

Economic Effects of the Implementation of the BEPS Plan in Romania

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The BEPS Plan (Action Plan on Base Erosion and Profit Shifting) is a globally adopted solution proposed by the Organization for Economic Co-operation and Development (OECD) to prevent the erosion of the taxable base and the transfer of profits. Through the recommendations on fiscal legislative changes at national and international level, we appreciate that a risk of eroding the business environment is expected, as in the medium and long term the tax burden will manifest itself as a barrier for the development of businesses related to those directly targeted by the BEPS plan, respectively by the trade flows of multinational companies. The research aimed to evaluate the impact of the application of the BEPS plan in Romania, especially Action 1 - Tax Challenges Arising from Digitalisation, by developing a regression econometric model to assess in a predictive way the impact of the plan on the economic and financial evolution of companies in the sphere of the digital economy and which fulfill the conditions to be a substantial fiscal presence. Based on the data collected on the dynamics of economic and financial indicators of the companies studied, it was found that the risk of bankruptcy increased and a contraction in turnover against the background of BEPS surcharge.

Keywords: BEPS plan, Taxation, digital economy, surcharge, econometric model.

JEL: H21, I86, O1, G30

1. Introduction

The global economic crisis has had and continues to have a strong impact on economies around the world. This has affected global business as well as consumer behavior considerably.

We are currently witnessing the emergence of entirely new markets, industries, companies and work practices, which form a digital economy. This new model of the economy is characterized by the digitization and use of information and communication technologies, coding of knowledge, exchanges of information as well as new ways of organizing work and production.

The notion of the “new economy” (digital economy) refers in particular to the current transformations of economic activities as a result of the use of digital technologies, which provide access, processing and storage of information in an easier and cheaper way.

The digital society is the society in which the design, use and distribution of information have a great influence on the economic, political, social and cultural environment.

The digital economy prioritizes the demand, the needs of consumers who are increasingly involved in the design, implementation and use of goods and services, starting from their stage of research and development. (Turcan, V., Gribincea, A., Bîrcă, I., 2014).

The digital economy is based on intangible resources such as information, innovation, being composed of: consumers, intermediaries, maintenance and support services, etc. The hierarchical structure of the digital economy includes the following elements: Internet infrastructure, digital economy infrastructure applications, intermediaries and online transactions.

Digital technologies generate many benefits for society and, from a tax perspective, create opportunities for tax administrations and provide solutions to reduce administrative burdens, facilitate collaboration between tax authorities, and combat tax evasion.

The main advantages of the digital economy are: it offers to the population easy access to education through the development of information and communication infrastructure; contributes to increasing competitiveness, creating new products and services. From an economic point of view, e-commerce is an opportunity for businesses to expand their activities abroad with minimal capital.

From the perspective of the disadvantages of technological globalization, the most important is the increase in economic crime. The digital economy is an environment conducive to improving the criminal phenomenon, companies being threatened by: electronic attacks, embezzlement, use of non-existent accounts, use of false identities. The latter disadvantages can be prevented through a legal framework and increased security.

Also, technology offers opportunities as well as new challenges for BEPS and for fiscal policy and administration. The most pressing challenge for the pro-inclusion framework - and for the international tax community in general - is how to reduce the gap between different points of view to maintain the coherence of the international tax system.

The introduction of a tax on digital services - on revenues resulting from the provided provision of certain digital services aims to avoid possible differences in the European Union as a result of the implementation of Member States' unilateral initiatives and proposes an approach to the taxation of revenues from certain digital services.

The new Digital Services Tax (DST) is applied from 1 January 2020 and will be levied at a single rate of 3% of gross revenue.

2. Literature review

Today, the economy is developing in new and emerging forms of consumption. These have resulted from a confluence of technological, economic, and socio-cultural phenomena, which are currently changing conventional forms of trade (Ertz, Halegatte, & Bousquet, 2019, pp.113-131). Digital companies are growing much faster than the economy as a whole and it looks like this trend will continue.

In a study "The Labor Market in the New Information Economy" by Richard Freeman, the authors are of the opinion that: "the extension of information and communication technologies (ICT) to economic activity is changing in the labor market in an important diversification. The study shows that: "computerization and internet use are associated with hours worked and higher wages; confirming that ICT employment is on the rise; job search and recruitment are moving rapidly on the Web, with consequences for employers and employees. "

The study The digital labor challenge: Work in the age of new media, Sectorial activities Department, was prepared by Aidan White and edited by John Myers with the message that: "the global information revolution is in full swing." Since the creation of content, distribution and consumption, the evolution of technology has changed the

worldview and that of using the media for news, information and entertainment, have transformed people's lives and work into a media industry.

At the international level, the Organization for Economic Co-operation and Development (OECD 2015) has already acknowledged in its Action 1 report, published in 2015 in the OECD / G20 Action Plan on Base Erosion and Profit Shifting (BEPS), that digitalisation presents difficulties for international taxation. Following this report, G20 finance ministers reiterated their support for the OECD's work on taxation and digitalisation. Therefore, the OECD prepared an interim report on the taxation of the digital economy, which was presented to G20 finance ministers in March 2018. The interim report examines the need to adapt the international tax system to the digitalization of the economy and identifies the elements that countries need to consider in order to introduce interim measures to address the fiscal difficulties of digitization. The favorable framework for OECD / G20 inclusion on BEPS has agreed to continue its work in the field of taxation and digitalisation, with a view to drawing up a final report in 2020.

In the context of increasing the mobility of capital and intangible assets, of the new business models of this century (digital economy), the BEPS plan brings recommendations for legislative changes in both national tax laws and international provisions, to counteract the situations that appear from the use of to multinational companies of unintentional legislative inconsistencies provided by the national tax systems of the states in which these companies expand their activities. Such inconsistencies are successfully used by multinational firms to cause profits to "disappear" for tax purposes or to be "directed" to jurisdictions where their activity is reduced or non-existent, but where the level of taxation is at a low level, so that the profit tax paid by such multinational companies is as low or zero as possible.

3. Research methodology

To quantify the implications of the Romanian digital economy, we have identified and analyzed Romanian companies that make profits attributable to a substantial digital presence, namely using the CAEN division 61 groups.

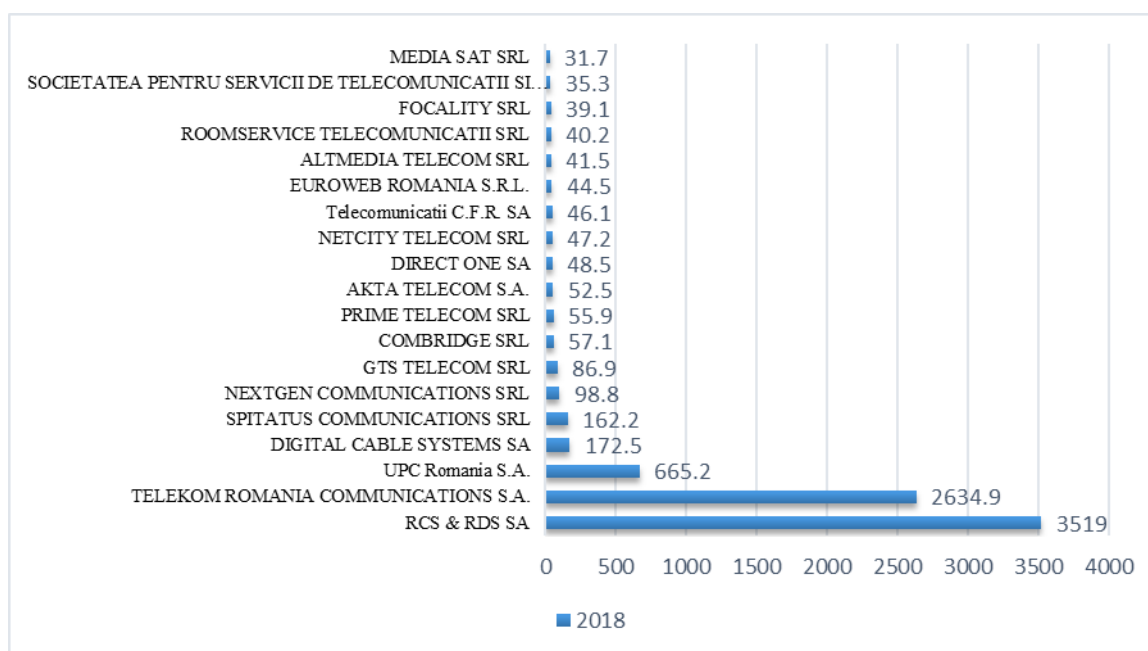


Figure 1 – Top Romania companies with CAEN code 6110 by turnover

Source: : Authors' contribution using official data published on the site

<https://www.topfirme.com/caen/6110/cifra-de-afaceri>

A digital platform will be considered to have a taxable "digital presence" or a virtual permanent representation in a Member State if it meets one of the following criteria: it exceeds a threshold of €7 million in annual revenues in a Member State, it has more than 100,000 users in a Member State in a taxable year, over 3,000 business contracts for digital services are created between the company and business users in a taxable year.

Decrease in nominal rates of profit tax from an average of 32% in 2000 to 21.7% in 2019 (https://www.europarl.europa.eu/doceo/document/B-9-2019-0238_RO.pdf), may have implications for the sustainability of EU welfare states and may have effects on other countries, it was necessary to find a common solution to limit the effects of fiscal difficulties arising from the digitalisation of the economy.

The financial data reported by the entities selected for analysis that correspond to the presented criteria were interpreted in dynamics for the period 2014 - 2018, after which the linear trends were calculated for a forecast period of 5 years (2019 - 2023).

The profit taxes related to the reported positive gross profit (profit before income tax) were calculated, the net payment VAT (value-added tax) was deducted by the formula: $(\text{Income} - 70\% * \text{Expenses}) * \% \text{ VAT}$.

Taxable income was calculated after deducting VAT from total income. The BEPS Tax of 3% was calculated on the taxable income, obtaining by difference with the value of the tax on the gross profit the value of the Badwill of year t . The value of the Badwill of year t adjusted by proportionality the value of the turnover and the gross profit of the year $t + 1$. For the period 2014 - 2018, the value of turnover contraction by adjusting the annual series was calculated at - 2 billion lei, respectively 2% of the total turnover of 94 billion lei for the period 2014-2018 for the 35 entities analyzed.

The reduction of the gross profit assimilated to the increase of the bankruptcy risk summed up 2.2 billion Lei, and by reporting to the total efficiency from the analyzed period, an average vulnerability of 2% was calculated for the analyzed entities.

The BEPS surcharge assessed for the period 2014 - 2018 was 2.4 billion Lei, respectively 3% of the turnover achieved by entities.

For the forecast period 2019 - 2023, a contraction at the level of turnover assimilated to BEPS taxation of 2.5 billion Lei is estimated, respectively 2% of the total forecasted turnover of 122 billion Lei, the adjusted value of turnover being 119 billion Lei.

The increase of the bankruptcy risk during the forecast period is of 3% (3.3 billion lei), related to the reduction of the financial performance from -1.45 billion lei to -4.8 billion lei.

The BEPS surcharge forecasted for the 2019-2023 forecast horizon is of 3 billion Lei, respectively an increase from 0.7 billion Lei related to the profit tax, to 3.7 billion Lei related to BEPS.

Under these conditions, the badwill accumulated by the analyzed entities will be approximately 3 billion Lei.

The data were modeled using the SPSS program.

Descriptive statistics of the forecast series Turnover were analyzed on all components of statistical validity, including the Kurtosis test, calculating a statistical significance of over 70%.

Table 1 - Descriptive statistics of the forecast series Turnover

| Statistics | | | | | |
|-----------------------|------------------|------------------|------------------|------------------|------------------|
| | Turnover 2019 | Turnover 2020 | Turnover 2021 | Turnover 2022 | Turnover 2023 |
| Mean | 636600196,73 | 666460204,82 | 698409855,23 | 728136864,36 | 761953344,74 |
| Std. Error of Mean | 237689825,204 | 250089689,633 | 262713993,550 | 275171428,241 | 288532323,697 |

| Statistics | | | | | |
|------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | Turnover 2019 | Turnover 2020 | Turnover 2021 | Turnover 2022 | Turnover 2023 |
| Median | 58489661,64 | 59341003,14 | 65126034,16 | 73198088,95 | 78997717,32 |
| Mode | 28329697 ^a | 29632929 ^a | 20897028 ^a | 13235700 ^a | 6208464 ^a |
| Std. Deviation | 1406191969,536 | 1479550556,79 8 | 1554236945,976 | 1627936123,506 | 1706980246,995 |
| Variance | 1977375855186 659580,000 | 2189069850122 024960,000 | 241565248423692 5400,000 | 265017602221424 3300,000 | 291378156363057 9700,000 |
| Skewness | 2,716 | 2,777 | 2,807 | 2,853 | 2,871 |
| Std. Error of Skewness | ,398 | ,398 | ,398 | ,398 | ,398 |
| Kurtosis | 7,048 | 7,510 | 7,758 | 8,080 | 8,230 |
| Std. Error of Kurtosis | ,778 | ,778 | ,778 | ,778 | ,778 |
| Range | 6066616932 | 6475772809 | 6867389446 | 7256447242 | 7648749812 |
| Minimum | 28329697 | 29632929 | 20897028 | 13235700 | 6208464 |
| Maximum | 6094946629 | 6505405739 | 6888286474 | 7269682942 | 7654958276 |
| Sum | 22281006886 | 23326107169 | 24444344933 | 25484790252 | 26668367066 |
| Percentiles | 10 | 33162841,24 | 33111970,69 | 29415054,68 | 25097093,80 |
| | 20 | 41610326,95 | 43607730,52 | 44546464,58 | 42202980,57 |
| | 25 | 45384322,65 | 47343797,59 | 49098475,57 | 52624581,48 |
| | 30 | 47694902,81 | 48414001,18 | 51662099,08 | 56185254,41 |
| | 40 | 49525109,41 | 54127829,09 | 55293674,54 | 62427950,28 |
| | 50 | 58489661,64 | 59341003,14 | 65126034,16 | 78997717,32 |
| | 60 | 82329248,14 | 87049666,51 | 89093844,85 | 95811870,15 |
| | 70 | 188232836,51 | 188452885,27 | 189167084,53 | 216173904,20 |
| | 75 | 240660759,10 | 262570721,46 | 301864798,71 | 372003621,52 |
| | 80 | 424794426,38 | 450695985,06 | 480340642,70 | 538390220,19 |
| | 90 | 3183070291,08 | 3252958385,64 | 3382204945,39 | 3536531550,82 |

Source: Authors' contribution

The histogram evolution pattern of the Turnover reflects in dynamics in the figures below a descending slope with the accumulation of the frequency at the minimum point and the decrease of the density on the other levels.

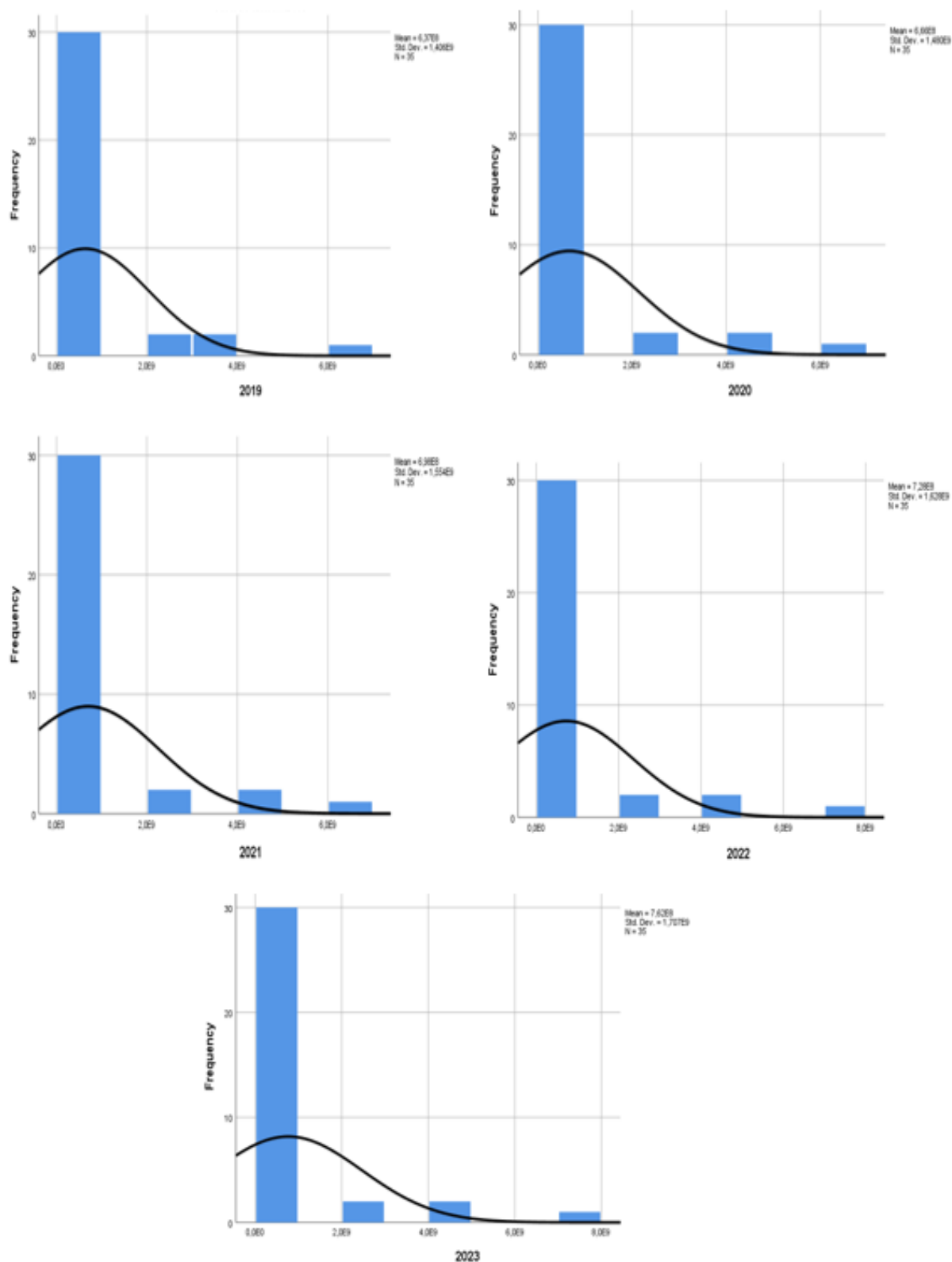


Figure 2 –Turnover histograms 2019-2023

Source: Authors' contribution

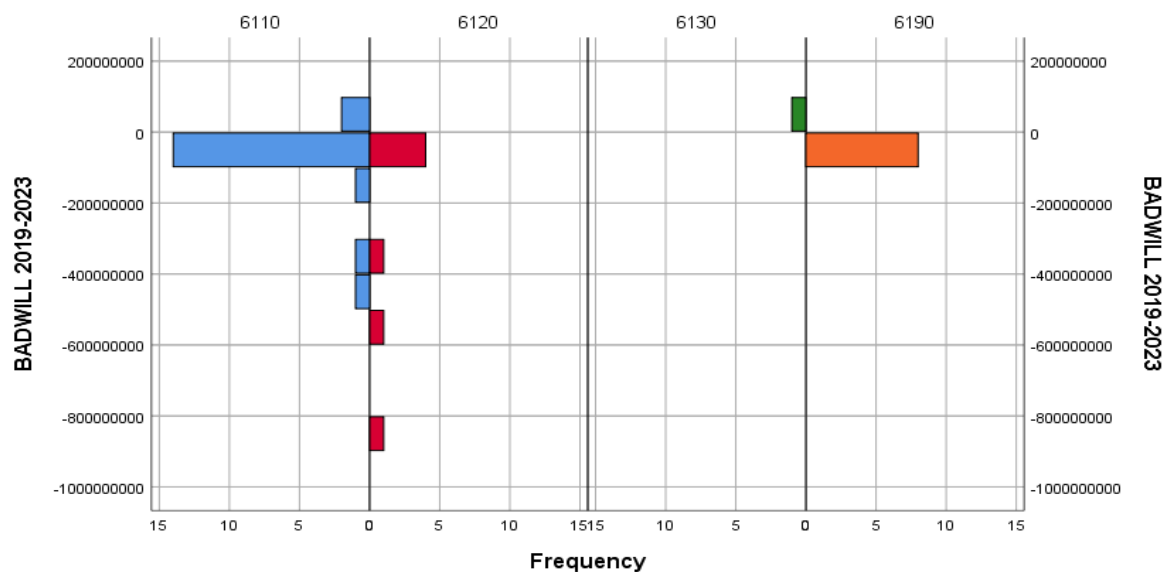
The data pair test for the alternative forecast series Profit Tax and Income Tax BEPS, indicates a downward correlation (decrease in the level of significance on the upper branch), in parallel with the increase of the p-value level with a minimum value that does not invalidate the model.

Table 2 – Sample statistics on predicted data pairs for the alternative series Profit Tax and Income Tax BEPS

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---------------------------|-------------|----|----------------|-----------------|
| Pair 1 | Profit tax 16% 2019 | 4019233,46 | 35 | 11890029,025 | 2009781,724 |
| | Income tax 3% (BEPS) 2019 | 19816426,04 | 35 | 42411926,097 | 7168923,958 |
| Pair 2 | Profit tax 16% 2020 | 3898776,42 | 35 | 10407367,185 | 1759166,131 |
| | Income tax 3% (BEPS) 2020 | 20661478,96 | 35 | 44157435,509 | 7463968,900 |
| Pair 3 | Profit tax 16% 2021 | 4400842,41 | 35 | 15244000,039 | 2576706,298 |
| | Income tax 3% (BEPS) 2021 | 21687923,36 | 35 | 46435848,424 | 7849090,973 |
| Pair 4 | Profit tax 16% 2022 | 4267829,00 | 35 | 13158809,943 | 2224244,842 |
| | Income tax 3% (BEPS) 2022 | 22519512,42 | 35 | 48235874,154 | 8153350,854 |
| Pair 5 | Profit tax 16% 2023 | 4874342,62 | 35 | 19144658,897 | 3236037,984 |
| | Income tax 3% (BEPS) 2023 | 23558660,66 | 35 | 50550399,133 | 8544576,981 |

Source: Authors' contribution

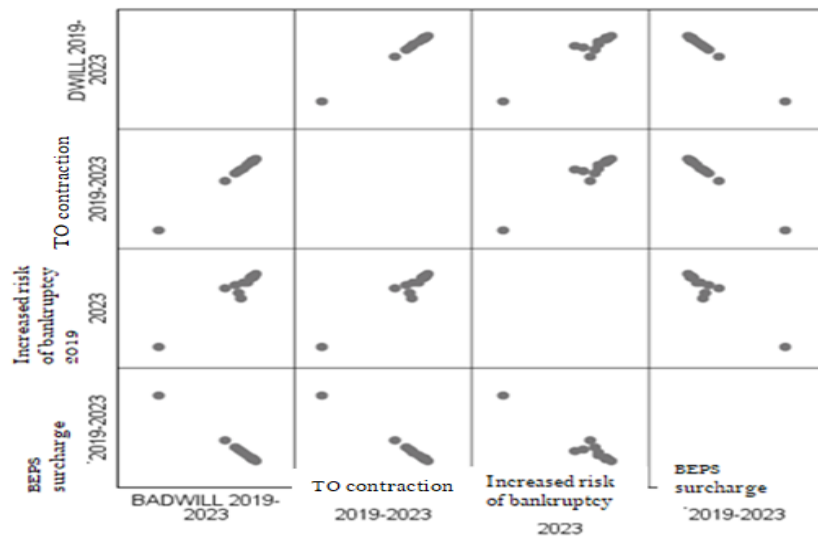
Figure 3 . Histogram chart of Badwill segregated by CAEN code



Source: Authors' contribution

The correlation matrix in SCATTERPLOT system for BADWILL, TO (Turnover) contraction, Bankruptcy risk increase in the period 2019-2023 reflects the fact that there is a direct correlation between the 3 phenomena, the distribution in the matrix being symmetrical.

Figure 4. Correlation matrix in SCATTERPLOT system for BADWILL, TO contraction, Increased risk of bankruptcy in the period 2019-2023



Source: Authors' contribution

The result is a statistically significant high correlation of vulnerability generating factors (increased risk of bankruptcy, badwill, TO contraction) in relation to BEPS surcharge, according to the Table.

Table 3 - Regression table of the linear model

| | | Increased risk of bankruptcy 2019-2023 | BADWILL 2019-2023 | TO contraction 2019-2023 |
|---------------------|--|--|-------------------|--------------------------|
| Pearson Correlation | Increased risk of bankruptcy 2019-2023 | 1,000 | ,971 | ,971 |
| | BADWILL 2019-2023 | ,971 | 1,000 | 1,000 |
| | TO contraction 2019-2023 | ,971 | 1,000 | 1,000 |
| | BEPS surcharge 2019-2023 | -,971 | -1,000 | -1,000 |
| Sig. (1-tailed) | Increased risk of bankruptcy 2019-2023 | . | ,000 | ,000 |
| | BADWILL 2019-2023 | ,000 | . | ,000 |
| | TO contraction 2019-2023 | ,000 | ,000 | . |
| | BEPS surcharge 2019-2023 | ,000 | ,000 | ,000 |

Source: Authors' contribution

From the analyzed data it results that the surcharge will have a toxic effect on the turnover leading to the economic contraction of the branch.

4. Discussion

Digitization has had a key transformative effect and has influenced every sector of the economy. Business models have emerged with common features - mobility, the use of data to generate value and network effects. These trends show no signs of declining.

Digital technologies will significantly increase competitiveness in the economy; this will be on a global scale as geographical barriers become increasingly irrelevant.

The digital economy has led to the phenomenon of micro-multinational-small companies with global expansion. The conceptual norm of the workplace and the work schedule are changing; people can work from home, with colleagues and collaborators on separate continents.

Both technological and business innovations have led to a reduction in barriers to entry into the Internet sector. As a result, companies that wanted to maintain their market position strived to innovate products, processes and business models. As a result, value creation has moved rapidly from one sector to another and from one company to another.

The BEPS plan aims, at international level, to eliminate errors and cover gaps in national tax laws. The intention of the Action Plan is to prevent the erosion of the tax base, to stop the transfer of profits from one jurisdiction to another and to identify techniques to avoid the international taxation of revenues obtained by multinational companies. Most of the names of multinational companies that practice such tax avoidance or reduction techniques operate mainly in the IT field, originating in the United States, but which, over time, have set up secondary offices of apparent substance in other jurisdictions, including in Europe and Asia.

The OECD's concern in this regard materialized in a series of recommendations published in October 2015. At the same time, the BEPS Action Plan aims to achieve national and international instruments so that states can eliminate the interpretive ambiguity in determining the tax burden of the activity that generates income. The plan contains the activities and actions to be carried out, the implementation deadlines for actions, as well as the resources and implementation methodology to be followed by the states concerned.

The implementation of the BEPS Action Plan has as consequences the reconfiguration of the international and national tax system, respectively. These changes in tax legislation, in addition to the many questions it raises, will generate a wide range of other changes that can have a major impact on the tax environment.

Even if the BEPS Plan, through the set of measures it seeks to implement, seeks to prevent companies from shifting their profits to areas with low levels of taxation or where certain taxes do not apply, differences between national tax systems and the financial interests of each state must be taken into account.

5. Conclusion

For Romania, the BEPS Action Plan by developing this package of measures, which is based on the collection of the profit tax, especially from multinational companies, can bring an extra income to the state budget. However, there can be no same opinion regarding national companies, by implementing the measures of the BEPS Plan, according to research, in the future we can see a reduction in gross profit of the companies concerned, increased risk of bankruptcy, implicitly contraction in turnover with effects on decline taxable income and revenues to the state budget.

Consequently, both multinational and national companies will identify solutions for their own fiscal optimization and implicitly for counteracting the effects of the BEPS Plan. In other words, the implementation of the BEPS Action Plan does not guarantee governments that the proposed tax instruments will prevent multinational corporations from moving profits, will ensure that profits are taxed where economic activity takes place or that they will

come to the aid of taxpayers, by clarifying on the application of international tax law or certainty, as a result of the standardization of tax reporting requirements.

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