. At the same time, this share for children with at least one immigrant parent is more than twice as high, at 35.8%.

In 2020, the highest at-risk-of-poverty rate for children with immigrant parents was recorded in Spain with 56.6% and Sweden with 50.2%,

The lowest rates of at-risk-of-poverty for children with immigrant parents were in Lithuania and the Czech Republic, with rates of 9.4% and 3.9%.

## REFERENCES

1. Action Plan of Integration and Inclusion 2021-2027, <https://ec.europa.eu/home-affairs/policies/migration-and-asylum/legal-migration-and-integration/integration>;
2. Asylum trends report 2021, <https://www.easo.europa.eu>;
3. EU Migrant integration statistics 2020, <https://ec.europa.eu/eurostat>;
4. New pact migration and asylum 2019-2024, <https://ec.europa.eu>;
5. OECD/EU (2018), Settling In 2018: Indicators of Immigrant Integration, OECD Publishing, Paris/European Union, Brussels, <https://doi.org/10.1787/9789264307216-en>;
6. Raport final IIR 2019, <http://migrationcenter.ro>;
7. Reducing COVID 19 transmission and strengthening vaccine uptake among migrant populations in the EU/EEA , <https://www.ecdc.europa.eu/en/publications-data/covid-19-migrants-reducing-transmission-and-strengthening-vaccine-uptake>;
8. The Annual Reports on Migration and Asylum 2020; [https://ec.europa.eu/home-affairs/annual-reports-migration-and-asylum\\_en](https://ec.europa.eu/home-affairs/annual-reports-migration-and-asylum_en);

## THE EUROPEAN GREEN DEAL - A NEW WAY OF ENVIRONMENTAL RESPONSIBILITY

**Oana CHINDRIȘ-VĂSIOIU**, PhD, SR III,  
Institute of National Economy - Romanian Academy, oana.vasioiu@gmail.com

**Mădălina TOCAN**, PhD, Associate Professor, SR III,  
Ecological University of Bucharest,  
Institute of National Economy - Romanian Academy, madalina.tocan@gmail.com

**Anca CRISTEA**, PhD, Lecturer, SR III,  
Hyperion University of Bucharest,  
Institute of National Economy - Romanian Academy, lcancacristea@yahoo.com

**Petru NICOLAE**, PhD, Student,  
School of Advanced Studies of the Romanian Academy (SCOSAAR),  
nicolae.petru@gmail.com

**ABSTRACT:** *In recent years, the growing effects of climate change have increased the awareness level of the imminent and rapid development of the phenomenon worldwide. Climate change acts asymmetrically, the global population feeling its effects differently on sensitive aspects such as public health or the citizens' quality of life. At the same time, the costs and opportunities caused by the transition to decarbonization can create differences of opinion between the world states. For Europe the main goal of the European Green Deal is to become the first climate-neutral continent by 2050. This will enable the European Union to move towards its climate goals in a fair, cost-effective and competitive way. In this paper we have tried to analyze the ways in which the EU can achieve the objectives of the European Green Deal, as well as the ways in which Romania can move from the linear economy to the circular economy. Circularity is not the just the main way to save the planet's limited resources, but also an essential means of decarbonizing the economy. The circular economy is essential for combating global warming. Undoubtedly, therefore the circular economy is an important pillar of the European Green Deal.*

**Keywords:** *Green Deal, Environment, Linear Economy, Circular Economy, Quality of Life*

**JEL Classification:** *O44, Q50, Q58*

### 1. INTRODUCTION

The atmosphere is warming and the climate is increasing changing from one year to another. Of the eight million species of plants and animals on the planet, we risk losing one million. Forests and oceans are increasingly polluted and devastated.

The European Green Deal proposes a response to these challenges. It sets out a new growth strategy aimed at transforming the EU into an equitable and prosperous society with a modern, competitive and resource-efficient economy, with no net greenhouse gas emissions in 2050 and in which economic growth is decoupled from the use of resources.

The Pact also aims to protect, conserve and strengthen the EU's natural capital, as well as to protect the health and well-being of its citizens against environmental risks and impacts.

At the same time, the transition must be equitable and favourable to inclusive; it must put people first and pay attention to the regions, industries and workers who will face the greatest difficulties. Because it will bring substantial changes, the active participation of citizens and their confidence in the transition have a paramount importance, if EU wants that policies to work and be accepted. It is necessary a new pact to bring Europe's citizens together, in their full diversity, and for national, regional, local authorities, civil society and industry to work closely with EU institutions and advisory bodies.

## 2. THE TRANSITION TO A GREEN ECONOMY: EUROPEAN GREEN DEAL

The EU has the collective capacity to transform its economy and society in order to put them on a more sustainable path. The EU can rely on its world leader advantages regarding the climate and environmental measures, consumer protection and workers' rights. Achieving additional emission reductions is a challenge. This step will require massive public investments and increased efforts to direct private capital towards climate and environmental actions, while avoiding the continuation of unsustainable practices. The EU must be at the forefront of coordinating international efforts to create a coherent financial system that supports the identification of sustainable solutions. These initial investments also represent an opportunity for Europe to embark decisively on a new path of sustainable and inclusive growth. The European Green Deal will accelerate and support the necessary transition in all sectors [1].

The European Green Deal was published by the European Commission on 11 December 2019 and sets out the guidelines for the various European policies for the next 5 years. The European Green Deal is the EU's most ambitious project in terms of allocated budget, with a total of € 1 trillion. The document is linked to a number of legislative and non-legislative initiatives in multiple areas, such as the environment, climate change, energy, industry, transport, agriculture, digitalisation and the financial sector.

**Figure 1. European Green Deal**



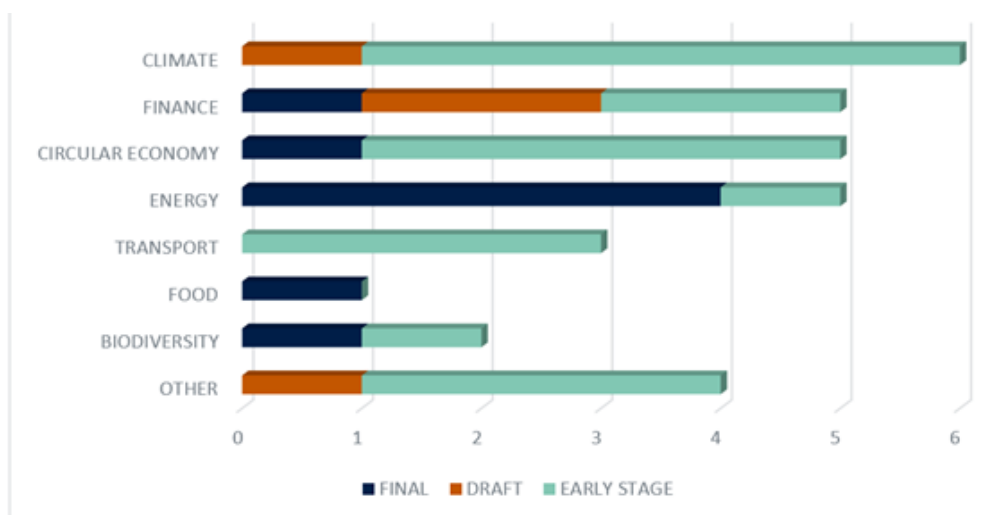
Source: <https://www.interregeurope.eu>

The ambitious environmental goals of the Pact will not be achieved through Europe's isolated efforts. The determinants of climate change and biodiversity decline are the same at global level and are not limited to national borders. The EU can leverage its influence, expertise and financial resources to engage its neighbours and partners on this sustainable path. The EU will continue to be at the forefront of international efforts in this regard and wants to forge alliances with countries that share the same vision, while recognizing the need to maintain security of supply and competitiveness, even when other states do not want to take a stand [5].

The European Green Deal is an integral part of the Commission's strategy for implementing the 2030 Agenda of the United Nations and the Sustainable Development Goals. In order to implement the European Green Deal, it is necessary to rethink clean energy supply policies in all economic and industrial sectors, along the production and consumption chain, for large-scale infrastructure projects in the transport, food and agriculture, construction, taxation and social benefits sectors. In order to achieve these goals, it is essential to give a greater value on the protection and restoration of natural ecosystems, the sustainable use of resources and the improvement of human health. Precisely in these areas is imperious to make a profound change, which can be extremely beneficial to the EU's economy, society and the natural environment. The EU should also promote and invest in the necessary digital transformation and its related tools, as these are key drivers of change.

Although all these areas of action are closely interlinked and mutually reinforcing, a special attention will need to be paid to possible trade-offs between economic, social and environmental objectives. The European Green Deal will consistently use all the policy levers at its disposal: regulation and standardization, investments and innovation, national reforms, dialogue with the social partners and international cooperation.

**Figure 2. Number of Green Deal legislative and policy initiatives, by topic**



Source: <https://www.lexology.com>

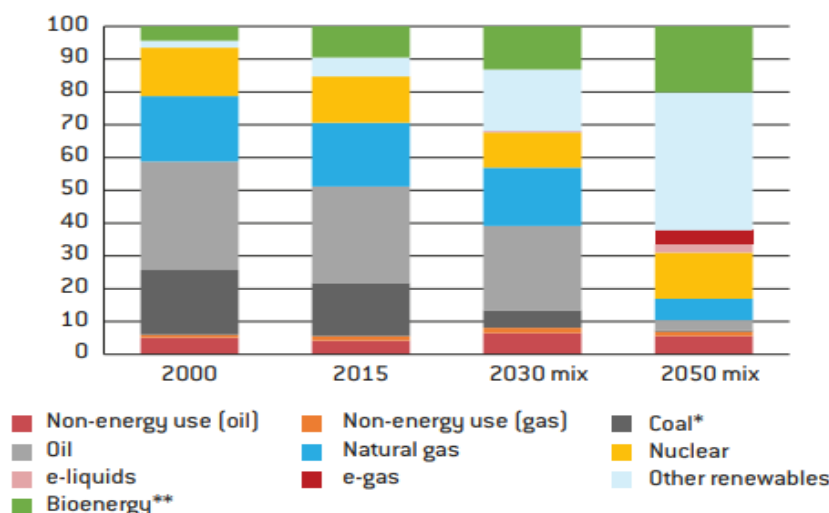
The new measures will not be enough to meet the objectives of the European Green Deal. In addition to launching new initiatives, the Commission is working with Member States to intensify EU efforts to ensure compliance with and effective implementation of current legislation and policies relevant to the Green Deal [7].

### 3. THE MAIN OBJECTIVES OF THE EUROPEAN GREEN DEAL

Through the European Green Deal, the European Commission aims to reduce greenhouse gas emissions by at least 55% by 2030, and by 2050 it intends to eliminate them,

making Europe the first climate-neutral continent. The aim of this pact is to involve citizens with the authorities in order to remove the harmful effects of global warming, to protect the natural environment and to protect citizens against environmental risks. The European Climate Law by 2050 is a key element of this Pact, being a cross-cutting legislative proposal with immediate effect on existing European legislation and, respectively, on all sectors [8].

**Figure 3. EU energy mix evolution - 55 percent lower emission in 2030 compared to 1990 and climate neutrality in 2050**



Source: <https://thecoalhub.com/?report-presentation=the-geopolitics-of-the-european-green-deal>

The policy of reducing emissions is considering the following aspects at a global level: global warming - in the absence of a reducing polluting emissions policy, the temperature will increase by 1.1 degrees C and 6.4 degrees C during this century; the impact of climate change-global warming is responsible for floods, droughts, precipitations and extreme heat, fires, the disappearance of glaciers; the cost of action versus the cost of inaction - the fight against climate change costs 1% of global GDP each year, and the cost could rise to 20% in the absence of Member States actions; adaptation to climate change - the methods of adaptation to climate change are: water rationalization, crop rotation and drought resistance, and the most expensive ones involve the relocation of people from low coastal areas [3].

The European Green Deal is a roadmap for the steps which European Commission takes into account in order to facilitate the achievement of the climate neutrality goal. The transition to this goal will generate important opportunities, including from the perspective of the economic growth potential, new business models and new markets, new jobs creation and technological development. Future-oriented research, development and innovation policies will play a key role.

At the same time, the climate neutrality goal is a challenge, involving substantial costs for all Member States. In this regard, it is necessary to ensure an implementation framework that facilitates a fair transition process, both economically and socially, taking into account the different national circumstances of the Member States.

The pact contains a total of 47 actions and includes legislative proposals, strategies and action plans, financial instruments and non-legislative initiatives covering a variety of sectors: climate, energy, environment, industry, agriculture, transport, trade, etc. Under this "explosion" of actions, the European bureaucratic machinery will be subject to a maximum capacity exercise, given that over 50% of the actions had a deadline of 2020 [5].

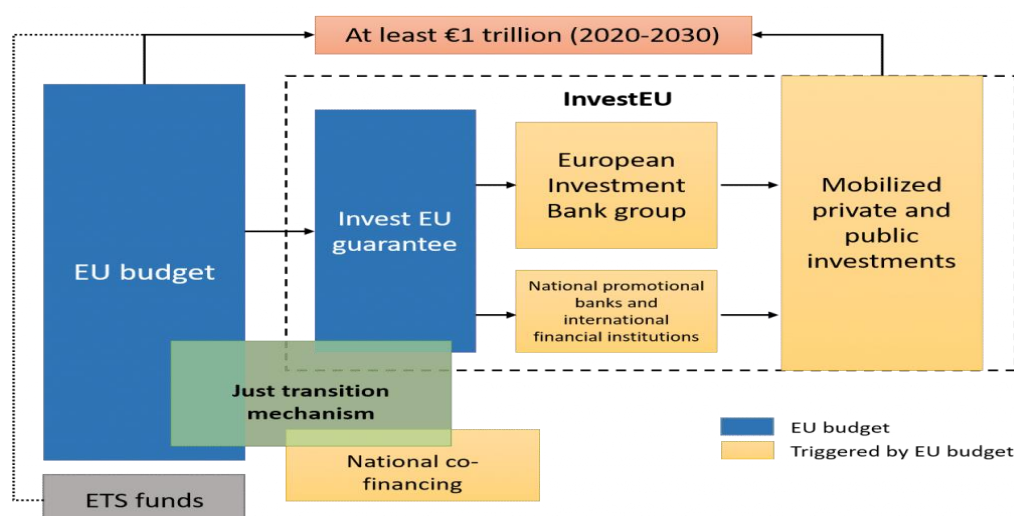
The European Commission considers that the European Union needs a new growth strategy, one that is efficient from the point of view of resources use. Thus, the main objectives of the European Green Deal are that by 2050 the European Union will stop emitting greenhouse gases, economic growth will be decoupled from the use of resources and no person and no place will be left behind. In the European Green Deal are established the following actions in all economic sectors: investment in green technologies, support for innovation in the industrial sector, the introduction of less polluting, cheaper and healthier forms of private and public transport, the decarbonisation of the energy sector, improving the energy efficiency of buildings, collaborating with international partners to improve global environmental standards. The pact also focuses on replacing old jobs in polluted regions with new and better paid jobs for both seniors and young people. People will have to specialize and acquire new skills to take on new jobs.

#### 4. SUSTAINABLE EUROPE INVESTMENT PLAN

One of the modalities in which the European Green Deal (EGD) intends to achieve the 2050 targets is through financial measures. Therefore, the effectiveness of the Pact will be measured in relation to its ability to mobilize funding dedicated to climate change. EGD intends to approach this financial dimension, inter alia, through investments, mobilizing public and private funds, devoting part of the EU budget to climate actions, providing support through the European Investment Bank. The Commission has adopted the European Green Deal Investment Plan, which is the investment pillar of EGD's. According to the Commission, the investment plan was designed to rise EU funding and create a favourable framework to facilitate and stimulate public and private investments necessary for the transition to a climate-neutral, green, competitive and inclusive economy. Funding refers to the mobilization of at least EUR 1 trillion in sustainable investments over the next decade [2].

The EU will provide financial support and technical assistance to help those most affected by the transition to the green economy. With the help of the Just Transition Mechanism, European countries which are moving to the green economy will be able to access funds of at least 1 trillion euros in the period 2021-2027 in the most affected regions.

**Figure 4. Sustainable Europe Investment Plan**



Source: <https://ec.europa.eu>

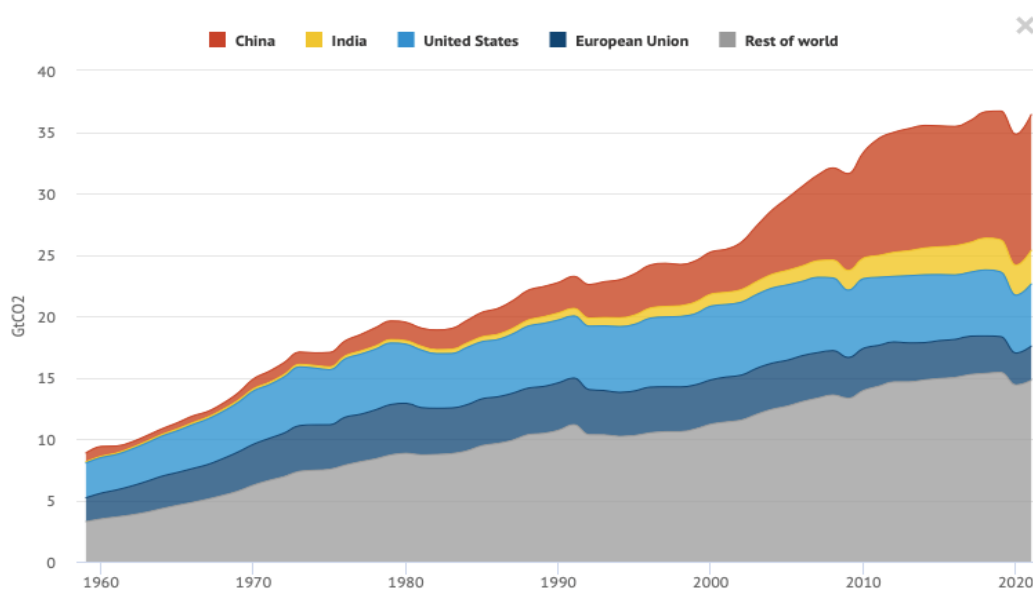
EU Member States can access the funds allocated to the Just Transition Mechanism through the Just Transition Platform. This platform supports EU countries and regions to make

the transition in an equitable way. It consists in a single access point and a single technical support service and provides comprehensive technical and advisory support. Authorities and beneficiaries can access it to find all the information about the funds they need, including opportunities, relevant updates to specific rules or sectorial initiatives. [4]

Just transition territorial plans define the territories in which the Just Transition Fund will be used. The identification of these territories is realized through a dialogue with the Commission. These plans outline the challenges in each territory, as well as the development needs and objectives to be met by 2030. They identify the types of operations envisaged and specify the governance mechanisms. The approval of just transition territorial plans paves the way for specific funding under the other two pillars of the Just Transition Mechanism.

In terms of carbon dioxide emissions, the European Union is a major player on the world map.

**Figure 5. Global CO2 emissions by region, 1959-2021**



Source: <https://www.weforum.org/agenda/2021/>

The support will be available to all Member States, with a focus on the regions with the highest CO2 emissions or those where most jobs depend on fossil fuels. For this, Member States may draw up just transition territorial plans (for the period up to 2030), identifying the territories that should receive the most support. Plans should also indicate optimal solutions to social, economic and environmental challenges [9].

The Just Transition Mechanism will protect Member States and regions that are heavily dependent on fossil fuels and high CO2 industries, individuals and organizations because it will: facilitate employment opportunities in new and transition sectors; provide opportunities for retraining; improve the energy efficiency of homes; invest in combating energy poverty; facilitate access to clean, consistent and affordable energy; support the transition to low-CO2 technologies and economic diversification based on job-and resilient investments to the effects of climate change; create attractive conditions for public and private investors; facilitate access to loans and financial support; invest in setting up new businesses, SMEs and start-ups; invest in research and innovation; support the transition to much less CO2-emitting activities that are resilient to the effects of climate change; create new jobs in the green economy; invest in public and sustainable transport; invest in renewable energy sources; improve digital connectivity; provide affordable loans to local public authorities; improve energy infrastructure, district heating systems and transport networks [4].

According to the Commission, a combination of funds provided by the European Union budget and public and private investments will mobilize at least € 1 trillion over the next decade: climate and environment spending from the EU budget will provide € 502 billion in 2021-2030, which will trigger an additional € 114 billion in national co-financing for climate and environment; the InvestEU fund will mobilize around EUR 279 billion in private and public climate and environmental investments over the period 2021-2030, providing a European Union budget guarantee to reduce the risk of financing and investment operations; the just transition mechanism will include funding from the European Union budget, co-financing from the Member State, as well as contributions from InvestEU and the European Investment Bank to reach EUR 100 billion in investments to be mobilized in the period 2021-2027; The innovation and modernization funds, which are part of the European Union budget, are partly funded by revenues from the auctioning of carbon allowances under the emissions trading scheme and will provide at least € 25 billion for the European Union's transition to climate neutrality.

## 5. CONCLUSIONS

The Just Transition Mechanism ("Just Transition") is a key tool to ensure that the transition to a climate-neutral economy takes place in the right way, without leaving anyone behind. While all regions will need funding under the plan, the Just Transition provides specific support to help mobilize EUR 100 billion in the period 2021-2027, in the most affected regions, to improve the socio-economic impact of transition. The Just Transition will create the investments needed to help workers and communities that build on the fossil fuel value chain [6].

The Commission will also provide technical assistance to Member States and investors on an equitable transition platform - the Just Transition platform. The Commission will assist Member States in unlocking available support through the Just Transition Mechanism.

The EU's long-term budget for the next seven years will support the green transition. 30% of the programs in the multiannual financial framework 2021-2027, covering EUR 2 trillion, and the NextGenerationEU program are intended to support climate action; 37% of the EUR 723.8 billion (in current prices) of the Recovery and Resilience Mechanism, which will fund Member States' national recovery programs under NextGenerationEU, is allocated to climate action [6].

## REFERENCES

1. Chomsky N., Pollin R., *Climate Crisis and the Global Green New Deal*, Verso Books Publisher, London, 2020
2. Rifkin J., *The Green New Deal: Why the Fossil Fuel Civilization Will Collapse by 2028, and the Bold Economic Plan to Save Life on Earth*, St. Martin's Griffin Publisher, London, 2019
3. [https://ec.europa.eu/clima/sites/clima/files/youth/docs/youth\\_magazine\\_ro.pdf](https://ec.europa.eu/clima/sites/clima/files/youth/docs/youth_magazine_ro.pdf)
4. [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism\\_ro](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_ro)
5. <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX:52019DC0640>
6. <https://www.interregeurope.eu>
7. <https://www.lexology.com>
8. <https://thecoalhub.com/?report-presentation=the-geopolitics-of-the-european-green-deal>
9. <https://www.weforum.org/agenda/2021/>

# IF PRIVATE SCHOOL IS SUPPORTED BY STATE, WHAT DOES IT MEAN, ACTUALLY, PRIVATE EDUCATION? COMPARATIVE STUDY AT EUROPEAN LEVEL

**Laurentiu Mihai MIHAILA**, PhD Student,  
Valahia University, Targoviste, Romania, laurentiumihaila@yahoo.com

**Gabriela Alina PARASCHIVA**, PhD Student  
Politehnica University of Timisoara, Romania, gabriela.paraschiva@student.upt.ro

**Constanta-Valentina MIHAILA**, PhD, Lecturer,  
National University of Physical Education and Sports, Bucharest, Romania,  
constanta.mihaila@unefs.ro

**ABSTRACT:** *In recent years a special attention has been paid to private education, various studies and documents of educational policy trying to cover both its funding formula and the way it is organized. All of them, on the one hand, stipulate the fundamental right to education of everyone and the role of the state, as a guarantor, in its preservation; and on the other hand, they highlight the effective contribution of the state as regulator and as a financier. Therefore, in the context in which the state finances, to a greater or lesser extent, private education, a question arises as to the very essence of this subsystem: what does “private education” actually means now? That is why, the present study performs an analysis on private pre-university education at European level, having as theoretical support the UOE 2020 Manual and using education and training EUROSTAT database. Providing an image of existing similarities and differences, the analysis shows that the situational range is much more diverse than the theoretical one established at the level of the UOE 2020 Manual; and that the private education is undergoing a process of transformation, from 2 perspectives - that of overall control and that of financing.*

**Keywords:** *private education, transformation, funding, overall control, state’s role*

**JEL Classification:** *H52, I28*

## 1. INTRODUCTION

As individuals, we are all practicing a clear demarcation between our private and our public life; and as parents, we all try to insert in our children’s minds a clear distinction between what is allowed, and what is not, outside the family walls, means in public spaces and situations. Carrying out a translational movement toward what surrounds us, we can see that “public” and “private” coexist in a variety of fields, from management to health care, transportation and even education; but sometimes with extremely fine boundaries, as is the case of public administration, mainly due to the increasing involvement of the private and/or non-governmental organizations and to the diversification of financial sources.

The first conventional distinction between private and public could be made according to the ownership - while the private firms are owned by entrepreneurs, the public sector organizations are owned collectively by members of political communities. Continuing on this path of distinctions, a bit more nuance could be added by another two elements that differentiate private from public: the purpose and the objectives - while the private firm's purpose is to make and to maximize the profit, the public sector organization purpose is to deliver nonexclusive (regarding their use) services and /or goods. But the dichotomous distinction between public and private begins to become blurred due to the increased number of private and/ or non-governmental organizations involved in public administration; therefore, between private and public, a third category has emerged – that of “hybrid” (as in the case of self-financing public organizations with partially politically autonomous boards or with fully politically autonomous boards; or, as in the case of public organizations that are not under the political control of the parliament, but this control continues to be done through public ownership and the appointment of board members).

Throughout time, comparative analyses were performed in order to highlight differences and similarities between private and public, regarding: general management (Boyne, 2002), waste management (Lu, Chen, Ho, & Wang, 2016), achievements/performances in education (Rong'uno, 2017; Hussain & Awan, 2018), individual behaviour of workers (Monte, 2017; Hansen & Kjeldsen, 2018) and even morality (Hampshire, 1978).

The vast majority of theoretical and applied researches had concluded that the private area is more accountable, cost-effective, responsive to parents and other stakeholders' voices, and that a number of practices, methods, tools or structures should be transferred to the public area. However, analysing a series of researches published in last years, it turns out that the balance does not always tilt towards the private area to have increased performance or increased employee engagement. Thus:

- as regards performance, the innovation is stronger and more robust for public companies in external finance dependent industries, compared with the one in private companies – these public companies generate more patents, of higher quality and novelty than their private counterparts; the research has involved 1.717 matched pairs of private and public firms located in USA and used data between 1994 and 2004 from S&P Capital IQ and the National Bureau of Economic Research Patent Citation database (Acharya & Xu, 2017);
- as regards the affective organizational commitment, there is no significant sectorial (private / public) difference among Danish office workers; the research has involved 1.043 office workers in Danish organizations (all members of HK, one of the largest trade union federations in Denmark), out of which 697 were in public sector and 346 were in private sector (Hansen & Kjeldsen, 2018);
- as regards school systems general performance in PISA 2018, after accounting for per capita GDP across all countries and economies, it turned out that those with a large number of students in private education showed lower mean performance in reading, mathematics and science; in addition, as regards reading performance in PISA 2018, after accounting for students' and schools' socio-economic profile, it turned out that students in public schools scored higher in reading than students in private schools, in 19 education systems (OECD, 2020).

What caught our attention was not the difference in performance between private and public, but the very distinction between private and public in a field that arouses much

interest and on which ultimately depends our future - namely, education. And that's because the realities of recent years show that the boundaries which separate the public and the private sector in education are not so clear now, as they were 30 years ago, for at least 2 reasons:

- Firstly, due to the increased implication of a great variety of stakeholders (parents associations, professional teachers associations, non-governmental associations, for profit firms) and to the diversification of financial sources, in public education;
- Secondly, due to the increased financial support from the State, in private education.

Are we practically facing a hybridization process? It seems so, but not just a classic one from public to private; a second process of transformation, but with the reverse direction, from private to state, has appeared.

That is why, we decided to perform an analysis on private pre-university education at European level, in order to have a clearer picture about the transformation of it. Although equally important, hybridization in the classical sense, namely the transformation of public education into one that is not so "pure" public, will be the subject of another analysis.

## 2. LITERATURE REVIEW

Any approach to analysis must start from the fact that the right to education of every individual is a fundamental one.

As it is clearly set from 1948 by the 26<sup>th</sup> article (paragraph1) of the Universal Declaration of Human Rights (UDHR) - "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit." Means that, the State must / has the responsibility to provide free and compulsory primary education, with progressive implementation of a free secondary education.

In addition, as it is set by the 2<sup>nd</sup> article of the UDHR, everyone has this right "without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status." Means that, the State must / has the responsibility to provide education without any discrimination.

But, through the UDHR lens, what else does the right to education entail? The parents' right to choose, as it is set by the 26<sup>th</sup> article (paragraph3) of the UDHR - "Parents have a prior right to choose the kind of education that shall be given to their children". Correlating this right with the subsequent provisions the Convention against Discrimination in Education, things became a little bit clear. As it is set by the article 2 (c), shall not be considered discrimination "The establishment or maintenance of private educational institutions, if the object of the institutions is not to secure the exclusion of any group but to provide educational facilities in addition to those provided by the public authorities, if the institutions are conducted in accordance with that object, and if the education provided conforms with such standards as may be laid down or approved by the competent authorities, in particular for education of the same level" (UNESCO, 1960). It means that:

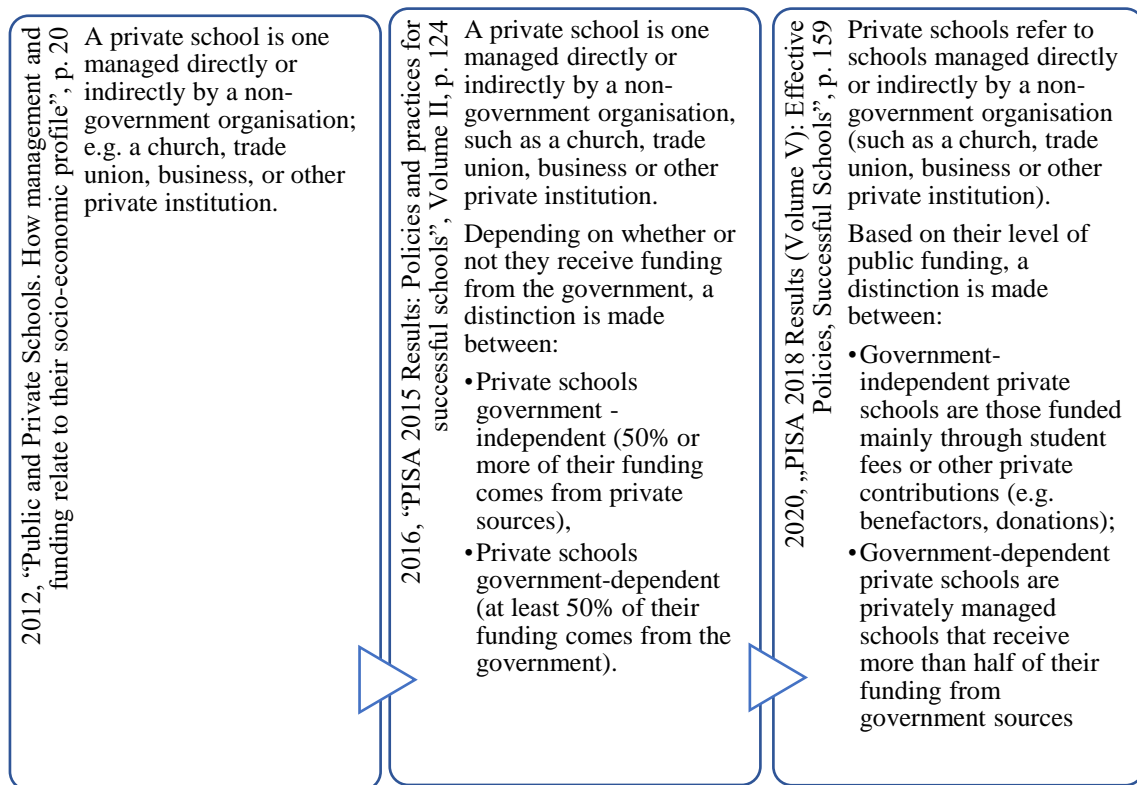
- Firstly, the State is obliged to allow private initiatives in education, but equally the State has no obligation to finance such private initiatives;

- Secondly, it is not forbidden for the State to finance private initiatives in education; if it decides to do so, it cannot discriminate based on race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status;
- Thirdly, the parents’ decision regarding what is fit for their children – a public or a private alternative, is the prevailing one.

In such circumstances, is there a chance to have a public monopoly on education?

An answer could be found analyzing the reports published by Organization for Economic Co-operation and Development (OECD) regarding the results in the PISA evaluations. During the whole period 2012 – 2020 the OECD perspective remains stable about what it means a public school; all the report refers to a public school as being one “managed directly or indirectly by a public education authority, government agency, or governing board appointed by government or elected by public franchise” (OECD, 2012, p. 20; OECD, 1016, p. 124; OECD, 2020, p.156). But as regards a private school, OECD perspective has changed over the years: Figure 1 – Evolution of a private school definition, according to OECD perspective, capture this change and indicates the document source.

**Figure 1. Evolution of a private school definition, according to OECD perspective**



As could be observed, OECD perspective starts by covering only managerial prospects; then includes very precise funding prospects; finally, OECD retains both prospects, but the financial one is no longer as strict as it was before in terms of funding.

This OECD terminological evolution on what means private schools/ private initiatives in educations is closely link with the general UNESCOs ‘prospect on education.

Here we refer to the UNESCO's document "Rethinking Education: Towards a global common good?" where it is recommended to change the view on education and knowledge, from public goods to common goods.

So, in a very diverse educational landscape, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS), OECD and the Statistical Office of the European Union (EUROSTAT), shorter UOE, join their efforts in order to provide internationally comparable data on several key aspects of formal education systems. The UOE data collection is based on a conceptual background largely described and explained in a manual which includes concepts, definitions and classifications in education.

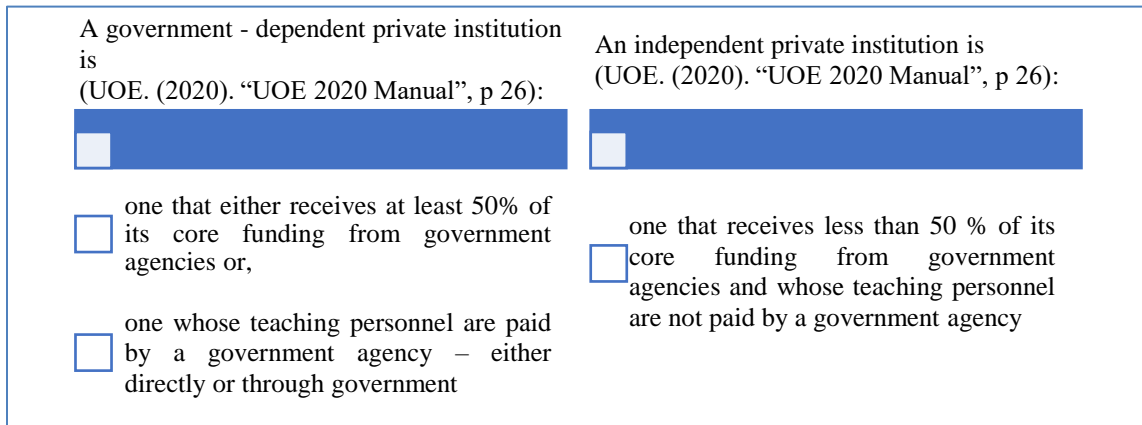
With a great variety of the identified country situations/ contexts, the updated version of the UOE manual (dated June 15, 2020) make a final conceptual distinction between a public and a private institution in education. As could be seen in Figure 2 – Public-private classification of institutions, used by UOE, classification is based only on management and on the overall control of the institution, regardless of the sector which provides the majority of the funding.

**Figure 2. Public-private classification of institutions, used by UOE**

An institution is classified as public if it is controlled and managed (UOE. (2020). "UOE 2020 Manual", p 24):	An institution is classified as private if (UOE. (2020). "UOE 2020 Manual", p 24):
<input type="checkbox"/> Directly by a public education authority or agency of the country where it is located or Either by a government agency directly or by a governing body (council, committee etc.), most of whose members are either appointed by a public authority of the country where it is located or elected by public franchise.	<input type="checkbox"/> It is controlled and managed by a non-governmental organisation (e.g. a church, a trade union or a business enterprise, foreign or international agency), or <input type="checkbox"/> Its Governing Board consists mostly of members not selected by a public agency.

And as for the overall control, it is decided with reference to the juridical entities who has the power to determine the general policies (e.g curriculum, the admission of students, staff and board members appointments) and activities of the institution (e.g opening and closure of the school, curriculum implementation, selection and dismissal of staff).

The updated version of the UOE manual make also a final conceptual classification of private institutions in education. As could be seen in Figure 3 – Private institutions classification, used by UOE, there are only two categories of such institutions - the government-dependent ones and the independent ones, based on two fundamental aspects - (1) core funding received from the State, with a threshold set at 50% and (2) payment / non-payment of teaching staff by the State.

**Figure 3. Private institutions classification, used by UOE**

And as for the core funding, this includes only funds that support the basic educational services.

Therefore, having as background these updated classifications, the present paper is devoted to the analysis of private education at European level. It will be used the public information available within education and training EUROSTAT database and the 2018 image of the European educational landscape will be presented. The results highlight that the insertion of public funding into the private education area led to a blurring of the public-private distinction.

### 3. DATA AND METHODOLOGY

Methodologically, it was developed a desk research analysis on the following:

- terminological and conceptual evolution of terms between 1990 and 2020, in order to identify the updated conceptual distinction between public and private education and the updated classification of the private institutions;
- types of private institutions by level of education, in 35 European countries, using public information available within education and training EUROSTAT database (<https://ec.europa.eu/eurostat/web/education-and-training/data/database>).

As for education and training EUROSTAT database, the query targeted expenditure of the educational institutions by education level, type of institution and expenditure category. Therefore:

- As regards type of institution, they were made two selections: government-dependent private institutions and independent private institutions.
- As regards expenditure category, we selected option „all”, means the total amount of expenditure (including investments).
- As regards time frequency and period of time covered, the series of data have annual display, from 2012 till 2018.

Only the latest information, the most recent ones, i.e. those from 2018, were taken into analysis and were centralized; but in 2018, for the vast majority of education systems, compulsory education included only the primary and lower secondary education; therefore, we decided for further query to compact the information on level (s), depending on the

compulsory/ non-compulsory nature of education, resulting in 3 subcategories - Pre-primary education, Primary and lower secondary education, Upper secondary and post-secondary non-tertiary education.

- As regards education level, they were made three selections: Pre-primary education, Primary and lower secondary education, Upper secondary and post-secondary non-tertiary education.

#### 4. RESULTS

As regards first category, that of government-dependent private institutions, the results for the year 2018 are presented in detail in Table 1, by country and level (s) of education. But the following must be considered: the information obtained was quantitative, expressing the level of education expenditures in millions of euros; however, from the point of view of this research, it is not the value of the expense itself that is important, but only the existence of this expense (as a proof of the permeability of the demarcation line between public and private); therefore, each time a value was identified at the intersection between a row (country) and a column (education level (s)), then this was highlighted by ticking.

**Table 1. Government - dependent private institutions on European level (2018)**

Country/ level (s) of education	Pre-primary education	Primary and lower secondary education	Upper secondary and post-secondary non-tertiary education
Belgium	✓	✓	✓
Bulgaria	not applicable	not applicable	not applicable
Czechia	✓	✓	✓
Denmark	✓	✓	✓
Germany	✓	✓	✓
Estonia	definition differs	✓	✓
Ireland	definition differs	not applicable	not applicable
Greece	not applicable	not applicable	not applicable
Spain	definition differs	definition differs	definition differs
France	✓	✓	✓
Croatia	not applicable	definition differs	not applicable
Italy	not applicable	not applicable	✓
Cyprus	✓	not applicable	not applicable
Latvia	not applicable	not applicable	not applicable
Lithuania	not applicable	not applicable	not applicable
Luxembourg	✓	✓	✓
Hungary	definition differs	definition differs	definition differs
Malta	✓	✓	✓
Netherlands	not applicable	not applicable	not applicable
Austria	definition differs	definition differs	definition differs
Poland	definition differs	definition differs	definition differs
Portugal	✓	✓	✓

Country/ level (s) of education	Pre-primary education	Primary and lower secondary education	Upper secondary and post-secondary non-tertiary education
Romania	special case	special case	special case
Slovenia	definition differs	✓	definition differs
Slovakia	✓	✓	✓
Finland	✓	✓	✓
Sweden	✓	✓	✓
Iceland	✓	✓	✓
Liechtenstein	not applicable	not applicable	not applicable
Norway	✓	✓	✓
Switzerland	data not available	data not available	data not available
United Kingdom	✓	✓	✓
North Macedonia	data not available	data not available	data not available
Serbia	data not available	data not available	data not available
Turkey	not applicable	not applicable	not applicable

Source: Authors own development, using education and training EUROSTAT database  
(<https://ec.europa.eu/eurostat/web/education-and-training/data/database>)

Leaving aside countries for which data were not available all levels / all subcategories (Switzerland, North Macedonia and Serbia), as could be observed, there are similarities and differences:

- Countries whose educational systems include such institutions at all levels – Belgium, Czechia, Denmark, Germany, France, Luxembourg, Malta, Portugal, Slovakia, Finland, Sweden, Iceland, Norway and United Kingdom;
- Countries whose educational systems do not include such institutions, the national legislative provisions not allowing their existence / operation – Bulgaria, Greece, Croatia, Latvia, Lithuania, Netherlands, Liechtenstein and Turkey;
- Countries whose educational systems include private initiatives government dependent at all levels, but their definition differs from that of UOE manual – Spain, Hungary, Austria and Poland;
- Countries whose educational systems include such institutions in at least one subcategory; and for the rest, their definition differs from that of UOE manual – Estonia and Slovenia;
- Countries whose educational systems include such institutions in at least one subcategory, and for the rest, the national legislative provisions not allow their existence / operation – Italy and Cyprus.

A special case is the situation in Romania, which mentioned the existence of such institutions, but completed with 0 the level of funding; thus, there is a discrepancy between the definition and the level of funding, which cannot be 0; it is appreciated that, in the case of Romania, the definition was less understood.

As regards second category, that of private government independent institutions, the results for the year 2018 are presented in detail in Table 2, by country and level (s) of education; with the same considerations as in the case of first category.

**Table 2. Independent private institutions on European level (2018)**

Country/ level of education	Pre-primary education	Primary and lower secondary education	Upper secondary and post-secondary non-tertiary education
Belgium	✓	✓	✓
Bulgaria	✓	✓	✓
Czechia	not applicable	not applicable	✓
Denmark	✓	✓	✓
Germany	not applicable	not applicable	✓
Estonia	definition differs	✓	✓
Ireland	not applicable	data not available	data not available
Greece	✓	✓	data not available
Spain	definition differs	definition differs	definition differs
France	✓	✓	✓
Croatia	✓	definition differs	✓
Italy	✓	✓	✓
Cyprus	✓	✓	✓
Latvia	✓	✓	✓
Lithuania	✓	✓	✓
Luxembourg	✓	✓	✓
Hungary	definition differs	definition differs	definition differs
Malta	✓	✓	✓
Netherlands	✓	✓	✓
Austria	definition differs	definition differs	definition differs
Poland	definition differs	definition differs	definition differs
Portugal	✓	✓	✓
Romania	✓	✓	✓
Slovenia	definition differs	not applicable	definition differs
Slovakia	not applicable	not applicable	not applicable
Finland	not applicable	not applicable	not applicable
Sweden	not applicable	not applicable	✓
Iceland	not applicable	not applicable	definition differs
Liechtenstein	data not available	data not available	data not available
Norway	not applicable	not applicable	not applicable
Switzerland	data not available	data not available	data not available
United Kingdom	✓	✓	✓
North Macedonia	data not available	data not available	data not available
Serbia	data not available	data not available	data not available
Turkey	✓	✓	✓

Source: Authors own development, using education and training EUROSTAT database  
(<https://ec.europa.eu/eurostat/web/education-and-training/data/database>)

Leaving aside countries for which data were not available at all levels / all subcategories (Liechtenstein, Switzerland, North Macedonia and Serbia), as could be observed, there are again similarities and differences:

- Countries whose educational systems include such institutions at all levels – Belgium, Bulgaria, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Romania, United Kingdom and Turkey;
- Countries whose educational systems do not include such institutions at all levels, the national legislative provisions not allowing their existence / operation – Slovakia, Finland and Norway;
- Countries whose educational systems include private initiatives government independent at all levels, but their definition differs from that of UOE manual – Spain, Hungary, Austria and Poland;
- Countries whose educational systems include such institutions in at least one subcategory; and for the rest, their definition differs from that of UOE manual – Estonia and Croatia;
- Countries whose educational systems include such institutions in at least one subcategory; and for the rest, the national legislative provisions not allow their existence / operation – Czechia and Sweden;
- Countries whose educational systems include private initiatives government independent in at least one subcategory, but their definition differs from that of UOE manual; and for the rest, the national legislative provisions not allow their existence / operation – Iceland, Germany and Slovenia;
- Countries whose educational systems include such institutions in at least one subcategory; and for the rest, data were not available – Greece;
- Countries whose educational systems do not include such institutions in at least one subcategory, the national legislative provisions not allowing their existence / operation; and for the rest, data were not available – Ireland.

## 5. CONCLUSIONS

This research analyses private pre-university education at European level, through the lens of definitions and classifications of UOE 2020 Manual. The developed research lead us to the following conclusions:

- Ownership - most conventional distinction between private and public, has acquired new meanings; although the old meaning still exist, being related with who owns the school buildings and sites, an alternative meaning has arisen and became relevant – that of the overall control of the institution (in terms of general policies and activities).
- Government-dependent private institutions were identified in 18 European countries, out of 35 (counting for 51.43% of the countries) and private government independent institutions were identified in 20 European countries, out of 35 (counting for 57.14% of the countries); means that each of the two private alternatives depicted by the UOE manual are present in more than half of the European countries.

Taking into account the two definitions (for government-dependent private institutions and for private government independent institutions), results that, in at least 20

European countries, private schools receive governmental funds for their core activities. And this proves the transformation into something that is no more pure private initiative.

- Excepting Switzerland, North Macedonia and Serbia (and partially Liechtenstein) from whom no data were available, all the other European countries develop private initiatives in education, either in the shapes depicted by the UOE manual, or in different shapes; means that, private initiatives in education is present in at least 88.57% of the European countries.
- 5 countries (out of 35), for the first category and 7 countries (out of 35) for the second category were identified as having different private initiatives in education than the ones depicted by the UOE manual; means that, the range of private educational institutions is much wider than the one depicted by UOE manual.

Limitation of this study is given by two facts.

One fact is that the information for Belgium were delivered per country as a whole, not per community (German-speaking Community, French-speaking Community and Flemish-speaking Community); and a research through Eurydice database lead us to the information that there is no private education system in Belgium's German-speaking Community.

Second fact is that the information was indirectly disclosed to us, through the expenditure of the educational institutions by education level, programme orientation, type of institution and expenditure category. Therefore, it was not possible to extract clear information about the number of national private schools (from one category or another)/country, or about the enrolled students' number in such private schools.

And yet, although the magnitude of private education in Europe is impossible to determine with these data, what is important has been revealed – the insertion of public funding into the private education area led to a blurring of the public-private distinction; thus exceeding the hypothetical area, this research highlights the transformation of private education into something that is more or less private. What should we call this transformation? Shall we call it hybridization, but in the opposite direction to the classical one? Should we call it something else? This could be a distinct topic of discussion. But for this paper we decided to keep the existing terminology and to extend it also to the opposite transformation, from private to public.

In addition, we believe that another analysis would be needed, in order to identify what private schools had to give up in return for public funding. But this can only be done through a qualitative research, accessing the Eurydice network and the national descriptions provided by each country through it. In the next period, another research is scheduled, targeting the identification of freedoms still available of private schools that receive public funding.

## REFERENCES

1. Acharya, V. & Xu, Z. (2017). „Financial dependence and innovation: The case of public versus private firms”. *Journal of Financial Economics*, Volume 124, Issue 2, pp 223-243, ISSN 0304-405X, <https://doi.org/10.1016/j.jfineco.2016.02.010>.
2. Boyne, G. A. (2002). „Public and Private Management: What's the Difference?“. *Journal of Management Studies*, 39(1), 97–122. doi:10.1111/1467-6486.00284

3. Hampshire, S. (ed.). (1978). „Public and Private Morality”. Cambridge University Press
4. Hansen, J. R. & Kjeldsen, A. M. (2018). „Comparing Affective Commitment in the Public and Private Sectors: A Comprehensive Test of Multiple Mediation Effects”. *International Public Management Journal*, Vol. 21:4, pp 558-588, DOI: 10.1080/10967494.2016.1276033
5. Hussain, A., & Awan, A. G. (2018). Comparison of the achievements of public and private secondary schools in district Khanewal Pakistan. *Global Journal of Management, Social Sciences and Humanities*, 4(3), pp 574-605.
6. Lu, W., Chen, X., Ho, D. C. W., & Wang, H. (2016). „Analysis of the construction waste management performance in Hong Kong: the public and private sectors compared using big data”. *Journal of Cleaner Production*, 112, 521–531. doi:10.1016/j.jclepro.2015.06.106
7. Monte, P.A. (2017). „Public versus private sector: Do workers’ behave differently?”. *Economia*, Volume 18, Issue 2, pp 229-243, ISSN 1517-7580, <https://doi.org/10.1016/j.econ.2017.01.001>.
8. OECD. (2012). „Public and Private Schools. How management and funding relate to their socio-economic profile”, OECD Publishing. <http://dx.doi.org/10.1787/9789264175006-en>
9. OECD. (2016). „PISA 2015 Results: Policies and practices for successful schools” Volume II, OECD Publishing, <https://doi.org/10.1787/9789264267510-en>
10. OECD. (2020). „PISA 2018 Results (Volume V): Effective Policies, Successful Schools”, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/ca768d40-en>.
11. Rong’uno, S.K. (2017). „A comparison of academic performance between public and private secondary schools in Wareng district, Kenya”. *British Journal of Education*, Vol.5, No.11, pp. 58-67
12. UNESCO. (1960). „Convention against Discrimination in Education”. The General Conference of the United Nations Educational, Scientific and Cultural Organization, meeting in Paris from 14 November to 15 December 1960, at its eleventh session. <http://portal.unesco.org/>
13. UNESCO. (2015). “Rethinking Education: Towards a global common good?”, UNESCO Publishing, <https://unevoc.unesco.org/>
14. United Nations. (1948). „Universal Declaration of Human Rights”. <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
15. UOE. (2020). UOE data collection on formal education. Manual on concepts, definitions and classifications, 15 June 2020, MONTREAL, PARIS, LUXEMBOURG 2020

# COMPARATIVE ANALYSIS OF KEY PERFORMANCE INDICATORS OF MAJOR BRANDS IN THE ROMANIAN PHARMACEUTICAL INDUSTRY

**Adriana IACOB (ZAVINCU)**, PhD Student  
IOSUD-SDSE Valahia University of Targoviste, Romania,  
*zavincu\_adriana@yahoo.com*

**ABSTRACT:** *Due to the growing importance of the emerging market in Romania, the supply chain of pharmaceutical companies is forced to re-evaluate their strategies and improve their production and distribution processes. For this reason, it is important for pharmaceutical companies to define and measure progress towards their goals. Using key performance indicators (KPIs), as measurement tools, and comparative methods, this study aims to investigate the financial performance of major brands in the Romanian pharmaceutical industry. Because each pharmaceutical company has different goals, activities and services, this study identifies areas that are easy to further develop and provides practical suggestions for further improvements over the next few years.*

**Keywords:** *key indicators; major brands; measurement; performance; pharmaceutical industry Romania*

**JEL Classification:** *L69, L81, P23*

## 1. INTRODUCTION

The pharmaceutical industry in Europe is an important sector that promotes employment, competitiveness and economical growth. It revolves around different companies that produce, develop and sell pharmaceuticals and biological products. These products can be supplied in various forms, such as various solutions (for oral, injectable or infusion administration), various ointments (emulsions, creams, ointments or emollients), powders, capsules or tablets, usually through the distribution of wholesalers as well as sales in hospitals, pharmacies and other channels. Since most researchers have not yet focused their interest in this area, we have found it very attractive, so our research has focused on revealing the industry's compliance rules and its impact on the field of health (Nela S, 2015).

## 2. RADIOGRAPHY OF THE ROMANIAN PHARMACEUTICAL INDUSTRY

Because the pharmaceutical industry in Romania is one of the industries that thrives even during the crisis, although government regulations set some obstacles, this study is based on the analytical investment of the most powerful Romanian pharmaceutical companies that have successfully survived the crisis through supply and support in areas where progress is easy to achieve, such as research and development. Therefore, this paper

compares the four-year financial statements of the selected companies and presents a radiographic introduction to the Romanian pharmaceutical industry, focusing on the evolution of the five Romanian pharmaceutical manufacturers in terms of profitability, performance, competitiveness and market influence. The study will also provide a detailed analysis and correlation of financial risks and liabilities for selected pharmaceutical manufacturers.

Both primary and secondary data are used to build this research. Firstly, the data is collected using the annual reports of listed companies and reports from the Ministry of Finance and the Romanian Stock Exchange (BSE). In this case, the data includes 4 years of financial statements for the selected companies. The collected data is analyzed using statistical tools and financial reporting formulas and processed in the form of tables and graphs. Based on the statistical analysis of the data of the companies listed on the BVB and the Ministry of Finance, we carried out a more in-depth analysis of their performance.

To analyze the selected companies and determine their financial and economic performance, we use various financial reports that show the overall strategy of the company for its capital investors to make decisions. For this purpose, we use the most commonly used measure of profitability, return on equity (ROE). The return on equity will provide information about the share of that compensation and the investment made by the company's shareholders. This report is one of the important indicators used to assess the financial situation of the company in the market, and the increasing profitability of investment capital can give the company the opportunity to obtain its financial resources to reinvest in the business or attract new investors.

By calculating the financial rate of return, we will be able to determine the ability of the company to generate a surplus value after the payment of the borrowed capital. This also means that after the cancellation of the payment due, the capital can be paid to shareholders through dividends and remuneration. At the same time, the leverage index is calculated to reveal the overall leverage ratio, which is calculated as a division between total debt and equity. This report reflects the degree of financial independence of the company and the ability to use new loans.

### **3. ANALYSIS OF STATISTICAL DATA**

In order to create an x-ray of a Romanian pharmaceutical company and highlight its competitiveness from 2017 to 2020, we first established the hierarchical structure of the company by analyzing the net fiscal value, net income and average number of employees in the last two years.

At the time of the investigation, BVB listed the following five drug manufacturers, namely Terapia S.A., Zentiva S.A., Sandoz S.R.L., Antibiotice S.A., Biofarm S.A. As shown in Table 1 and Table 2, since the first pharmaceutical company in 2019, the hierarchy of the company has not changed. In 2020, it was RPH, and the net income was 348,688,540 RON, respectively 285,418,033 RON in 2019.

**Table 1. Top Romanian pharmaceutical manufacturers in 2020**

<b>Company name</b>	<b>City</b>	<b>Fiscal value</b>	<b>Net income</b>	<b>Medium number of employees</b>
TERAPIA SA	Cluj	791.079.717	191.859.097	849
ZENTIVA SA	Bucharest	557.960.940	65.635.440	722
SANDOZ SRL	Mures	427.102.086	10.541.374	487
ANTIBIOTICE S.A.	Iasi	341.047.668	26.388.049	1415
BIOFARM SA	Bucharest	216.451.696	54.264.580	331

**TABLE 2. Romanian pharmaceutical manufacturers in 2019**

<b>Company name</b>	<b>City</b>	<b>Fiscal value</b>	<b>Net income</b>	<b>Medium number of employees</b>
TERAPIA SA	Cluj	736.265.865	149.146.548	851
ZENTIVA S.A.	Bucharest	541.440.353	43.750.880	620
SANDOZ SRL	Mures	412.217.469	10.815.508	349
ANTIBIOTICE S.A.	Iasi	390.646.543	30.823.278	1415
BIOFARM SA	Bucharest	195.390.812	50.881.819	356

To understand a company's profitability relative to the company's total assets, we calculated the return on assets (ROA) indicators for five selected companies over a four-year period (see Table 3). Also known as the rate of return on investment, the rate of return on investment is calculated by dividing the company's annual income by its total assets. This indicator is used to provide investors with information about the company's effectiveness in changing the investment currency to net income. Among the five pharmaceutical manufacturers selected, Terapia and Zentiva were the companies with the highest ROA in 2020. During the evolution from 2017 to 2020, terapia's average return on investment was 17.27%, thus continuously improving the return on assets. Zentiva also managed to increase its return on investment from 2017 to 2018, but decreased in 2019 and 2020, with an average 4-year ROA of 14.45%. Similar to Zentiva, Sandoz and Antibiotice declined from 2019 to 2020, unlike Biofarm which managed to increase its return on investment. According to the roa indicator calculation, Biofarm is different from the other

four companies and better converts investments into profit. On the other hand, Sandoz recorded the lowest average ROA of 4.07%, confirming that its management did not allocate its resources correctly.

➤ **Return on assets (ROA - return on assets)**

Return on assets is one of the main profitability indicators of a company, and measures the efficiency of using assets, in terms of profit obtained.

If in the case of total asset rotation it is about how many sales lei are obtained from a leu of assets, the return on assets shows how many lei a leu invested in assets brings in the form of profit.

It can be said that it is a more important and complete indicator, because the ultimate goal of any business is to obtain profit. Moreover, starting from its formula, "net profit" / "total assets", the return on assets can decompose, resulting in the formula  $ROA = \text{"rotation of assets"} * \text{"net margin"}$  (turnover / total assets) \* (net profit / turnover), where the turnover is simplified and the initial formula of the ROA even results).

Using this decomposition, conclusions can be drawn and measures taken when it is desired to maximize the return on assets.

Formula for calculating return on assets:  $Net\ profit / Total\ assets$

**Table 3. ROA indicator compared for the 5 selected entities:**

Entity	2017	2018	2019	2020	MEDIUM ROA
TERAPIA SA	13.41 %	12.80 %	17.15 %	25.75 %	17.27 %
ZENTIVA S.A.	17.96 %	29.23 %	4.26 %	6.35 %	14.45 %
SANDOZ SRL	5.08 %	6.01 %	2.79%	2.43 %	4.07 %
ANTIBIOTICE S.A.	5.87 %	4.97 %	4.43 %	3.28 %	4.63 %
BIOFARM SA	13.93 %	13.69 %	14.67 %	14.56 %	14.21 %

The next indicator, return on equity (ROE), is calculated by measuring the profitability of five companies to determine how much profit they generate using shareholder funds (see Table 4). Therefore, the ROE is calculated by dividing the company's net income by equity to show how the selected company uses its investment to increase its revenue. According to calculations, Terapia successfully increased its ROE from 2017 to 2020, achieving an average ROE of 22.19%, followed by Biofarm with an average ROE of 18.01% while Sandoz decreased from 2019 to 2020 but still achieved an average ROE of over 7.55%. On the contrary, from 2017 to 2020, Antibiotice's return on share capital seems to have fallen sharply, with an AVERAGE ROE indicator of 7.28% in the last 4 years. According to the calculation of the ROE indicator, unlike Sandoz, Zentiva makes better use of the investment to increase its revenue.

➤ **Return on equity (ROE - return on equity)**

In the opinion of many economists, ROE is the most important indicator for measuring a company's performance. The indicator is calculated as a ratio between the net profit obtained by the company and the equity, the latter practically representing the shareholders' contribution to the financing of the business.

A high return on equity means that a small material investment of shareholders has been transformed into a large profit, and this is the most important thing for a business: to maximize the results felt by shareholders as a result of the investment they made.

Looking at the indicator formula, we can easily realize that the two methods by which the ROE can be increased are to increase the profit under the conditions of keeping the same equity capital or to reduce the equity capital under the same net profit. In the second situation, it is not necessarily about the decrease in nominal terms of the equity capital, but about the decrease of its share in the total asset.

A company with a high degree of indebtedness and a low degree of financing from shareholders' money will generally have a higher return on equity than one that is financed more from shareholders. The advantage is to obtain a higher profit on the same investment from the shareholders, but the disadvantage is the higher risk that a high dependence on debt gives.

Calculation formula for return on equity: *Net result / Equity*

**Table 4. ROE indicator compared for the 5 selected entities**

<b>Entity</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>MEDIUM ROE</b>
TERAPIA SA	15.99 %	14.74 %	22.83 %	35.20 %	22.19 %
ZENTIVA S.A.	24.24 %	41.64 %	6.23 %	8.35 %	16.02%
SANDOZ SRL	9.60 %	11.52 %	5.13 %	3.96 %	7.55 %
ANTIBIOTICE S.A.	8.04 %	7.26 %	6.14 %	7.70 %	7.28 %
BIOFARM SA	16.64 %	17.04 %	19.78 %	18.59 %	18.01 %

Net profit margin is an indicator of the quantity of each currency unit that our company receives as income is converted into profit. Therefore, after deducting all operating expenses, taxes and interest from the total revenues of the company, the percentage of income that still exists remains. This indicator is very important for announcing the financial condition of the company. It is calculated by dividing the net profit of the company by revenue. Analyzing Table 5, we can say that from a financial point of view, on average, the most "healthy" pharmaceutical company is Zentiva with an average profit margin of 24.05%, followed by Terapia with 21.04%, and Biofarm with 9.2%. This also means that Terapia is one of the companies that excels at converting income into available profits of shareholders, differs from Sandoz, which has a lower average profit margin compared to Biofarm.

The net profit margin is a financial indicator of profitability, which shows us in percentages how profitable the total activity of a company is.

It is a comparison between the profit left after the tax and the net sales and shows the profit remaining after all the production and administration costs have been deducted from the sales and the recognized corporate tax. It is one of the best measures of the firm's results especially if combined with an evaluation of how working capital is used. As a rule, the indicator is analyzed in the trend, from one period to another, but it can also be compared with the results obtained by competitors.

It is a short-term indicator because it does not show the company's actions to maintain long-term profitability – such as capital investments or research and development.

It should also be noted that entities can intentionally proceed to keep this indicator at a low level through a variety of strategies for recording expenses, in order to pay a lower corporate tax.

The higher the percentage, the more stable the company in terms of profitability and suggests a good situation of it.

Calculation formula:  $Net\ profit\ margin = (Net\ profit\ of\ the\ year / Net\ turnover) * 100$

**Table 5. The net profit margin indicator compared for the 5 selected entities:**

Entity	2017	2018	2019	2020	Medium net profit margin
TERAPIA SA	19.66 %	20.01%	20.25%	24.25%	21.04 %
ZENTIVA S.A	19.46 %	56.91%	8.08 %	11.76%	24.05 %
SANDOZ SRL	5,34 %	6.09 %	2.62 %	2.46 %	4.12 %
ANTIBIOTICE S.A.	9.93 %	9.39 %	7.89 %	7.70 %	8.72 %
BIOFARM SA	8.92%	9.89%	9.76%	8.23%	9.20%

After calculating the profit ratio of the selected entity, the next step is to determine the ability of the company to use its current assets to repay short-term liabilities. Also known in terms of efficiency and liquidity, the current ratio is calculated by dividing the current assets of the company by its current liabilities. According to the calculation of the index (Table 6), the pharmaceutical companies Terapia and Zentiva have the highest average values of 4.87 and 3.16, respectively. Therefore, the current assets of these companies are about three/ four times higher than the current debts. In addition, this higher ratio will allow the three companies (Biofarm, Sandoz and Antibiotice) to repay their current debts because their debts are due and they can easily repay their debts without having to sell assets that generate long-term income.

*Current (current) assets/ current liabilities:*

**Table 6. General liquidity ratio for the 5 selected entities**

Entity	2017	2018	2019	2020	Current average ratio
TERAPIA SA.	5.74	7.71	3.13	2.90	4.87
ZENTIVA S.A	3.57	2.84	2.70	3.55	3.16
SANDOZ SRL	1.41	1.31	1.47	1.68	1.46
ANTIBIOTICE S.A.	2.44	2.02	1.93	2.01	2.10
BIOFARM SA	3.08	2.56	2.28	2.64	2.64

The next calculated report, the quick report, is similar to the current ratio, except that it focuses on the company's ability to use only its quick assets to pay current liabilities, such as cash and cash equivalents and current receivables, short-term investments and even securities. As shown in Table 7, by dividing fast assets by current liabilities, the pharmaceutical company Terapia achieves the highest value, followed by Zentiva and Biofarm. On average, Terapia and Zentiva are able to repay debts without selling capital and long-term assets. Both Sandoz's and Antibiotice's quick reports are below 1.5, which means they may have to use their long-term assets to generate revenue, which will indicate to investors that the company's current operations do not generate enough profits to cover current liabilities.

Receivables + cash flow and accounts / current debts:

**Table 7. Current liquidity ratio for the 5 selected entities**

YEAR	2017	2018	2019	2020	Current liquidity rate
TERAPIA S.A.	5.14	5.75	2.10	2.22	3.80
ZENTIVA S.A.	3.16	2.44	2.28	2.94	2.70
SANDOZ S.R.L.	1.29	1.18	1.34	1.29	1.27
ANTIBIOTICE S.A.	1.77	1.31	1.58	1.42	1.52
BIOFARM S.A.	2.65	2.24	2.07	1.95	2.22

The last liquidity ratio calculated is the cash ratio, which shows the ability of the company to pay its current debts using only cash and cash equivalents that can be easily used to pay current liabilities. For the five selected pharmaceutical companies listed in

Table 8, only 3 of their cash ratios exceeded 1 in 2020, the other 2 mean they have to exceed their cash reserves to repay their current debts. The lenders are very interested in this report because they want to ensure that the loan is repaid. Based on the calculation of the index for the five selected companies, we can say that Terapia has the lowest ratio of 0.15, which means that the company has difficulty repaying current cash liabilities and cash equivalents.

**Table 8. Immediate liquidity rate for the 5 selected companies  
Cash flow and accounts with banks/ current debts**

YEAR	2017	2018	2019	2020	Immediate liquidity rate
TERAPIA SA	2.54	2.90	0.23	0.15	1.45
ZENTIVA S.A	1.59	1.63	1.29	1.82	1.58
SANDOZ SRL	0.10	0.20	0.20	1.20	0.42
ANTIBIOTICE S.A.	3.40	1.00	0.80	3.30	2.12
BIOFARM SA	0.81	0.76	1.02	0.68	0.81

The next calculated report is the debt ratio, which shows the ability of the company to use assets to repay its debts. The solvency ratio measures the financial leverage of the company and is calculated by dividing the total liabilities of the company by its total assets. As shown in Table 9, there are significant differences in the debt ratios of the five selected companies. In this case, lower debt ratios (such as those recorded by Terapia, Biofarm, and Zentiva) mean stable business activities with long-term potential, since lower rates mean that the company's overall debt is lower. In general, a debt ratio of 50% is considered to be within the normal range.

*Total liabilities/total assets*

**Table 9. Comparing the indebtedness rate for the 5 selected entities**

YEAR	2017	2018	2019	2020	Indebtedness rate
TERAPIA SA	11.60 %	9.30 %	21.30 %	22.50 %	16.17 %
ZENTIVA S.A	20.20 %	27.50 %	29.30 %	21.60 %	24.65 %
SANDOZ SRL	44.70 %	47.30 %	44.30 %	37.50 %	43.45 %
ANTIBIOTICE S.A.	26.00 %	31.90 %	36.90 %	33.10 %	31.97 %
BIOFARM SA	15.40 %	11.60 %	25.70 %	21.70 %	18.60 %

The next step is to analyze the effectiveness of each company's use of its assets. To do this, we start by calculating the inventory turnover (ITR) ratio, the receivables ratio, the supplier and the current debt ratio. The inventory turnover rate (ITR) is used as a tool to assess the liquidity of stocks, such as how many times a company sells and replaces inventory over a period of time. This is calculated by dividing the cost of goods sold by the average inventory of the company by the cost, in other words, dividing net sales by inventory. To find the average period of share sales, we divide 365 days by the run rate.

The next calculated indicator is the debt ratio of the accounts to be received, also known as the 'rotation rate of the accounts to be received' or the 'debtor's rotation rate'. This indicator shows the company's effectiveness in managing loans issued by customers and collecting loans. Since the funds held in the credit agreement have no interest, the longer the company takes to recover credit sales, the greater the amount it will lose during this period. Therefore, the average duration of receivables is calculated by dividing 365 by the rotation rate of the accounts receivable for that period.

The last calculated value for each company is the current rate of turnover of debts, which allows us to find the period during which the company can repay the debt in the short term. It is calculated by dividing the current sales debt by one year. This indicator is usually important for investors because they can determine the safest companies to invest in.

Taking Terapia as an example (Table 10), the average period of inventory sale in 2017 was 58 days and was reduced to 43 days in 2018 and 2019, after which it increased in 2020 to 52 days. Therefore, it takes an average of 46 days for Terapia to sell and replace the inventory. According to calculations, biofarm's average debt account increased from 150 days to 159 days from 2018 to 2020. In theory, this number varies depending on the size of the company, and usually the shorter it is, the better. However, in this case, we can say that the high report indicates that the company is effective in collecting receivables and that they have a high percentage of customers who can repay their debts quickly. Based on the calculation of the average payment rate of the accounts to be paid, the rate does not seem to decrease from year to year, which indicates that Terapia has not spent more time paying its suppliers in 2020 than in previous years. However, the figures recorded in 2020 indicate that Terapia has increased its running rate, which means that they have been able to pay their suppliers faster. Analyzing Terapia's current debt rotation rate, we can see that the number of days in which the company has the ability to repay the debt in the short term has been reduced from 91 days to 77 days from 2019 to 2020. This shows that the company is improving its solvency and solvency of its debt in the short term. Term debt.

**Table 10. Terapia SA - financial indicators for monitoring the balance sheet information 2017-2020**

<b>Indicators</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Duration of stock rotation (days)	48	43	43	52
Duration of receivables collection (days)	158	150	160	159
Duration of the rotation of the total debts (days)	62	52	91	77

where:

Duration of stock rotation (days) (stock change) =  $\frac{\text{Medium stock/the cost of sold goods}}{2} \times 365$  zile

medium stock =  $\frac{\text{previous year stock} + \text{current year stock}}{2}$

$$\text{YEAR 2017} = \frac{(74.017.778 + 68.958.252): 2}{530.048.661} = 0.134 \times 365 \Rightarrow 48$$

$$\text{YEAR 2018} = \frac{(68.958.252 + 71.654.082): 2}{530.048.661} = 0.118 \times 365 \Rightarrow 43$$

$$\text{YEAR 2019} = \frac{(71.654.082 + 71.548.297): 2}{530.048.661} = 0.118 \times 365 \Rightarrow 43$$

$$\text{YEAR 2020} = \frac{(71.548.297 + 103.178.557): 2}{530.048.661} = 0.143 \times 365 \Rightarrow 52$$

Duration of collection of receivables (days) =  $\frac{\text{average customer balance/fiscal value}}{2} \times 365$

average balance =  $\frac{\text{receivables previous year} + \text{receivables current year}}{2}$

$$\text{YEAR 2017} = \frac{(286.059.195 + 297.718.736): 2}{671.028.265} = 0.434 \times 365 \Rightarrow 158$$

$$\text{YEAR 2018} = \frac{(297.718.736 + 303.144.759): 2}{730.164.053} = 0.411 \times 365 \Rightarrow 150$$

$$\text{YEAR 2019} = \frac{(303.144.759 + 345.879.569): 2}{736.265.865} = 0.440 \times 365 \Rightarrow 160$$

$$\text{YEAR 2020} = \frac{(345.879.569 + 347.390.951): 2}{791.079.717} = 0.438 \times 365 \Rightarrow 159$$

Duration of rotation of total debts (days) =  $\frac{\text{total liabilities}}{\text{FV}} \times 365$

$$\text{YEAR 2017} = (114.428.962 : 671.028.265) = 0.170 \times 365 \Rightarrow 62$$

$$\text{YEAR 2018} = (106.397.339 : 730.164.053) = 0.145 \times 365 \Rightarrow 52$$

$$\text{YEAR 2019} = (185.448.139 : 736.265.865) = 0.251 \times 365 \Rightarrow 91$$

$$\text{YEAR 2020} = (167.993.091 : 791.079.717) = 0.212 \times 365 \Rightarrow 77$$

Taking Zentiva as an example, as shown in Table 11, the average period of inventory sale in 2017 was 40 days, increased to 54 days in 2018 to 95 days in 2020, so the

average number of days that Zentiva sells and replaces inventory is 66 days. According to calculations, the average maturity of Zentiva's debt increased from 131 days to 178 days from 2017 to 2020. Based on the size of the company, we can say that the high report indicates that Zentiva is not effective in collecting payments. Analyzing Zentiva's current debt rotation rate, we can see that the number of days the company can repay the debt in the short term has increased from 79 days in 2017 to 201 days in 2019 and in 2020 it has decreased to 146 days.

**Table 11. Zentiva SA- financial indicators for monitoring the balance sheet information 2017-2020**

Indicators	2017	2018	2019	2020
Duration of stock rotation (days)	40	54	78	95
Duration of collection of receivables (days)	131	141	166	178
Duration of rotation of total debts (days)	79	195	201	146

where:

Duration of stock rotation (days) (change in stocks) = (Average stock / cost of goods sold)\*365 zile

average stock= (stock previous year+ stock current year): 2

$$\text{YEAR 2017} = \frac{(42.093.203 + 40.549.376) : 2}{369.527.018} = 0.111 \times 365 \Rightarrow 40,50$$

$$\text{YEAR 2018} = \frac{(40.549.376 + 98.982.129) : 2}{467.316.513} = 0.149 \times 365 \Rightarrow 54,38$$

$$\text{YEAR 2019} = \frac{(98.982.129 + 123.841.461) : 2}{514.101.407} = 0.216 \times 365 \Rightarrow 78,80$$

$$\text{YEAR 2020} = \frac{(123.841.461 + 137.798.353) : 2}{498.399.316} = 0.262 \times 365 \Rightarrow 95,60$$

Duration of collection of receivables (days) = (average customer balance / turnover) \* 365

average balance = (receivables previous year+ receivables current year): 2

$$\text{YEAR 2017} = \frac{(173.143.655 + 157.877.971) : 2}{458.377.044} = 0.361 \times 365 \Rightarrow 131$$

$$\text{YEAR 2018} = \frac{(157.877.971 + 199.832.571) : 2}{461.405.231} = 0.387 \times 365 \Rightarrow 141$$

$$\text{YEAR 2019} = \frac{(199.832.571 + 295.617.763) : 2}{541.440.353} = 0.457 \times 365 \Rightarrow 166$$

$$\text{YEAR 2020} = \frac{(295.617.763 + 250.288.953) : 2}{791.079.717557.960.940} = 0.489 \times 365 \Rightarrow 178$$

Duration of rotation of total debts (days) = total liabilities/ FV\*365

$$\text{YEAR 2017} = (100.574.236 : 458.377.044) = 0.219 \times 365 \Rightarrow 79$$

$$\text{YEAR 2018} = (247.409.236 : 461.405.231) = 0.536 \times 365 \Rightarrow 195$$

$$\text{YEAR 2019} = (298.930.274 : 541.440.353) = 0.552 \times 365 \Rightarrow 201$$

$$\text{YEAR 2020} = (223.361.795 : 557.960.940) = 0.400 \times 365 \Rightarrow 146$$

For the pharmaceutical company Sandoz, as shown in Table 12, the average period of sale of its inventory in 2017 was 20 days, which lasted in 2019, then increased to 37 days in 2020. However, the average sales period in 2015 was 14 days, indicating either an excessive inventory and a slow or outdated inventory. However, excessive maintenance of stocks may be a sign of poor inventory management, as these funds allocated to inventory may have been used in other operations of the company. According to calculations, the average maturity of Sandoz's debt has been significantly reduced from 204 days to 187 days in the period 2017-2020. Because this ratio depends on the size of the company, a declining ratio may indicate that the company is improving its packaging process. After calculating the average payment ratio of the accounts payable, the company appears to have been able to reduce the number of days the provider pays from 2017 to 2020. Analyzing the current turnover rate of Sandoz, we can see that the number of days in which the company is able to repay debts in the short term has steadily increased from 2017 to 2020, which indicates that the solvency of the company does not improve by not repaying the short-term debt.

**Table 12. SANDOZ SRL - financial indicators for monitoring balance sheet information 2017-2020**

<b>Indicators</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Duration of stock rotation (days)	20	22	20	37
Duration of collection of receivables (days)	204	211	191	187
Duration of rotation of total debts (days)	139	174	151	171

where:

Duration of stock rotation (days) (change in stocks) = (Average stock / cost of goods sold)\*365 zile

average stock= (stock previous year+ stock current year): 2

$$\text{YEAR 2017} = \frac{(17.304.563 + 19.247.521): 2}{392.157.392} = 0.056 \times 365 \Rightarrow 20,44$$

$$\text{YEAR 2018} = \frac{(19.247.521 + 21.793.614): 2}{331.898.880} = 0.061 \times 365 \Rightarrow 22,26$$

$$\text{YEAR 2019} = \frac{(21.793.614 + 22.153.638): 2}{399.475.953} = 0.055 \times 365 \Rightarrow 20,07$$

$$\text{YEAR 2020} = \frac{(22.153.638 + 62.625.456): 2}{405.614.156} = 0.104 \times 365 \Rightarrow 37,96$$

Duration of collection of receivables (days) = (average customer balance / turnover) \*365

average balance = (receivables previous year+ receivables current year): 2

$$\text{YEAR 2017} = \frac{(177.650.519 + 210.728.039): 2}{345.758.646} = 0.561 \times 365 \Rightarrow 204$$

$$\text{YEAR 2018} = \frac{(210.728.039 + 203.299.222): 2}{356.847.656} = 0.580 \times 365 \Rightarrow 211$$

$$\text{YEAR 2019} = \frac{(203.299.222 + 230.680.528): 2}{412.217.469} = 0.526 \times 365 \Rightarrow 191$$

$$\text{YEAR 2020} = \frac{(230.680.528 + 209.172.633): 2}{427.102.086} = 0.514 \times 365 \Rightarrow 187$$

Duration of rotation of total debts (days) = total liabilities/ FV\*365

$$\text{YEAR 2017} = (162.635.474 : 345.758.646) = 0.470 \times 365 \Rightarrow 171$$

$$\text{YEAR 2018} = (171.075.143 : 356.847.656) = 0.479 \times 365 \Rightarrow 174$$

$$\text{YEAR 2019} = (171.557.290 : 412.217.469) = 0.416 \times 365 \Rightarrow 151$$

$$\text{YEAR 2020} = (162.927.508 : 427.102.086) = 0.381 \times 365 \Rightarrow 139$$

As shown in Table 13, the average sales cycle of Antibiotice SA's inventory in 2012 was 32 days and is constantly increasing, from 40 days in 2013 to 60 days in 2015. The average growth period may indicate that the inventory is fast and that there is no surplus. Inventory. Analyzing the average receivables of Antibiotice, it can be seen that the collection period from 2017 to 2020 has decreased significantly from 200 days to 74 days. Even though the ratio depends on the size of the company, its decline may indicate that the company has a well-processed collection and good customers. After calculating the average

payment ratio of the accounts payable, the number of days for which Antibiotice providers have to pay seems to have increased significantly from 2017 to 2020. According to the data obtained in 2017, the average duration is 269 days for Antibiotice to collect from its suppliers reaching 320 days in 2020. Analyzing the current turnover rate of Antibiotice's debts, we can see that the number of days in which the company is able to repay debts in the short term has steadily decreased since 2019 to 77 days after which it had increased in 2019 to 91 days. This shows that the company improves its solvency of payment, paying off its debts in the short term.

**Table 13. ANTIBIOTICE SA- financial indicators for monitoring balance sheet information 2017-2020**

Indicators	2017	2018	2019	2020
Duration of stock rotation (days)	74	71	78	95
Duration of collection of receivables (days)	269	276	295	320
Duration of rotation of total debts (days)	62	52	91	77

where:

Duration of stock rotation (days) (change in stocks) = (Average stock / cost of goods sold)\*365 zile

average stock= (stock previous year+ stock current year): 2

$$\text{YEAR 2017} = \frac{(60.269.602 + 67.414.789): 2}{313.107.679} = 0.203 \times 365 \Rightarrow 74$$

$$\text{YEAR 2018} = \frac{(67.414.789 + 66.181.508): 2}{341.813.735} = 0.195 \times 365 \Rightarrow 71$$

$$\text{YEAR 2019} = \frac{(66.181.508 + 73.975.988): 2}{324.635.000} = 0.215 \times 365 \Rightarrow 78$$

$$\text{YEAR 2020} = \frac{(73.975.988 + 108.691.209): 2}{347.266.000} = 0.263 \times 365 \Rightarrow 95$$

Duration of collection of receivables (days) = (average customer balance / turnover) \* 365

average balance = (receivables previous year+ receivables current year): 2

$$\text{YEAR 2017} = \frac{(240.613.024 + 258.920.954): 2}{337.629.448} = 0.739 \times 365 \Rightarrow 269$$

$$\text{YEAR 2018} = \frac{(258.920.954 + 294.167.142): 2}{365.304.988} = 0.757 \times 365 \Rightarrow 276$$

$$\text{YEAR 2019} = \frac{(294.167.142 + 338.159.744): 2}{390.646.543} = 0.809 \times 365 \Rightarrow 295$$

$$\text{YEAR 2020} = \frac{(338.159.744 + 260.388.767): 2}{341.047.668} = 0.877 \times 365 \Rightarrow 320$$

Duration of rotation of total debts (days) = total liabilities/ FV\*365

$$\text{YEAR 2017} = (148.646.296 : 237.629.448) = 0.625 \times 365 \Rightarrow 228$$

$$\text{YEAR 2018} = (225.252.826 : 365.304.988) = 0.616 \times 365 \Rightarrow 224$$

$$\text{YEAR 2019} = (291.638.894 : 390.646.543) = 0.746 \times 365 \Rightarrow 272$$

$$\text{YEAR 2020} = (285.727.770 : 341.047.668) = 0.837 \times 365 \Rightarrow 305$$

For the pharmaceutical company Biofarm SA, the average period of sale of stocks in 2017 was 55 days, after which it decreased in 2018 and 2019, increasing again in 2020 to 61 days. Therefore, Biofarm needs an average of 53 days to sell and replace stocks. Analyzing the average debt accounts for Biofarm, compared to other pharmaceutical companies analyzed, the company maintained the longest recovery period of the accounts to be received. Based on the calculated average turnover rate, Biofarm decreased the number of days paid by its suppliers from 2017 to 2020, from 174 days to 164 days. Looking at Biofarm's current debt rotation rate, we can see that the number of days the company can pay to pay off its short-term debt increased from 2017 to 2020. This shows that the company is improving its ability to repay debt in the short term.

**Table 14. Biofarm SA - financial indicators for monitoring balance sheet information 2017-2020**

Indicators	2017	2018	2019	2020
Duration of stock rotation (days)	55	50	48	61
Duration of collection of receivables (days)	174	171	169	164
Duration of rotation of total debts (days)	85	64	166	136

where:

Duration of stock rotation (days) (change in stocks) = (Average stock / cost of goods sold)\*365 days

average stock= (previous year stock + current year stock): 2

$$\text{YEAR 2017} = \frac{(19.520.394 + 19.547.141): 2}{128.796.641} = 0.151 \times 365 \Rightarrow 55$$

$$\text{YEAR 2018} = \frac{(19.547.141 + 19.007.343): 2}{140.331.359} = 0.137 \times 365 \Rightarrow 50$$

$$\text{YEAR 2019} = \frac{(19.007.343 + 18.289.407): 2}{139.113.057} = 0.134 \times 365 \Rightarrow 48$$

$$\text{YEAR 2020} = \frac{(18.289.407 + 33.883.106): 2}{154.876.838} = 0.168 \times 365 \Rightarrow 61$$

Duration of collection of receivables (days) = (average customer balance / turnover) \*365

average balance = (receivables previous year+ receivables current year): 2

$$\text{YEAR 2017} = \frac{(78.263.200 + 84.684.218): 2}{170.256.235} = 0.478 \times 365 \Rightarrow 174$$

$$\text{YEAR 2018} = \frac{(84.684.218 + 88.322.536): 2}{184.240.669} = 0.469 \times 365 \Rightarrow 171$$

$$\text{YEAR 2019} = \frac{(88.322.536 + 93.372.718): 2}{195.390.812} = 0.464 \times 365 \Rightarrow 169$$

$$\text{YEAR 2020} = \frac{(93.372.718 + 102.412.830): 2}{216.451.696} = 0.452 \times 365 \Rightarrow 164$$

Duration of rotation of total debts (days) = total liabilities/ FV\*365

$$\text{YEAR 2017} = (40.007.439 : 170.256.235) = 0.234 \times 365 \Rightarrow 85$$

$$\text{YEAR 2018} = (32.678.318 : 184.240.669) = 0.177 \times 365 \Rightarrow 64$$

$$\text{YEAR 2019} = (89.386.339 : 195.390.812) = 0.457 \times 365 \Rightarrow 166$$

$$\text{YEAR 2020} = (80.824.583 : 216.451.696) = 0.373 \times 365 \Rightarrow 136$$

#### 4. RESULTS

After performing the statistical analysis of the data obtained for the 5 pharmaceutical companies, about 50% of Terapia, Zentiva, Sandoz, Antibiotice and Biofarm's revenues come from low-selling drugs such as aspirin and paracetamol. In addition, all the companies analyzed use external resources (such as bank loans and leasing) to finance their activities. However, as statistics indicate, the leverage of analytical companies is the most widely used mechanism for attracting sources of external funding. This effect increases as the difference between economic yields and interest rates increases. In the case of these five pharmaceutical companies, based on the calculations, the safest entity is Biofarm.

As for the loan period, all five companies have called for loans from 1 to 3 years and loans of over 3 years.

As for their employees, Antibiotice spent more than 10% of staff training costs, while Biofarm and Zentiva usually do not exceed 10%. Terapia and Sandoz allocate about 5-7% of the costs of staff training. However, this information is reasonable, since all companies, regardless of the percentage of expenses allocated, believe that the training of employees will certainly affect the profit and loss account during the period, rather than as a capitalized intangible asset. However, in terms of advertising, the five selected companies allocate more than 6% of their operating costs to advertising.

In terms of business relationships with suppliers of natural or organic raw materials, all five participants have trade relationships of this kind at a significant level. When it comes to customers, companies are asked to expand their types to include chain employees or small business customers. Based on the analysis, Biofarm and Antibiotice deal with medium to high and low to medium chains for employees in small businesses, while Terapia and Zentiva handle a medium to high chain and from small to medium employees. Sandoz reports moderate interactions with the chain of stores and small businesses.

The set of customers varies from company to company, namely: Biofarm, Zentiva and Remedia usually have over 90 days, and Ropharma and Antibiotice are between 30 and 90 days old. In addition, in terms of online sales, Biofarm stated that their share is more than 20% of the total turnover, while the rest agree with about 10-20%. However, if their customers receive the money immediately, the company usually offers discounts of about 5%, since in the case of Biofarm, these discounts, along with incentives, will lead to the retention of customers and affect their profitability by increasing sales. On the other hand, in some cases, discounts and incentives are not enough to affect profitability and increase sales.

## **5. CONCLUSIONS**

The continuous development of the pharmaceutical market economy and the influence of competitors and established laws and regulations continue to change the conditions of the participants in the pharmaceutical industry. The purpose of this study is to investigate the financial performance of large Romanian brands in the pharmaceutical industry, to show radiographic images of the pharmaceutical industry and to focus on 5 companies in terms of profitability, performance and competitiveness. Using the financial statements of the selected companies and their financial and economic reports, we can calculate the economic and financial indicators that measure the performance of the business. These indicators are in terms of the ability to generate income and profits, in terms of liquidity and in its repayment, short-term debt and solvency. By using this type of analysis, we can study the processes and activities of the selected companies through the results obtained and the resources they have consumed in previous years.

Based on the data obtained from BVB and the financial reports of the selected companies, these companies increased their turnover for most of the period from 2017 to 2020. In terms of profitability, Terapia and Zentiva have proven to be an effective net income in changing the invested capital, thus providing a high return on assets. The two companies also achieved the highest return on equity and showed how they can make good use of investments to increase revenues.

Even after deducting all operating expenses, taxes and interest from the company's total revenue, these two companies are still in the leading position in our top five, and a large part of their revenues are converted into profit. Even in terms of liquidity, Terapia, Zentiva and even Antibiotice have confirmed the activities of stable companies with long-term potential. However, small indicators of other companies, such as Sandoz and Biofarm, do not indicate a weekly company or a weak investment, but rather on a small scale and with fewer activities, but can be easily developed.

For future research, we recommend improving our research by involving more companies and expanding our database. As another suggestion, we recommend calculating several economic and financial indicators, taking into account the exact types of products and services provided by the company, the mix of customers and their consumption preferences, additional information about the organizational structure and resources. Only in this way can we look at the calculation methods of the key performance indicators from different perspectives, so that we can evaluate and understand the past, present and financial "health" trends of the company in the constantly changing business environment through a comprehensive system.

## REFERENCES

1. Baltés N, iculete GD. *The analysis of the financial risks in the pharmaceutical industry in Romania*. Revista Economică. 2014;66(2):7-14.
2. Boldeanu D.M., Pugna I.B., *The analysis of the influence factors affecting the performance of pharmaceutical companies*. Theoretical and Applied Economics. 2014;21(7):23-39.
3. Burja C., Burja V., *Analysis of the companies' economic performance using the profitability rates*. European Research Studies. 2009;12(2):100-108.
4. Colbu I.C., *Comparison of profitability for pharmaceutical Romanian listed companies using Dupont identity*. The USV Annals of Economic and Public Administration. 2013;13(17):78-81.
5. EPIFA Report. *The pharmaceutical industry in Figures*. 2014;2-25. <http://www.phar-in.eu/wp-content/uploads/2014/05/Figures 2014 Final.pdf>
6. FDR Center. *The Romanian health and pharma sector 2014. Sector brief - DEMO*. 2014; <http://www.frdcenter.ro/assets/Romania-Health-and-Pharma-market-2014-DEMO-by-FRD-Center.pdf>
7. <http://www.bvb.ro/FinancialInstruments/Details/FinancialInstrumentsDetails.aspx?s=BVB> <http://m.fin.info/>
8. Institute for Economic Forecasting. *Industria farmaceutică în România și impactul asupra societății și economiei*. 2011; 6-14 <http://oglindadevest.ro/wp-content/>
9. Nela S., *A general overview of the Romanian pharmaceutical market*. Annals of the Constantin Brancusi University of Târgu Jiu, Economic Series. 2015;(2):15-20.
10. Wall-Street. Clawback news. 2015. <http://www.wall-street.ro/tag/clawback.html>

## WORLD FINANCIAL SCANDALS AND THE IMPACT ON THE ACCOUNTING PROFESSION

**Ana-Maria COMANDARU (ANDREI)**, Ph.D. Student  
Valahia University of Targoviste, Romania, annyys13@yahoo.com

**Abstract:** *The financial scandals that have shaken the international economic environment of the last decades have had negative consequences on a profession that must protect the public interest, the accounting profession. The identification of creative accounting as the main cause for declaring major bankruptcies has affected the image and reputation of the professional accountant, known as rigid and impartial, and the confidence in the accounting profession has been considerably diminished. In this context, the profession of financial auditor has often been accused of failing to comply with the status of guarantor of the quality of the information provided by the financial statements prepared by the audited company.*

*In this scientific approach, I set out to analyze the effect of financial scandals on the accounting profession, highlighting in particular the responsibility and role of the financial auditor in detecting creative accounting techniques, techniques that may underlie accounting fraud. In order to carry out this study, I resorted to the revision of the specialized literature, as well as to the analysis of the legislation in force, of the accounting norms and of the audit standards.*

**Keywords:** *financial scandals, creative accounting, accounting fraud, financial auditing profession, independence, professional ethics.*

**JEL Classification:** *M41*

### 1. INTRODUCTION

The accounting profession is distinguished from other professions by assuming a responsibility towards the users of financial-accounting information. The role of professional accountants in the development of the national and world economy is fulfilled if the accounting profession continues to provide quality services. In fact, education and ethics are, along with quality, are fundamental objectives of a unique profession that puts the public interest first.

Over time, the accounting profession has earned the respect of communities and regulators, but the major financial scandals of recent decades have damaged the image of the responsible and moral accountant, especially the financial auditor who has been found guilty of producing these bankruptcies, either because it covered the companies that manipulated their reports, or because it did not discover the fraudulent practices in time.

The authorities' reaction to the audit work was harsh, with the Sarbanes-Oxley Act, issued in the United States in 2002, introducing public oversight of statutory auditors and audit firms. Until mid-2008, the law on public oversight was implemented at the level of the European Union, through the Eighth Directive adopting the authorization and record of statutory auditors and audit firms, standards of professional conduct and internal quality

control of firms as well as the obligation of continuous professional development, systems of investigations and disciplinary sanctions and quality assurance of the services provided.

But, the big scandals were caused only by the accounting professionals who tried to fool the law? Only auditors who were not vigilant enough and did not detect fraud in a timely manner? Or are these scandals originating in the business environment and the accounting profession has been the only one blamed and accused of not following the rules of the market economy game?

In this context, I set out to research the literature, as well as the regulations in the field of auditing and professional ethics, in order to correctly identify the auditor's responsibilities in detecting fraud and distorted financial statements. Another aspect analyzed in this scientific approach refers to the impact that the most well-known financial scandals have had on the accounting profession.

## **2. THE PROFESSION OF FINANCIAL AUDITOR - ISSUES RELATED TO INDEPENDENCE**

The professional accountant is the specialist who has a high level of training, the dedication to the profession being manifested by a commitment to a series of principles that focus on the public interest (Lazăr, 2008). The quality of the services offered by the professional accountant is expected at high rates by the users of the information in the financial reports and the professionalism is the one that ensures this quality (Bogdan, 2005).

The role of the accounting profession is to create trust in the business environment specific to the market economy, the fundamental objective of accounting being defined in accordance with the need for sincerity that the professional accountant must show: the presentation of the true image of annual accounts gives credibility to financial information.

The auditor, as a professional accountant, is considered a protector of the public interest. Thus, the auditing profession must be based on professional and ethical competence in carrying out the activity of certifying financial statements (Coman et al., 2022). One of the most important features of the financial auditor profession is that these specialists are not paid by those whose interests they represent. The audit report is useful to all those interested in the activity of the entity, but mainly to investors because the information on the success of the company is a key link between those who provide capital and those who use that capital (Staubus, 2005).

In the conditions in which the management of the entity requests the services of the specialist for the certification of the information provided by the financial statements, it is mandatory that the auditor meets the independence requirements provided in the rules of ethics and professional conduct.

The independence of the auditor is a fundamental value of the profession, its lack highlighting a discrepancy between the auditor's decisions and their own beliefs regarding the financial reporting policy of the audited company (Magee & Tseng, 1990). Seen as a feature of the auditor-client relationship (Elliot & Jacobson, 1998), independence assures users of certified accounting information that there is no hidden understanding between the manager and the auditor (Lee & Gu, 1998) and that if the latter discovered an irregularity, will expose it in the audit report (DeAngelo, 1981).

The studied literature, but also the regulations regarding the auditor's independence do not define the concept, but address the problem of lack of independence and point out that

there must be a series of prohibitions and limitations regarding certain relationships that the financial auditor develops with the client company.

Conducting a quality audit mission involves two aspects: detecting and reporting significant error or omission. The first aspect concerns the professional competence of the auditor, the second refers to his morality and, implicitly, to his independence. Although the quality of the audit is based on independence, as a fundamental objective of the auditor, there are also authors who have proposed replacing this concept with the one of reability (trustworthy), because they considered that independence can be seen as a constraint from the authorities, which auditors will be tempted to avoid.

Regardless of the concept used, independence or reability, the perception of users of financial-accounting information derives from the perception of the quality of the audit and the lack of trust in the financial auditor leads to lack of confidence in the quality of financial statements prepared and presented by the audited company (Ionescu et al., 2021).

The perspective of the ethical principles imposed on the auditor is based on the regulations in the field of ethical conduct, at the international level being issued the IFAC code of ethics. It sets the rules of ethics for the ideal conduct of financial auditors and serves as a model for the development of national standards of ethics. The need for independence, along with compliance with the rules of conduct and integrity, is the premise of the financial auditor's ethical responsibility.

### **3. THE ROLE AND RESPONSIBILITY OF THE FINANCIAL AUDITOR IN DETECTING ACCOUNTING FRAUD**

The role of the audit mission is to express an opinion or to draw a conclusion on the object of the audit process, informing on the degree of effectiveness and reliability of the observed systems adding value for users of accounting information (Munteanu et al, 2016). Moreover, the role of the financial auditor is to confirm that the information provided by the financial statements has been obtained, processed and presented in accordance with the accounting regulations in force. In other words, to reinforce the above, it is noted that the auditor is the only professional accountant who is able to provide reasonable assurance that the annual financial statements are not vitiated by fraud, material misstatement or other manipulation. Thus, the information certified following the audit engagement can be used with confidence in the decision-making process.

The responsibility of the professional accountant towards the users of financial-accounting information is established by the legal regulations and professional standards, but also by norms of ethics and professional conduct (Bran Stan, 2012). In this context, the financial auditor must carry out the activity of verifying compliance with the conceptual framework of accounting and internal procedures established by the company's management, using the ethical requirements imposed by the IFAC Code.

In order to verify and certify that the true and fair position and financial performance of the entity are reflected in the accounts, the auditor should be professionally skeptical in order to evaluate the audit evidence from a critical perspective. In this regard, ISA 200 "Overall objectives of the independent auditor and the conduct of an audit in accordance with international standards on auditing" stipulates that the auditor must plan and conduct the audit engagement with an attitude of professional skepticism, acknowledging that there may be circumstances in which the financial statements are significantly distorted.

The auditor should also use professional judgment to identify any material misstatement of the financial statements. Determining the significance threshold allows the auditor to provide reasonable assurance that the erroneous information contained in the financial statements cannot change or influence the decisions of those who use this information. A remark is necessary in this context: it would be unproductive (costs and impossibility) to impose on auditors the obligation to discover all insignificant errors and frauds.

ISA 240 “The auditor’s responsibilities relating to fraud in an audit of financial statements” distinguishes between two types of misleading information: errors and fraud. An error is unintentionally misrepresented in the financial statements. In contrast, in the case of annual accounts fraud, there is an explicit intention to mislead users of financial-accounting information. Both, errors and fraud, can be significant or insignificant.

Closely related to the idea of presenting distorted information in financial statements, another concept has appeared in the literature: tolerated or legal evasion. This phrase is attributed to the practical meaning by which an entity evades the payment of taxes, fees and contributions by taking advantage of gaps in the legislation. Given that this practice is also known as creative accounting, I consider it important to clarify that fraud has nothing creative, it is illegal and condemned by all existing professional bodies at national and international level.

We know about creative accounting techniques that, when used in an aggressive manner, they lead to distortions of financial statements, and this misleads users of accounting information. Therefore, in order to continue this research, I set out to answer the pertinent question: is creative accounting the cause of major financial scandals?

#### **4. CREATIVE ACCOUNTING, THE CAUSE OF MAJOR FINANCIAL SCANDALS?**

The revolution of professional accountants against rigid rules, both accounting and especially tax, rules that have governed their activity over time, is synonymous with the emergence of creativity in accounting. Compliance with the rules established by legal regulations has always been an obligation of professionals, an obligation that is not subject to the revolt of accountants, only that limiting professional judgment, suppressing the ability to express themselves freely and sometimes preventing the reporting of economic reality have led to dissatisfaction with this professional category, and implicitly, at the birth of creative accounting.

The complexity and evolution of human society is influenced by the most unpredictable factor possible, man. Although accounting is protected by ethical rules, not all actors in economic life are aware of the importance of respecting the code of ethics of the professional accountant. Hence the actions of certain people who use creative accounting techniques in their own interest, actions that have highlighted the negative nature of creativity in the field of accounting science. A selection of the most important financial scandals is presented in the following table.

Table no.1. Creative accounting techniques, causes of bankruptcy around the world

<b>Economic entity (country, year of bankruptcy)</b>	<b>Causes of bankruptcy</b>
<b>EM. TV</b> (media concern) Germany, 2000	Generation of artificial income and breach of generally accepted accounting principles, as the amounts published were partially unfounded.
<b>Infomatec</b> (internet surfstation technology) Germany, 2000	Incorrect presentation of the company's financial position and share transactions in the context of false ad-hoc communications.
<b>Arthur Anderson</b> (audit and consulting company) USA, 2001	Accounting fraud, obstruction of justice.
<b>Enron</b> (energy trade) USA, 2001	Distortion of financial position and performance by non-presentation of debts and presentation of non-existent profits.
<b>HIH</b> (insurance company) Australia, 2001	Securities market manipulation.
<b>Lernout &amp; Hauspie</b> (software) Belgium, 2001	Defective consolidation of turnover, recording of unrealized income, as well as post-dating of procurement contracts.
<b>SairGroup</b> (airline) Switzerland, 2001	Violations of corporate governance principles and misrepresentations of financial position and performance.
<b>Allied Irish Bank</b> (bank) Ireland, 2002	Loss of \$ 691 million in unauthorized transactions.
<b>Bankgesellschaft Berlin</b> (bank) Germany, 2002	Distortion of financial position and performance, as well as accounting fraud, as contingent liabilities were not presented, no necessary provisions were made for guarantees, in breach of the principle of realization.
<b>Comroad</b> (telematics provider) Germany, 2002	Counterfeiting of sales proceeds by unfounded invoices and fictitious exits as a result of counterfeit invoices received.
<b>HealthSouth</b> (health services) USA, 2002	Inflated income, keeping false documents and accounting records, conspiracy to commit fraud, bribery.
<b>MI.P</b> (financial services) Germany, 2002	Doubtful accounting practices such as non-presentation of hidden loans or expansion of commission expenses, so that the company's position and financial performance were too well presented.
<b>Phenimedia</b> (software) Germany, 2002	Capitalization of simulated receivables through unfounded registrations and enrichment of management through stock trading.

Economic entity (country, year of bankruptcy)	Causes of bankruptcy
<b>Philipp Holzmann</b> (construction concern) Germany, 2002	Incorrect presentation of the financial position by capitalization of expenses, cancellation of provisions, sale-and-lease-back transactions and application of the dividend distribution procedure and their recovery through a capital increase.
<b>Tyco</b> (concern mixt) SUA, 2002	Blurring financial position and performance by not making value adjustments and presenting values in a confusing way, as well as personal enrichment.
<b>WorldCom</b> (telecommunications) USA, 2002	Distortion of financial position and performance by activating expenses for the assignment of the right of use or by arbitrary cancellation of provisions.
<b>Xerox</b> (office equipment) USA, 2002	Revenue from sales presented in the financial statements at a level too high due to unauthorized anticipation.
<b>Boeing</b> (aeronautical industry) USA, 2003	Unethical behavior, violation of company policy, misconduct.
<b>Parmalat</b> (food) Italy, 2003	Unrepresented debt of \$ 14.3 billion.
<b>Royal Ahold</b> (retail) The Netherlands, 2003	Presenting receivables at too high a level and anticipating the income and profits of the American subsidiary, obtaining loans through false claims and incorrect consolidation.

Source: Mocanu M., 2020, *Deontologia profesiei contabile. Dezbateri internaționale privind independența în auditul financiar*

The companies listed above have used the services of financial auditors and audit firms to certify their financial statements, and the lack of a reaction from the accounting profession to the financial difficulties they have faced has led the public to consider the auditor as the main culprit for filing for bankruptcy. The reputation of the professional accountant has been damaged, and suspicions about the auditor have shaken the trust of users of financial-accounting information in the reports of the audited entities.

The negative effects of financial scandals on the image of the auditing profession have not been differentiated (Backhaus et al., 2003), the whole profession coming to be held responsible for the fact that certain entities went bankrupt. Over time, the entity's management has placed responsibility for ensuring the accuracy of the information reported in the financial statements, but it is important to note that regulations on ethics and independence prohibit the auditor from taking over management responsibilities (Comandaru et al., 2020). The auditor is not responsible for the decisions taken by the entity's management. The assurance he provides about the financial statements is reasonable, not absolute, because due to limited resources (time, in the first place) it is impossible for the auditor to verify all the documents and transactions of the audited company.

The negative effects of financial scandals on the image of the auditing profession have not been differentiated (Backhaus et al., 2003), the whole profession coming to be held responsible for the fact that certain entities went bankrupt. Over time, the entity's

management has placed responsibility for ensuring the accuracy of the information reported in the financial statements, but it is important to note that regulations on ethics and independence prohibit the auditor from taking over management responsibilities (Ionescu et al., 2020). The auditor is not responsible for the decisions taken by the entity's management. The assurance he provides about the financial statements is reasonable, not absolute, because due to limited resources (time, in the first place) it is impossible for the auditor to verify all the documents and transactions of the audited company.

**Table no.2. Manipulations of the financial statements and audit firms concerned**

<b>Audit firms (The Big Five)</b>	<b>Companies that have manipulated their financial statements</b>
Delloite & Touche	Adelphia
KPMG	Xerox
Pricewaterhouse Coopers	Bristol/ Meyers – Squibb
	Micro Strategy
	Tyco
Ernst & Young	AOL/ Time Warner
	Computer Associates
	People Soft
	PNC Financial Services
Arthur Andersen	Enron
	Global Crossing
	Merck
	Qwest
	Waste Management
	WorldCom

Source: Schönauer S.R., (2006), Externe und interne Qualitätssicherung der Abschlussprüfung.

A brief analysis of the table above shows that the audit firm Arthur Andersen was most involved in the financial scandals. As a result, in 2001, after the collapse of Enron, something difficult to imagine happened for the accounting profession: the international audit and consulting firm, a member of Big Five, Arthur Andersen went bankrupt. Accused of accounting fraud and obstruction of justice, it has been shown that the consulting firm has allowed the use of accounting practices by which Enron managed to hide billions of dollars in debt to investors (Comândaru, Horaicu, 2021).

However, the bankruptcy of such an important audit firm did not discourage either creative accounting practices or the accounting profession in covering the handling of financial statements. The crisis of 2007 once again highlighted the fact that there were companies that benefited from unqualified audit opinions and subsequently reported financial difficulties. How this happened remains a question that is especially asked by users of financial-accounting information. In this context, it remains important for the auditor to establish objectives and procedures that adequately assess the principle of business continuity. A solution in this regard comes from ISA 570 “Going concern” which establishes as the responsibility of the auditor the collection of adequate and sufficient evidence

regarding the verification of the management's compliance with the business continuity principle in preparing and presenting the position and financial performance of the entity.

The uncertainty that characterizes the economic environment requires the financial auditor to check more closely the entity's ability to continue its business. The rehabilitation of the auditing profession in front of users of financial information also largely depends on this aspect.

## 5. CONCLUSIONS

International financial scandals have adversely affected the accounting profession, as users of financial-accounting information have lost confidence in financial reporting, which has often concealed manipulation and fraud.

The auditor's responsibility is limited to identifying significant errors and omissions that may change the decisions made by those interested in the entity's business. Reasonable, not absolute, assurance that financial statements are not materially affected by manipulation and misstatement provides the auditor with the legal framework to avoid the obligation to record the use of creative accounting techniques in the audit report.

The auditor's need for independence derives from the auditor's ethical responsibility, which must be impartial, objective, fair and honest in the conduct of the audit engagement. The fulfillment of the role of protection of the public interest is achieved if the services provided by the auditor comply with the highest standards of performance.

The reality of recent decades has shown that restoring public confidence in the accounting profession is a long process that is further affected by the financial scandals in which less scrupulous auditors are involved. However, the approach that all professional accountants are guilty of bankruptcy of the audited companies is wrong. In support of the above, the following conclusion is outlined: sometimes auditors are accused of things that do not fall within their sphere of responsibility and blamed on generalizations unjustified by "uncommitted" facts.

## REFERENCES

1. Backhaus K., Meffert H., Bongartz M., Eschweiler M., (2003), *Selbst – und Fremdbild der Wirtschaftsprüfer – Empirische Befunde zur Positionierung des Wirtschaftsprüfer in der Öffentlichkeit*, Die Wirtschaftsprüfer, No.12.
2. Bogdan A.M., (2005), *Etica profesională: condiție și deziderat pentru auditorii financiari din România*, Contabilitatea, expertiza și auditul afacerilor, No.5, pp. 218-227.
3. Bran Stan, N. C., Margarit Stanescu, S.G., Coman M. D., Dragulescu Ghita R.. (2012). Accounting and extra-accounting information-valences in meeting the financial analysis. *Procedia-Social and Behavioral Sciences*, 62, 531-535.
4. Coman, D. M., Ionescu, C. A., Duică, A., Coman, M. D., Uzlau, M. C., Stanescu, S. G., & State, V. (2022). Digitization of Accounting: The Premise of the Paradigm Shift of Role of the Professional Accountant. *Applied Sciences*, 12(7), 3359.

5. Comândaru (Andrei) A.M., Horaicu A., Volodea M., Boros A., (2021), A Brief Analysis of Creative Accounting, Annals of „Constantin Brancusi” University, Targu-Jiu, Economy Series, 2, pp.115-123.
6. Comandaru, A. M. A., Stanescu, S. G., Toma, C. M., & Păfduțaru, A. H. (2020). Another image of accounting-creative accounting. *Global Journal of Business, Economics and Management: Current Issues*, 10(2), 100-110.
7. DeAngelo L.E., (1981), *Auditor independence, “low balling” and disclosure regulation*, Journal of Accounting and Economics, pp.113-127.
8. Ionescu, C. A., Coman, M. D., Paschia, L., Gudanescu Nicolau, N. L., & Stanescu, S. G. (2020). Sustainable Economic Intelligence: A New Dimension of Information Provided by Non-Financial Indicators. *Improving Business Performance Through Innovation in the Digital Economy*, 117-143.
9. Ionescu, C. A., Fülöp, M. T., Topor, D. I., Căpușeanu, S., Breaz, T. O., Stănescu, S. G., & Coman, M. D. (2021). The New Era of Business Digitization through the Implementation of 5G Technology in Romania. *Sustainability*, 13(23), 13401.
10. ISA 200 “Overall objectives of the independent auditor and the conduct of an audit in accordance with international standards on auditing”.
11. ISA 240 “The auditor’s responsibilities relating to fraud in an audit of financial statements”.
12. ISA 570 “Going concern”.
13. Lazăr M., (2008), *Profesionalism și etică în profesia contabilă și în audit*, Revista Audit Financiar, Vol. 1, pp.13-22.
14. Lee C.W.J., Gu Z., (1998), *Low balling, legal liability and auditor independence*, The Accounting Review 73(4), pp.533.
15. Magee R.P., Tseng M., (1990), *Audit pricing and independence*, The Accounting Review 65, pp.315-336.
16. Mocanu M., (2020), *Deontologia profesiei contabile. Dezbateri internaționale privind independența în auditul financiar*, Editura Economică, București.
17. Munteanu V., Zuca M., Munteanu R., Vera S., Nedea C., (2016), *Audit financiar-contabil. Concepte, metodologie, reglementări, cazuri practice*, Editura Universitară, București.
18. Schönauer S.R., (2006), *Externe und interne Qualitätssicherung der Abschlussprüfung*.
19. Staubus G.J., (2005), *Ethics Failures in Corporate Financial Reporting*, Journal of Business Ethics 57, pp.5-15.
20. The International Code of Ethics for Professional Accountants.