BLACK ZERO AND ITS CONSEQUENCES ON SUSTAINABLE DEVELOPMENT. CASE STUDY: EXPLOITATION OF FOREST RESOURCES IN ROMANIA

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Abstract
The effects of the recent coronavirus pandemic and the global risk of recession are prerequisites for the onset of an unprecedented economic crisis. Due to the need to react quickly to the current circumstances, Germany recently suspended the "Black zero" rule (Schwarze null) by unblocking investments and taking into account an increase in expenditure. The "Black Zero" rule has generated profit maximization for countries of origin and limited reinvestment of profits for countries of destination, without developing developments in countries of destination on the premise of sustainable development, aiming only at cheap labor and easy exploitation of natural resources. To understand the consequences of "Black zero" on sustainable developments in Romania and to what extent these developments can cope with the impending crisis, in the current analysis we considered the case study on investments in wood processing in the context of exploitation of forest resources. The results show that the authorities did not consider the development of viable economic alternatives that would provide solutions to the social and environmental factors, in the case, for the time being, hypothetically of foreign investment withdrawals. Development is based strictly on the gain obtained during the period of gross exploitation of resources, whether human or material, without too much-added value. In this regard, our study will be continued with a series of examples of good practice and projections that can contribute to the development of healthy sustainable development projects.

Keywords
B*lack zero, foreign direct investment, sustainable development, forest resources.*

Introduction

According to Paolo Gentiloni, European Commissioner for Economic Affairs "Europe is facing an unprecedented economic shock since the Great Depression" (https://ec.europa.eu/commission/presscorner 06.05.2020). German Finance Minister, Olaf Scholz, announces that "intends to make record investments" (https://www.bloombergquint.com/ 26.02.2020). Other developed countries will follow suit. How Romania will cope, given its dependence on investments from developed countries, is a big question mark. Especially, given the current phenomenon of capital withdrawals to countries of origin. As we know, for several decades, the German vision "Schwarze null" has had a serious impact on most members of the European Union, affecting investment and blocking several projects in priority areas.

ETUI (European Trade Union Institute) researchers warn that "synchronous austerity policy will widen the gap between southern European member states and Germany, and the main cause of the euro crisis will not be overcome but aggravated" (https://www.boeckler.de/ August 2012).

Germany has not encouraged economic growth by reducing taxes and increasing consumption but has adopted a tough policy of limiting spending, focusing on debt repayment to reduce pressure on future generations, given the people's aversion to debt as a result of high hyperinflation in the 1920s. Chancellor Angela Merkel said "it is important not to send young people into the future with ever-increasing debts." (https://www.tagesschau.de/wirtschaft/scholz-schwarzenull-101.html 09.08.2019)

The "Black Zero" rule insists on a balanced budget between tax revenue and expenditure and requires a severe reduction in spending. Started in 1969, "Black zero" reached its goal only in 2014 when, for the first time, revenues were balanced by spending. According to the Deutscher Gewerkschaftsbund, "unlike debt relief, 'Black zero' is not a legal obligation, but only a political commitment." (https://www.dgb.de/10.02.2020)

Regarding the synchronized austerity efforts of the euro countries, researchers from IMK (Institut fur Makroeconomie und Konjunkturforschung), Gregor Semieniuk, Till van Treeck and Achim Truger pointed out that "not only lower levels of public debt are important [...] current accounts balanced also plays a major role" (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1956614). Thus, for more than forty years, this austerity policy of Germany has put pressure on EU countries to follow its example in reducing spending, to the detriment of loans or monetary issues by central banks, by limiting the budget deficit.

Theoretical and empirical data used

Consequences on sustainable developments in Romania

"Black zero" echoed the repatriation of foreign earnings and financial flows within multinational companies.

Figure 1. Foreign direct investment - Profit distribution (EUR million)
Source: authors' processing based on NBR data (taken from Table 1 in the Annex)
(https://www.bnr.ro/PublicationDocuments.aspx?icid=9403)

As shown in Figure 1, until the end of 2014, the profit reinvested in Romania by multinational companies with foreign capital (FDI enterprises) was negative. In other words, the entire profit obtained was either distributed in the form of dividends or covered losses.

We must mention that the first five countries (Table 2 in the Annex), by the size of foreign direct investment (million euros), according to the latest statistics published by the NBR (Foreign Direct Investment in Romania in 2018), are: Netherlands (19,389), Germany (10,298), Austria (9,915), Italy (7,669) and Cyprus (5,015). In this ranking, there were taken into account entities from non-resident countries that held at least 10% of the paid-in share capital of an entity resident in Romania and not the final beneficiary (the ultimate beneficial owner) of those non-resident entities, located in another country, with other tax benefits.

According to the latest data published for 2019 by the Corporate Tax Haven Index (Corporate Tax Haven Index - 2019), the Netherlands and Cyprus are at the top of the European ranking of tax havens (4th and 18th place, respectively) due to the treatment of foreign investments, reduced taxation on profit and dividends (Table 3 in the Annex). This aspect generated significant losses not only for Romania but for all the countries of destination of the funds, which had to be satisfied only with the revenues from taxes applied to the labor force.

As shown in Figure 2, only in 2015 a part of the profit made by FDI enterprises remained in Romania.

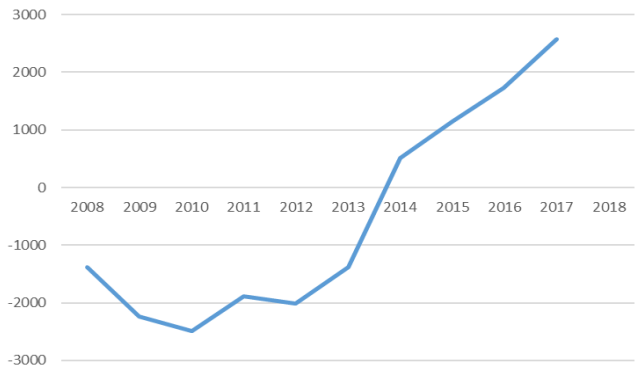

Figure 2. Foreign direct investment - Reinvested profit (EUR million)
Source: authors' processing based on NBR data (taken from Table 1 in the Annex) (https://www.bnr.ro/PublicationDocuments.aspx?icid=9403)

According to Alex Cobhan, director of the Tax Justice Network „When our laws for taxing global corporations stop working, the global economy stops working for the vast majority of us. [...] To curtail the corporate tax avoidance that costs hundreds of billions of dollars every year, governments must finally deliver international rules that ensure profits are declared, and tax paid, in the places where real economic activity takes place. Corporations should be taxed where their employees work, not where their ledgers hide." (https://www.taxjustice.net/2019/05/28/).

If no action is taken, exacerbated by the COVID-19 pandemic, this aspect will continue to influence the distribution of profits, given that many European countries are demanding an increase in the multiannual budget for 2021-2027. The need for new revenues justifies the move by some European countries (e.g. France, Poland, Denmark) to form a coalition in order not to grant aid to countries that pay in tax havens and to support a series of measures that can impact investments, in general. Amid the recent pandemic, the suspension of the "Black Zero" rule will deepen national security concerns. According to studies, investment restrictions have been heightened, especially when it comes to new technologies, defense, sensitive commercial assets, and residential properties.

Restrictions and limitations

At the end of 2019, globally, 54 countries already had 107 measures issued that affected foreign direct investment, of which 12 measures were issued by European countries, all of which were restrictive and limitative.

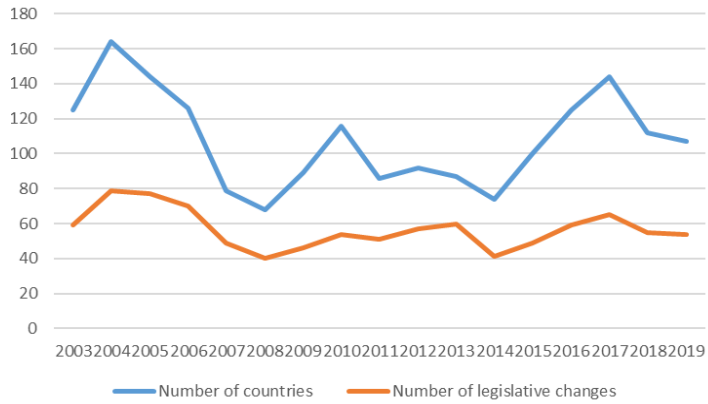

Figure 3. Number of countries that have issued legislative changes that have affected FDI
(Source: authors' processing based on data extracted from the UNCTAD report - World Investment Report 2020)

These legislative changes have targeted the screening of new investments in new technologies in France and Germany, in Hungary - defense, dual-use products, cryptography, utilities, communications, finance, in the UK - national security, in Lithuania - military equipment, energy and information technologies, and examples can go on. The restrictions are also accentuated by the new industrial revolution (Industry 4.0), by the adoption in all sectors of digital technologies that are transforming business models, from the ground up.

The areas of investment interest are no longer oriented towards the exploitation of natural resources but, rather, towards infrastructure, renewable energy, water and sewerage, food and agriculture, and medical care. However, investments in sustainable development are mostly aimed at renewable energy and are targeted at developed countries, while other sustainable development goals do not receive much funding. For these reasons, the investment process needs to be reformulated so that it is geared towards sustainable development goals, regardless of the level of development of the destination country.

Due to the COVID-19 pandemic, many investments have been delayed or even blocked. As a result, the "Black Zero" suspension confirms that developed countries have understood the importance of the investment process in achieving sustainable development goals and are ready to restart their investment engines. What will Romania do?

Sustainable development after COVID-19

During the severe crisis caused by the pandemic, the immediate impact on foreign direct investment is expected to be dramatic. According to recent studies, decreases of up to 40% in direct investment flows are forecast for 2020, implicitly a decrease of over 50% in the profit reinvested by multinational companies, given that they hold the majority of foreign direct investment. (World Investment Report 2020 - https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2769).

Studies anticipate the rise of interventionism and protectionism on the part of states, a process accelerated by Industry 4.0, sustainable development goals, and supply chain resilience measures that will reshape investment, business models, and international production.

State-of-the-art technology-oriented reindustrialization plays an important role in achieving the goals of sustainable development because it will provide jobs, growth, and a positive impact on the environment. Affected by the process of premature deindustrialization in recent decades, developed countries are concerned about taking appropriate measures to rebuild their manufacturing base, especially in the areas of advanced technologies. Developed countries stimulate the growth of domestic production capacity in advanced technologies by providing incentives, subsidies, and several public investments made in this regard.

In this context, Special Economic Zones (SEZs), an industrial policy instrument based on attracting foreign direct investment, continue to proliferate and diversify around the world. (Narula & Zhan, 2019). In recent years, the number of these special economic zones has increased, especially in the high-tech field, while in the automotive industry, many such centers have had to reduce or even suspend their activity, especially under COVID-19. Moreover, as an alternative to declining foreign direct investment, accessing sustainable funds seems to be the solution for achieving sustainable development projects. According to the World Investment Report 2020, funds from Europe and the United States doubled between 2010-2019.

Last but not least, the efficient use of natural resources, by adopting the concepts of circular economy and eco-innovation will reduce the pressure on resources and open new development perspectives.

Research methodology

Legislative restrictions, the new industrial revolution, the global trend of the declining flow of foreign direct investment, which continues in Europe, the repatriation of gains to the countries of origin of capital are good reasons for Romania to look with concern

at how the goals of sustainable development were approached, until currently. There is only one more decade until 2030, and the challenges of COVID-19 overlap.

Already affected by the austerity measures generated by the "Black zero" rule, with a poorly developed infrastructure, an industry destroyed after 1989, and an economy-oriented on the exploitation of natural and human resources, Romania must find solutions so that the developments that will be undertaken by now to have a lasting character. In this sense, in our analysis, we approached how the objectives of sustainable development in the field of wood processing were taken into account in the context of the exploitation of forest resources.

According to the data published by the Ministry of Public Finance (https://www.mfinante.gov.ro/pjuridice.html ?pagina=domenii), at the end of 2018, in Romania, there were 3,176 companies with the main activity "Forestry and forestry activities "which achieved a turnover of RON 3,494,809,242. Also, at the end of the same year, 5,256 more companies were operating in Romania with the main activity "Logging". They achieved a turnover of RON 3,424,819,796. Cumulated, the two activities of exploitation of forest resources totaled the turnover of RON 6,919,629,038.

Analyzing the same data published by the Ministry of Public Finance, we identified that, at the end of 2018, there were 327 companies with the main activity " Manufacture of wood and of products of wood" which achieved a turnover of RON 4,216,125,952. According to the data in Table 4 of the Annex, more than 80% of this turnover was realized by five FDI companies, with Austrian capital. Also on the wood processing activity, there were still 6,585 companies with the main activity "Sawmills and planning of wood" which obtained a turnover of RON 7,143,917,999. More than 40% of this turnover corresponds to other FDI companies with capital, mainly from Austria, Turkey, Finland, Cyprus, and Israel. Totally, a turnover of RON 11,360,043,951 (approximately 2.3 billion euros) was achieved in Romania in the wood processing activity.

Over 60% of the turnover in the wood processing activity belongs to FDI enterprises, while on the part of the exploitation of forest resources the share of Romsilva, a Romanian state company, is around 33%. At the end of 2017, at the level of the European Union, FDI enterprises, although representing approximately 1.3% of the total number of companies, achieved an average value added of over 26%. In Romania, the level of value-added generated by multinational companies stood at over 44%, as can be seen in Figure 4, ranking 4th in the European Union.

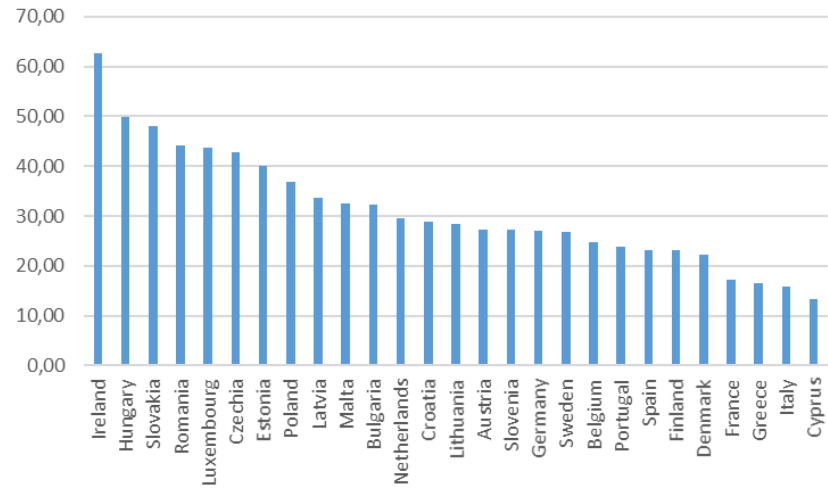

Figure 4. Value-added at the cost of production factors, achieved by companies with foreign capital, 2017

Source: Author processing based on Eurostat data - egi_va1)

Moreover, as can be seen in Figure 5, the balance of foreign direct investment in the wood processing industry decreased after 2015, with a very slight revival in 2018. This aspect reflects the fact that the profit was not reinvested in Romania, it being transferred abroad.

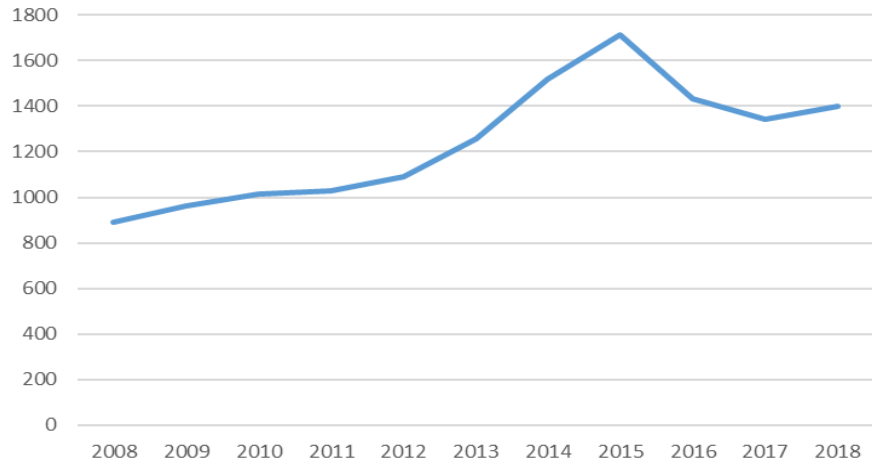

Figure 5. Evolution of FDI balance in the wood processing industry in Romania (EUR million)

Source: authors' processing based on NBR data (taken from Table 5 in the Annex) (https://www.bnr.ro/PublicationDocuments.aspx?icid=9403)

The balance of the international trade in goods of FDI enterprises indicates a trade surplus in the wood processing industry, of 1,142 million euros, with a positive impact on Romania's exports. The goods produced by these entities targeted the external market.

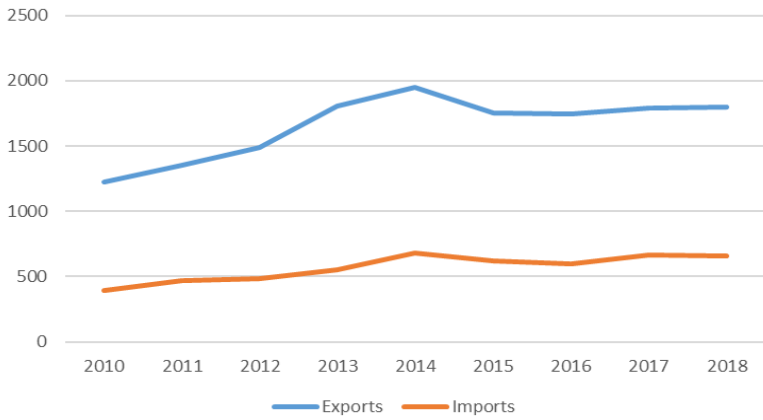

Figure 6. Evolution of exports/imports of FDI enterprises in the wood processing industry in Romania (EUR million)

Source: authors' processing based on NBR data (taken from Table 6 in the Annex) (https://www.bnr.ro/PublicationDocuments.aspx?icid=9403)

Based on the preliminary results of the case study, we extended the analysis, judging statistically the data from Table 7 in the Annex, in an attempt to demonstrate the economic links between FDI investments and some of the sustainable development indicators included in the National Sustainable Development Strategy (NDS). We took into account the GDP growth rate per capita, the unemployment rate, resource productivity, and the poverty rate after social transfers. Table 9 shows the result of the correlation between these indicators.

Table 9. Correlations between sustainable development indicators

Covariance Analysis: Ordinary
Date: 07/06/20 Time: 12:24
Sample: 2007 2018
Included observations: 12
Balanced sample (listwise missing value deletion)

Correlation (t-Statistic) [Probability]	**ISD Balance**	**GDP/ capita**	**Resources productivity**	**Poverty rate**	**Unemployment rate**
ISD Balance	1.000000 ----- -----				
PIB/capita	0.186987 (0.60192) [0.5606]	1.000000 ----- -----			
Resources productivity	0.313145 (1.04269) [0.3216]	-0.622257 (-2.51369) [0.0307]	1.000000 ----- -----		
Poverty rate	0.302565 (1.00384)	0.598525 (2.36262)	-0.516320 (-1.90653)	1.000000 -----	

	[0.3391]	[0.0398]	[0.0857]	-----	
Unemployment rate	-0.643348	-0.460120	-0.066318	-0.182316	1.000000
	(2.65741)	(1.63881)	(-0.21018)	(-0.58636)	-----
	[0.0240]	[0.1323]	[0.8377]	[0.5706]	-----

Source: authors' processing in Eviews 11 based on the data of Table 7 in the Annex

There is a direct and medium-intensity link between the GDP growth rate per capita and the poverty rate after social transfers (the probability that the linear correlation coefficient estimator is zero is 0.0398), respectively, resource productivity (the risk associated with the null hypothesis is 0.0307). Similarly, if we look at the FDI balance in correlation with the unemployment rate we observe an indirect link (the risk associated with the hypothesis of non-linear correlation is 0.024). Otherwise, there is either no link between the variables or the links are of low intensity, whether they are direct or indirect. These relationships could be real or the statistical correlations could be altered by the small number of records.

Linear correlation coefficients do not identify a link between resource productivity and the FDI balance (the probability attached to the null hypothesis is 0.3216, much higher than the standard prognosis of 0.05). This may indicate that resources are not being used efficiently and that production models are based on resource-intensive use, contrary to the flagship initiative "Resource Efficient Europe" in the Europe 2020 Strategy. identified a linear correlation between the FDI balance and the poverty rate (the probability attached to the null hypothesis is 0.3319), which could indicate that foreign investment has not actively contributed to reducing poverty in Romania.

Starting from these elements, we analyze the possibility of more complex relationships between those variables. Specifically, we analyze causality in the Granger sense. The Granger causality test is a statistical test used to determine whether one-time series influences (is a cause for) another. If the value of the probability attached to the non-causality hypothesis is less than 0.05, then the hypothesis is rejected and admits that the variables are in a causal relationship.

For the application of the Granger causality test, in the first phase, we analyze the nature of the series. The results of the application of the Kwiatkowski-Phillips-Schmidt-Shin statistical test (which has the null hypothesis: stationarity) are presented in Table 8. Subject to the small number of records, the KPSS test does not reject the hypothesis of stationarity. This means that we can apply the Granger causality test to the level data. The results for a VAR model (1) are presented in Table 10.

Table 10. Granger causality test in the VAR model

VAR Granger Causality/Block Exogeneity Wald Tests
Date: 07/06/20 Time: 13:08
Sample: 2007 2020
Included observations: 11

Dependent variable: ISD			
Excluded	Chi-sq	df	Prob.
GDP	0.715762	1	0.3975

PRES	0.052300	1	0.8191
RPOV	2.069821	1	0.1502
UNEMP	0.244555	1	0.6209
Dependent variable: GDP			
Excluded	Chi-sq	df	Prob.
ISD	0.037418	1	0.8466
PRES	0.309363	1	0.5781
RPOV	1.177968	1	0.2778
UNEMP	0.693800	1	0.4049
Dependent variable: PRES			
Excluded	Chi-sq	df	Prob.
ISD	4.660891	1	**0.0309**
GDP	13.85832	1	**0.0002**
RPOV	4.660386	1	**0.0309**
UNEMP	10.52107	1	**0.0012**
Dependent variable: RPOV			
Excluded	Chi-sq	df	Prob.
ISD	2.805850	1	**0.0939**
GDP	3.034140	1	**0.0815**
PRES	1.306062	1	0.2531
UNEMP	12.11052	1	**0.0005**
Dependent variable: UNEMP			
Excluded	Chi-sq	df	Prob.
ISD	1.395855	1	0.2374
GDP	0.001978	1	0.9645
PRES	0.132873	1	0.7155
RPOV	0.464991	1	0.4953

Source: authors' processing in Eviews 11 based on the data of Table 7 in the Annex

The small number of records does not allow the identification of causal relationships in a longer-term VAR model (number of lags greater than 1). Under these conditions, we applied the test for models with a single equation. In table 11 we retained only those causal relationships that are econometrically significant, at least at the threshold of 10%.

Table 10. Standard Granger causality test

Pairwise Granger Causality Tests
Sample: 2007 2020

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause ISD	10	0.28347	0.7645
ISD does not Granger Cause GDP		14.3293	**0.0085**
UNEMP does not Granger Cause ISD	10	0.02423	0.9762
ISD does not Granger Cause UNEMP		14.2442	**0.0086**

Lags: 3

PRES does not Granger Cause ISD	9	0.16642	0.9107
ISD does not Granger Cause PRES		24.2075	**0.0399**

RPOV does not Granger Cause PRES	9	28.8147	**0.0337**
PRES does not Granger Cause RPOV		1.12021	0.5036

Source: authors' processing in Eviews 11 based on the data of Table 7 in the Annex

In the medium term (a lag of 2 years), the Granger causality test does not reject the hypothesis of a one-way causal relationship FDI → GDP/capita nor the one-way relationship FDI → UNEMP. In the longer term (lag = 3 years), the test does not reject unidirectional relationships: FDI → PRES and RPOV → PRES. This may also mean that, in the longer term, foreign investment and the poverty rate affect resource productivity.

The results in Table 11 indicate the existence of a one-way causality in the medium term (2 years) between the FDI balance and the GDP / capita rate at the application of two lags, at the significance level of 5%. Under the same conditions, we find the existence of a one-way causal relationship between the FDI balance and the unemployment rate. In other words, the size of the balance of foreign direct investment influences the size of GDP / capita and the unemployment rate. These results confirm current theories that foreign investment increases the number of people employed and reduces the unemployment rate, but this does not mean reducing poverty and social inequality and increasing resource productivity.

Results

The results of the case study reveal that a percentage of only 0.14% of the total number of companies operating in the field of wood processing has a share of approximately 60% of the total turnover of this sector of activity in 2018. These companies are FDI enterprises. Overall, even if from the wood processing activity occasioned by FDI enterprises, Romania benefited from a trade surplus, the fact that the balance of foreign direct investments related to this economic activity decreased indicates the low interest of investors to orient the results towards sustainable developments in Romania and confirms the consequences of applying "Black zero", to direct earnings to countries of origin.

The cumulative results of the analysis indicate the low efficiency of the use of natural resources and the fact that they (in particular, the forest ones) have been exploited on the principles of unsustainable development. The positive impact on the decrease in the unemployment rate did not echo on the decrease in the poverty rate after social transfers. This aspect confirms the theoretical and empirical data from the specific literature, according to which the number of poor but working people is increasing. The results of the correlation analysis and the Granger causality test may also indicate that sustainable development in Romania is dependent on how FDI companies understand to integrate environmental, social, and corporate governance practices in their current activity to ensure a positive investment impact.

Addressing the principles of sustainable development requires that much of the current added value be incorporated into future developments as alternatives to resource exploitation. Or, the fact that the added value is transferred to the countries of origin of FDI, means that from an economic, social, and environmental point of view, we have limited ourselves to "living the present" without finding and developing solutions for the future. Even if some resources are renewable, as is the case with forest resources, they

are part of the category of hard-to-renew natural resources, and it will take decades to reach the optimum age of exploitation. Also, even though the unemployment rate has now fallen, the fact that no viable alternatives have been developed for years to come, in the context of resource depletion, human resources will suffer.

In this regard, to reduce resource depletion and environmental degradation, current business, production, and consumption models must be replaced by other models: modern, refurbished, resilient, and sustainable. However, this requires large sources of funding. It is difficult to predict how Romania will cope, from an economic, social, and environmental point of view, beyond the crisis generated by COVID-19, given that recent studies anticipate declining foreign direct investment flows and halving reinvested earnings, and concerns about finding alternatives are not visible.

Conclusions

Against the already austere background of the "Black Zero" policy that has affected the entire euro area, Romania must find viable solutions designed to attract sustainable sources of funding in future projects and areas, given that the pandemic is expected to influence both flows, as well as the balance of foreign investments. At the same time, "technological changes transform the way goods and services are produced and pave the way for the new industrial revolution, also called the fourth industrial revolution or Industry 4.0" (Schwab, 2016). This requires funding sources for refurbishment, reindustrialization, and new business models. If we add the funds needed to stem the direct and indirect effects of COVID-19, we realize that we need huge sources of funding. Remaining stuck in the area of resource exploitation, whether human or natural depletable or slowly renewable, only postpones an imminent economic catastrophe that Romania could avoid if it adopts economic, social, and environmental measures in accordance with the objectives of Sustainable Development. In this sense, a new approach is more than necessary. The development of special economic zones and access to sustainable funds (investments dedicated to sustainability and responsible investments) are possible solutions that Romania could consider if it wants to develop sustainably. These funds have increased in recent years as a result of "low risks and higher returns" (Morgan Stanley, 2019), and for Romania could be a serious financing alternative. In this regard, our study will continue with a series of examples of good practice and projections that can contribute to the development of healthy sustainable development projects.

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Annex

Table 1. Profit distribution of FDI companies

Year	Profit	Dividends	Losses	Profit Reinvested
2008	6.412	2.696	4.108	- 392
2009	4.496	1.608	4.277	- 1.389
2010	4.222	1.970	4.495	- 2.243
2011	4.710	2.075	5.132	- 2.497
2012	4.691	2.212	4.360	- 1.881
2013	5.504	2.287	3.554	- 337
2014	5.518	2.176	4.718	- 1.376
2015	6.038	2.399	3.129	510
2016	7.410	3.149	3.123	1.138
2017	8.068	3.526	2.809	1.733
2018	8.930	3.551	2.807	2.573

Source: NBR, Foreign direct investment in Romania, Chapter 1, https://www.bnr.ro/PublicationDocuments. aspx? ICID = 9403

Table 2. Origin of the FDI balance

Total, of which	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	48798	**49984**	**52585**	**55139**	**59126**	**59958**	**60198**	**64433**	**70113**	**75851**	**81124**
Netherlands	8402	10907	10903	11982	13229	14624	14224	16100	17060	19638	19389
Germany	7509	6718	6398	6272	6499	6744	7482	7991	9256	9704	10298
Austria	9186	9037	9346	9667	10920	11438	9694	9131	8336	9575	9915
Italy	3585	2528	2808	3341	2930	2816	2776	3349	4428	4739	7669
Cyprus	1896	2344	2550	2536	2687	2677	4274	4421	4526	4647	5015
France	4294	4259	4384	5042	5272	4568	4119	4308	4801	4731	4919
Switzerland	2298	2115	2021	1839	2194	1942	2151	2231	2546	3144	3641
Luxembourg	1107	810	989	1274	1368	1694	2150	2700	2987	3543	3439
Other countries	10521	11266	13186	13186	14027	13455	13328	14202	16173	16130	16839

Source: NBR, Foreign direct investment in Romania,
Chapter 2.4, https://www.bnr.ro/PublicationDocuments. aspx? ICID = 9403

Table 3. Corporate Tax Haven Index - 2019

Nr. Crt	Jurisdiction	CTHI Value	CTHI Share	Haven Score	Global Scale Weight
1	British Virgin Islands	2,769	7.29%	100	2.12%
2	Bermuda	2,653	6.98%	100	1.86%
3	Cayman Islands	2,534	6.67%	100	1.62%
4	Netherlands	2,39	6.29%	78	12.76%
5	Switzerland	1,875	4.93%	83	3.41%
6	Luxembourg	1,794	4.72%	72	10.53%
7	Jersey	1,541	4.05%	98	0.42%
8	Singapore	1,489	3.92%	81	2.11%
9	Bahamas	1,377	3.62%	100	0.26%
10	Hong Kong	1,372	3.61%	73	4.37%
11	Ireland	1,363	3.58%	76	3.11%
12	United Arab Emirates	1,244	3.27%	98	0.22%
13	United Kingdom	1,067	2.81%	63	7.30%
14	Mauritius	950	2.50%	80	0.65%
15	Guernsey	890	2.34%	98	0.08%
16	Belgium	822	2.16%	68	1.82%
17	Isle of Man	804	2.11%	100	0.05%
18	Cyprus	698	1.83%	71	0.73%
19	China	658	1.73%	58	3.67%
20	Hungary	560	1.47%	69	0.49%

Nr. Crt	Jurisdiction	CTHI Value	CTHI Share	Haven Score	Global Scale Weight
21	Curacao	552	1.45%	72	0.32%
22	France	525	1.38%	56	2.81%
23	Malta	519	1.36%	74	0.22%
24	Germany	460	1.21%	52	3.32%
25	USA	407	1.07%	43	12.88%
26	Panama	405	1.06%	72	0.13%
27	Spain	403	1.06%	55	1.53%
28	Gibraltar	398	1.04%	66	0.28%
29	Sweden	364	0.96%	56	0.89%
30	Italy	301	0.79%	51	1.27%
31	Czech Republic	269	0.71%	59	0.23%
32	Turks and Caicos Islands	265	0.69%	100	0.00%
33	Austria	257	0.67%	52	0.66%
34	Finland	236	0.62%	55	0.28%
35	Anguilla	232	0.61%	100	0.00%
36	Denmark	226	0.59%	52	0.44%
37	Liechtenstein	224	0.59%	70	0.03%
38	Lebanon	220	0.58%	73	0.01%
39	Estonia	211	0.55%	67	0.03%
40	Monaco	206	0.54%	68	0.03%
41	Latvia	196	0.51%	68	0.02%
42	South Africa	184	0.48%	47	0.54%
43	Romania	177	0.46%	56	0.11%
44	Seychelles	163	0.42%	68	0.01%
45	Bulgaria	143	0.37%	56	0.05%
46	Macao	144	0.38%	57	0.05%
47	Slovakia	135	0.35%	53	0.07%
48	Croatia	126	0.33%	55	0.04%
49	Portugal	127	0.33%	46	0.23%
50	Taiwan	120	0.31%	47	0.16%
51	Andorra	109	0.28%	69	0.00%
52	Lithuania	106	0.28%	55	0.02%
53	Poland	98	0.25%	40	0.32%
54	Aruba	91	0.24%	64	0.00%
55	Slovenia	80	0.21%	50	0.02%
56	Botswana	74	0.19%	55	0.00%

Nr. Crt	Jurisdiction	CTHI Value	CTHI Share	Haven Score	Global Scale Weight
57	Liberia	71	0.18%	49	0.02%
58	Kenya	60	0.15%	51	0.01%
59	San Marino	56	0.14%	62	0.00%
60	Ghana	56	0.14%	49	0.01%
61	Greece	53	0.14%	39	0.07%
62	Tanzania	40	0.10%	46	0.00%
63	Gambia	9	0.02%	48	0.00%
64	Montserrat	7	0.01%	65	0.00%

Source: https://corporatetaxhavenindex.org/en/introduction/cthi-2019-results

Table 4. Turnover in the wood processing industry compared to the forest resource exploitation industry

NACE Code	Name NACE Code	Company name	%	Country of origin of capitals	Turnover
1621	Manufacture of wood and of products	Egger Romania	37,65%	Austria	1.587.290.151,00
		Kronospan Sebes	19,74%	Austria	832.238.843,00
		Kronospan RO	11,64%	Austria	490.688.393,00
		HS Timber (Schweighofer) BACO	6,85%	Austria	290.700.527,00
		Kronospan Trading	6,02%	Austria	253.742.829,00
		Other companies	18,10%		761.465.209,00
1621	Manufacture of wood and of products	Total	100,00%		4.216.125.952,00
1610	Sawmills and planning of wood	HS Timber (Schweighofer)	25,20%	Austria	1.787.246.002,00
		Kastamonu RO	9,87%	Turkey	705.216.758,00
		Karelia	2,53%	Finland	180.497.520,00
		Barlinek Romania SA	2,19%	Cyprus	156.113.232,00
		Xilobaia SRL	1,68%	Israel	119.868.192,00
		Other companies	58,53%		4.194.976.295,00
1610	Sawmills and planning of wood	Total	100,00%		7.143.917.999,00
1610+1621	Total wood processing industry				11.360.043.951,00
O21	Forestry and other forestry activities	Romsilva	65,66%		2.294.662.560,00
		Other companies	34,34%		1.200.146.682,00

NACE Code	Name NACE Code	Company name	%	Country of origin of capitals	Turnover
O21	Forestry and other forestry activities	Total	100,00%		3.494.809.242,00
O22	Logging	Total	100,00%		3.424.819.796,00
021+ 022	Total forestry and logging				6.919.629.038,00

Source: https://www.mfinante.gov.ro/pjuridice.html? Pagina = domenii

Table 5. FDI balance in the wood processing industry in Romania

Year	ISD balance	The FDI balance of manufacture of wood products	%
2018	81.124,00	1.398,00	1,72%
2017	75.851,00	1.340,00	1,77%
2016	70.113,00	1.433,00	2,04%
2015	64.433,00	1.711,00	2,66%
2014	60.198,00	1.519,00	2,52%
2013	59.958,00	1.255,00	2,09%
2012	59.126,00	1.090,00	1,84%
2011	55.139,00	1.029,00	1,87%
2010	52.585,00	1.013,00	1,93%
2009	49.984,00	962,00	1,92%
2008	48.798,00	891,00	1,83%

Source: NBR (Foreign direct investment in Romania,
Chapter 2.1., Https://www.bnr.ro/PublicationDocuments. aspx? ICID = 9403

Table 6. Evolution of exports and imports of FDI enterprises in the wood processing industry

Wood processing industry			
Year	**Exports**	**Imports**	**Balance**
2010	1223	396	827
2011	1355	470	885
2012	1492	486	1006
2013	1809	553	1256
2014	1953	681	1272
2015	1757	622	1135
2016	1743	597	1146
2017	1792	668	1124
2018	1799	657	1142

Source: NBR, Foreign direct investment in Romania,
Chapter 6, https://www.bnr.ro/PublicationDocuments. Aspx? Icid = 9403

Table 7. FDI balance and sustainable development indicators

Year	ISD balance (%)	GDP/capita growth rate (%)	Employment rate (%)	Resource productivity thousand RON/tone	Poverty rate after social transfers (%)
2007	42.770	8,8	6,40	1,24	24,6
2008	48.798	11,1	5,60	1,28	23,6
2009	48.827	-4,7	6,50	1,55	22,1
2010	51.414	-3,3	7,00	1,91	21,6
2011	53.723	2,5	7,20	1,4	22,3
2012	57.851	2,5	6,80	1,52	22,9
2013	59.958	3,9	7,10	1,52	23
2014	60.198	3,8	6,80	1,57	25,1
2015	64.433	4,4	6,80	1,37	25,4
2016	70.113	5,4	5,90	1,42	25,3
2017	75.851	7,7	4,90	1,64	23,6
2018	81.124	5,1	4,20	1,64	23,5

Source: https://insse.ro/cms/files/Web_IDD_BD_ro/index.htm - O1-1, O1-6, O4-1, O7-1, O12-2

Table 8. Kwiatkowski-Phillips-Schmidt-Shin statistical test

Variable	KPSS test statistic*)	Exogenous	Conclusion
IDS balance	0.145030	Constant, Linear Trend	Stationarity
GDP/capita	0.138392	Constant	Stationarity
Resources productivity	0.0330416	Constant	Stationarity
Poverty rate	0.188619	Constant	Stationarity
Unemployment rate	0.253841	Constant	Stationarity

*) Asymptotic critical values for 5% level: 0.0463

Source: EViews estimations based on Table 7 data