EVALUATION AND COMPARISON OF THE SDG INDICATORS FOR ALBANIA AND BULGARIA

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Abstract

The 2030 Agenda for Sustainable Development was adopted in 2015 by all United Nations Member States to address the need for sustainable development that would address the economic, political and environmental challenges facing our society. This Agenda produced a set of 17 universal goals measured by 169 specific goals.
In our work, we aim to highlight the level of these indicators for Albania and Bulgaria, evaluating the differences between the countries and comparing them with the EU-27 (Europe) sustainability indicators, which plays the leading role in the implementation of the SDGs.
Although the 2 countries are geographically close and with similar historical paths, our study suggests significant differences due to the influence of various economic and social factors.

Key words: Sustainable Development Goals (SDGs), developing countries, sustainability indicators, Albania, Bulgaria

JEL: C18, O19, O20, Q01

Introduction

The inception of SDGs by the United Nations organization marks an important milestone in the area of global governance. These Goals were primarily adopted for the first time in September 2015, otherwise known as the 2030 Agenda, and entered

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officially into force on January 1, 2016. What SDGs represent is a framework of 17 Global Goals broken down into 169 targets to easily integrate these objectives in the sustainable development of all 193 UN states (United Nations, 2015).

Based on the experience left behind by the MDGs (Millennium Development Goals, 2000), the SDGs follow the important and vital task of guaranteeing individuals a secure and prosperous tomorrow, addressing critical issues such as poverty, hunger, health, education, gender equality, climate, pollution, and similar (Bunk et al. 2019).

The countries we are facing in this study are Albania and Bulgaria, which have adopted the agenda as members of the UN. Both are oriented towards EU development standards, Bulgaria is part of this organization, while Albania is a candidate country. Whereas is true that the SDG's primary aim is to achieve the targets for the remaining 7 years, to study the real progress of the countries, and taking into account the fact that not every goal has a quantitative target, we have set the progress of these states in front of the one done by EU, considering EU-27 (European Commission, EU-27 definition).

Starting with Albania, since the formal endorsement of the SDGs in 2015, the country has implemented an agenda to support the implementation of the goals in collaboration with the United Nations Development Program (UNDP) and cooperating with nations including Canada and Italy. Furthermore, in Albania, efforts to mobilize local resources are undertaken by community foundations, even though unaware of acting as such. Therefore, the community foundations must be recognized and supported by the public and private sector (Këruti, 2020).

As for Bulgaria, the nation has demonstrated a commitment to advancing sustainable goals by allocating dedicated financial resources and establishing a comprehensive framework. Moreover, Bulgaria has made substantial efforts in aligning its policies with the directives and standards set by the European Union (Ionescu et al. 2021). On particular note is the engagement of Bulgaria with its stakeholders, focusing the attention on young people and children. As mentioned in its voluntary report, even here NGOs play an important role in advocating and implementing the UN SDGs (National Statistics Institute of Bulgaria, 2020).

In anticipation, it is expected that Bulgaria's performance over the years may exhibit a closer alignment with the progress made by the EU as a whole. This supposition holds only in some instances, as the empirical findings reveal different insights.

Methods

The data we collected and analyzed in this paper, were obtained from the official websites of the respective National Statistical Agencies of the states and reflecting the time window 2004-2020. For Albania, we sourced the data from INSTAT (https://www.instat.gov.al/en/sdgs/, last accessed: 1st August 2023) and for Bulgaria from NSI "Monitorstat" (https://www.nsi.bg/en/content/19408/

sustainable-development-goals-2030, last accessed: 1st August 2023). Regarding data from the EU, we noticed that certain indicators were absent from the Eurostat website, therefore in order not to limit the number of indicators analyzed, we chose Our World in Data (https://ourworldindata.org/sdgs, last accessed: 1st August 2023) for its rich repository of data from different sources and alternative summaries (e.g.: Europe) in cases that information for EU was not possible. Thus, providing a valuable supplement to our dataset, while it does not compromise our study's primary focus which remains centered on the progress made by the 2 aforementioned countries.

The comprehensive list of the indicators available for analysis is presented in the table below:

Table 1: Summary table of SDGs indicators available

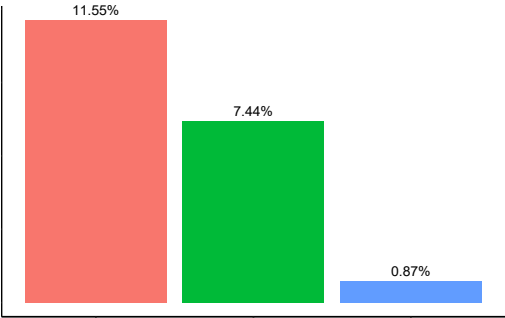| Goal	Indicator/s
Goal 1 - No poverty	1.4.1
Goal 3 - Good health and wellbeing	3.1.1, 3.2.1, 3.2.2, 3.3.2, 3.4.1, 3.4.2, 3.6.1, 3.7.2, 3.b.1
Goal 4 - Quality education	4.2.2
Goal 5 - Gender equality	5.5.1 a), 5.5.1 b)
Goal 6 - Clean water and sanitation	6.1.1, 6.3.1
Goal 7 - Affordable and clean energy	7.1.1
Goal 8 - Decent work and economic growth	8.1.1, 8.5.2, 8.6.1
Goal 9 - Industry, innovation and infrastructure	9.2.2
Goal 15 - Life on land	15.1.1
Goal 16 - Peace, justice and strong institutions	16.1.1, 16.3.2
Goal 17 - Partnerships for the goals	17.1.1, 17.1.2, 17.3.2, 17.8.1

Source: Our elaboration.

Then, we follow with the step of calculating the mean of annual values for each country and indicator, crucial to the progress of the countries about the targets. The missing values for each indicator, are treated with the moving average. Specifically, we used the moving average with lag 5 considering the moving average degree's delay depends on the size of the lag.

To enhance the interpretability of our findings, we visualized them using the Rstudio and ggplot2 packages, well known to evoke data efficiently (Wickham, 2016).

Results

Our results are visualized using bar charts for each indicator mentioned above.
*Goal 1 - End poverty in all its form everywhere*

Figure 1: Indicator 1.4.1

From Goal 1 - End poverty in all its form everywhere, the indicator available for all our 3 variables was 1.4.1., which corresponds to target 1.4 aiming to reduce the gaps of inequality between the individuals without access to not only economic resources but also natural, basic services, sanitation, etc. We notice from the chart that nearly 11.6% of the population in Albania suffer from the absence of basic services as mentioned before, meanwhile, Bulgaria ranks 4.1% lower. Compared with the EU as a whole, the difference increases, thus needing a lot of work by both previously mentioned countries until 2030.

Goal 3 - Ensure healthy lives and promote well-being for all at all ages
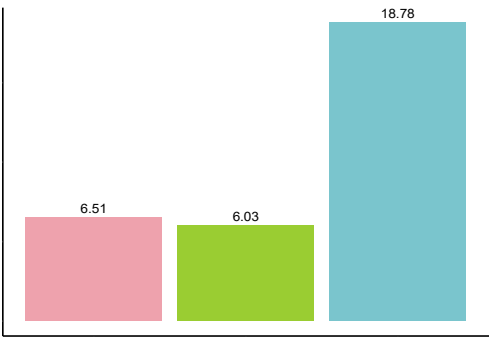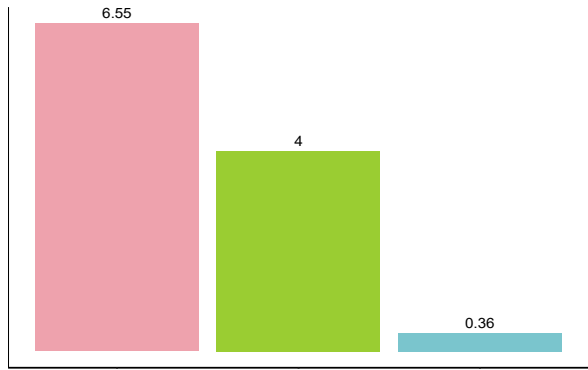
Figure 2: Indicator 3.1.1

From Goal 3, we find many disposal indicators that consent us to understand a better panoramic of how these states are positioned. Here are presented the values of indicator 3.1.1, which measures the ratio of maternal mortality (MMR) defined as the number of maternal deaths per 100,000 live births. Based on the target set by the UN, the MMR value should be less than 70 per 100,000 live births, an objective clearly achieved by Albania and Bulgaria, both perform nearly 3 times better than the number reported by all of Europe.
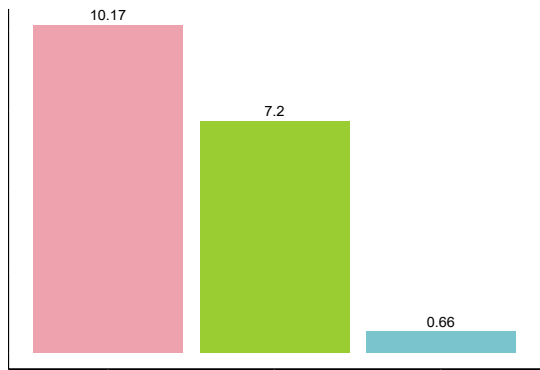
Source: Our elaboration

Figure 3: Indicator 3.2.1

Indicator 3.2.1 measures the probability of a child under five years old dying before reaching the age of 5 years, expressed per 1,000 live births. In this case, Albania states a higher value of 10.17, 3 points higher than Bulgaria and obviously a lot higher than the EU. Although, as target 3.2 states: "End preventable deaths of newborns and children under 5 years of age ... and under-5 mortality to at least as low as 25 per 1,000 live births", this target is already achieved.

Source: Our elaboration
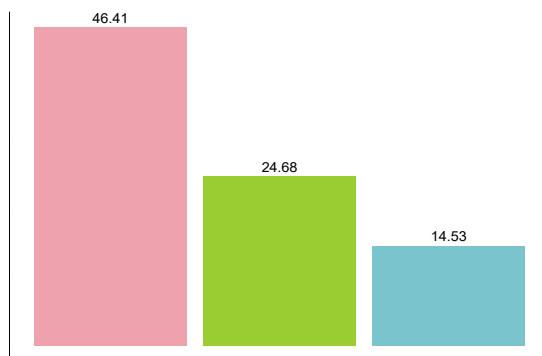
Figure 4: Indicator 3.2.2

Sharing the same target as above, stating that by 2030, countries should end preventable deaths of newborns and children under 5 years of age, and reduce neonatal mortality to at least as low as 12 per 1,000 live births, countries have both made great progress. Albania stands in half value, Bulgaria in one third and the lowest one remains EU, with less than 0.5.
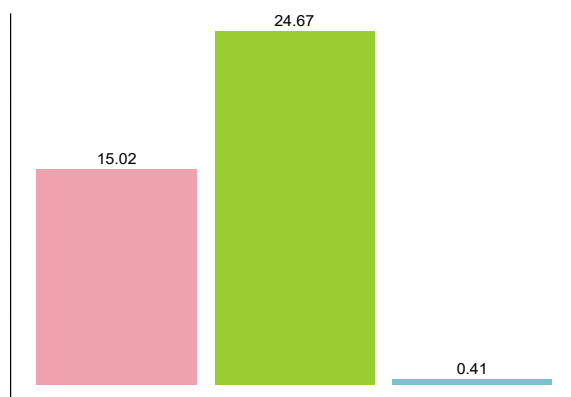
Source: Our elaboration
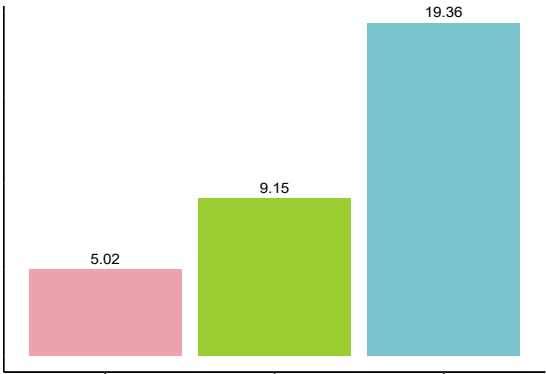
Figure 5: Indicator 3.3.2

The cases measured in this indicator 3.3.2, are the values of tuberculosis incidence for the 100,000 population, taking part in target 3.3 which aims to end the epidemics of communicable and harmful diseases such as AIDS, tuberculosis, malaria, water-borne diseases, and others. In these terms, Bulgaria ranks first, as high as 24.67 cases, nearly two times more than Albania with 15.02. However, these values are far off the average of all Europe. This requires the attention of political actors to undertake measures in order to ensure an improvement of the situation and identify the possible causes.

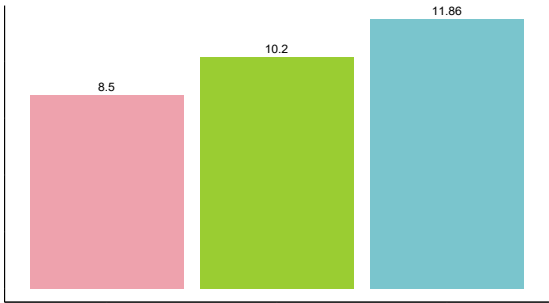*Source:* Our collaboration

Figure 6: Indicator 3.4.1

Target 3.4 aims to reduce by one-third premature mortality from non-communicable diseases and promote mental health and well-being. Indicator 3.4.1 contributes by measuring the mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease, between the ages of 30 and 70 years. The values reported are higher than the target set by the UN, but Bulgaria is nearer than Albania to the progress made by EU states, meanwhile, Albania reports a percentage nearly two times more.

Source: Our elaboration
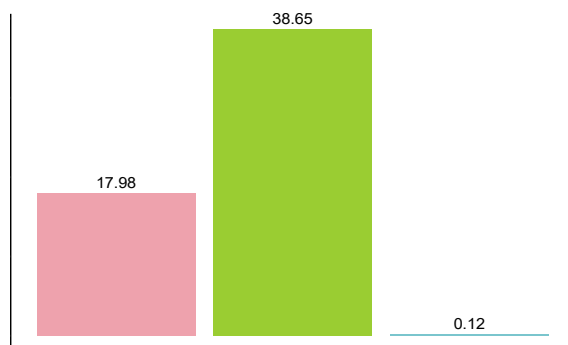
Figure 7: Indicator 3.4.2

Indicator 3.4.2 measures the rate of suicide mortality as the number of suicide deaths per 100,000 inhabitants. The lowest value in the chart is the one of Albania 5.02, followed by Bulgaria, both stand nearer the target than the rate of Europe.

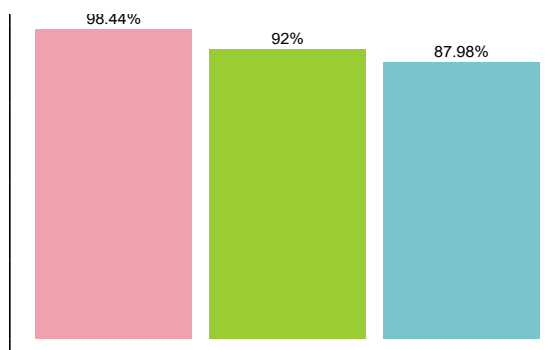*Source:* Our elaboration

Figure 8: Indicator 3.6.1

Target 3.6 coordinates the states to halve the number of global deaths and injuries from road traffic accidents, and indicator 3.6.1 measures directly the death rate due to road traffic injuries per 100,000 population. This target is not achieved by any of our studying cases, but we notice Albania performing twice better than the value of Europe and Northern America, meantime Bulgaria has a nearer value to the last.

Source: Our elaboration

Figure 9: Indicator 3.7.2

Indicator 3.7.2 defines the annual number of births to females aged 10-14 or 15-19 years per 1,000 females in the respective age group. In this area, target 3.7 intents among others, to ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, etc. The reason in this bar chart we find much higher values in the Balkan states regarding the rate of Europe may be due to social phenomena such as the aging of the population (Marois et al., 2020). However, Bulgaria states a value nearly two times more than Albania.

Source: Our elaboration

Figure 10: Indicator 3.b.1

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Target 3.b is a particular one because it supports the research and development of vaccines and medicines for communicable and non-communicable diseases. In the meantime, 3.b.1 sizes the proportion of the target population covered by all vaccines included in their national program. Albania scores first, with a percentage quite near 100%, and then we have Bulgaria, leaving past with little difference from the average of all European states. Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
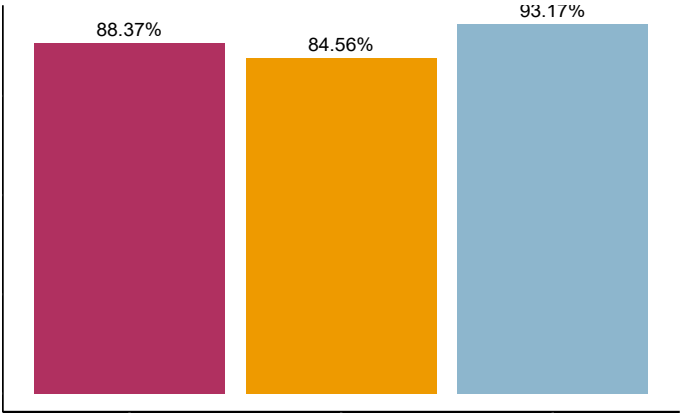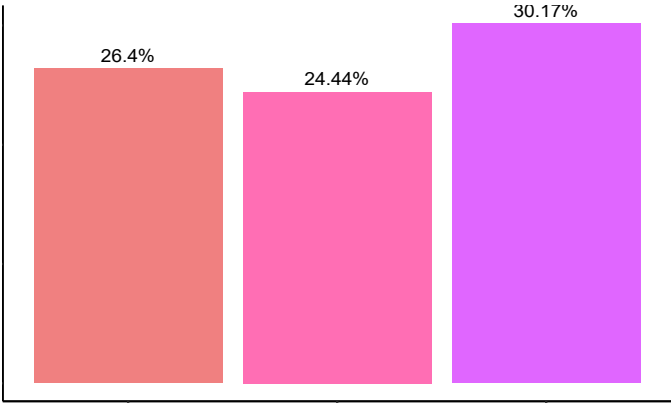

Source: Our elaboration

Figure 11: Indicator 4.2.2

Even though the UN has not prevised any further clusterization of the goals, we may admit that Goal 4 along with the other previous goals has mainly social dimensions (ASVIS Italy, 2022; Lafortune et al. 2018) Goal 4 aims to ensure quality education, in which the available one that we could study was 4.2.2, evaluating the participation rate in organized learning (one year before the official primary entry age), as the percentage of children who participate in one or more organized learning program. Albania and Bulgaria here score both nearly the same rate but below the European average.

Goal 5 - Achieve gender equality and empower all women and girls.

Figure 12: Indicator 5.5.1 a)

Again, in the social area, Goal 5 intends to reduce the gaps in gender quality, and here elaborated we see the percentage of seats held by women in national parliament, as target 5.5 ensures women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. Europe has the highest percentage but also the single percentages of Albania and Bulgaria are in line with it, only approximately 4% lower.
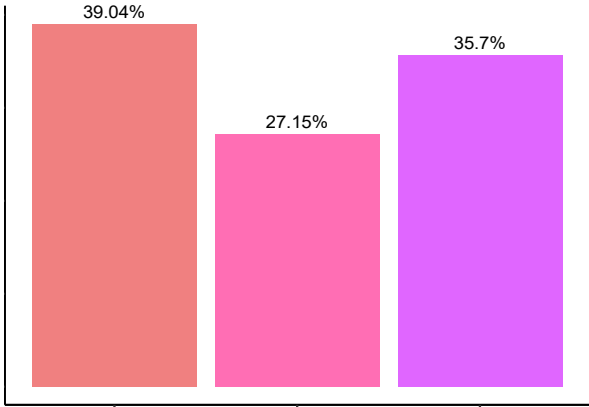
Figure 13: Indicator 5.5.1 b)

In the same target, we find also the indicator 5.5.1 b), which measures the proportion of seats held by women in local governments. Interestingly, compared

to Europe and Northern America, the highest percentage is held by Albania with 39.04%, 3% more than in the previous chart, this increase applies also to Bulgaria.

Goal 6 - Ensure availability and sustainable management of water and sanitation for all.
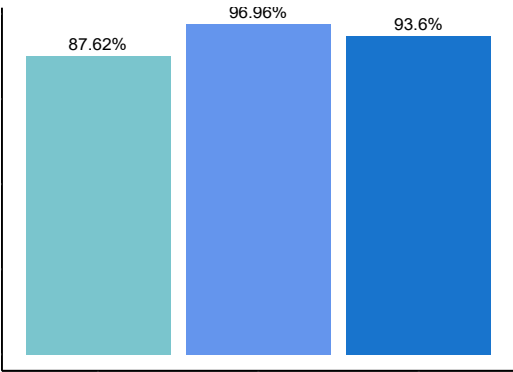
Source: Our elaboration

Figure 14: Indicator 6.1.1

Goal 6 has an environmental dimension, and more in detail 6.1 aims to achieve universal and equitable access to safe and affordable drinking water, which is directly measured in indicator 6.1.1 as the proportion of the population using an improved basic drinking water source located on the premises. Bulgaria has the highest percentage of drinking water supply in households, it differs a little from Europe, but approximately 10% from Albania.
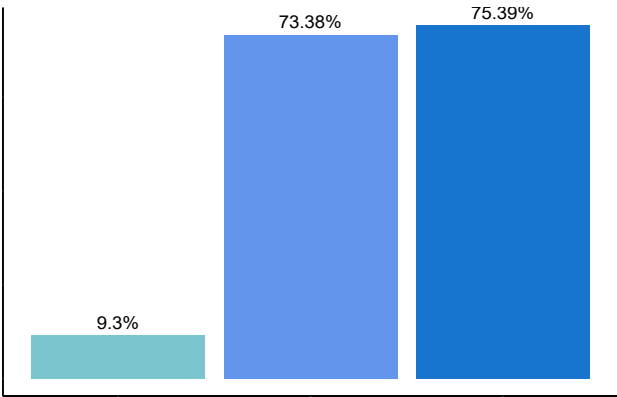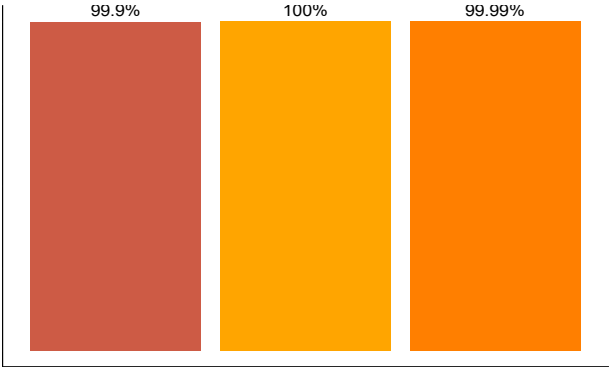

Source: Our elaboration

Figure 15: Indicator 6.3.1

This indicator 6.3.1 sizes the proportion of the population connected to safely wastewater treatment plants processing used water in the first level at minimum before water discharge. We notice a surprisingly low value of Albania, regarding Bulgaria and Europe, although it has plenty of water natural resources. Immediate action is needed to improve the values and the situation.

**Goal 7 - Ensure access to affordable, reliable, sustainable and modern energy for all.**

Source: Our elaboration

Figure 16: Indicator 7.1.1

Goal 7 is also of environmental type, and aims broad and crucial goals, such as reliable and sustainable energy. Indicator available 7.1.1 measures the percentage of the population with access to electricity supply, which seems to be perfectly achieved by all our case studies.

Goal 8 - Promote sustained, inclusive and sustainable growth, full and productive employment and decent work for all.
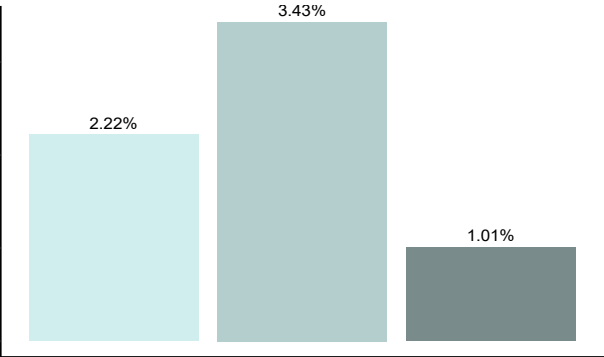
Source: Our elaboration
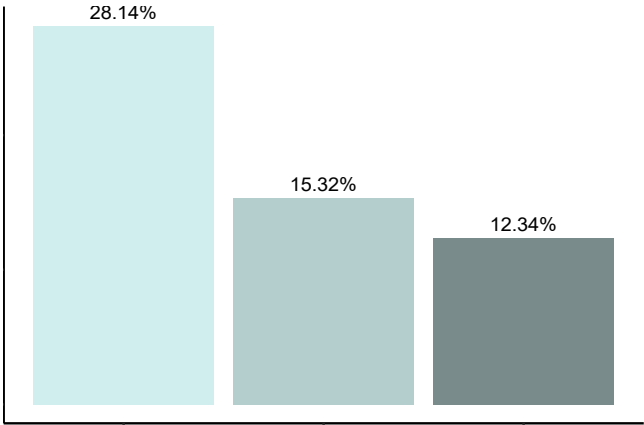
Figure 17: Indicator 8.1.1

Starting with the economic dimension, this target is aimed at countries that should develop sustainable economic growth (in accordance with national circumstances) and at least 7% GDP growth per annum in the least developed countries. Bulgaria's progress is halfway to achieving this target, meanwhile, Albania scores nearly 1 point lower. EU has the lowest value; it may be due to the fact that the level of welfare is achieved in most countries.

14.21%

8.83%

5.64%
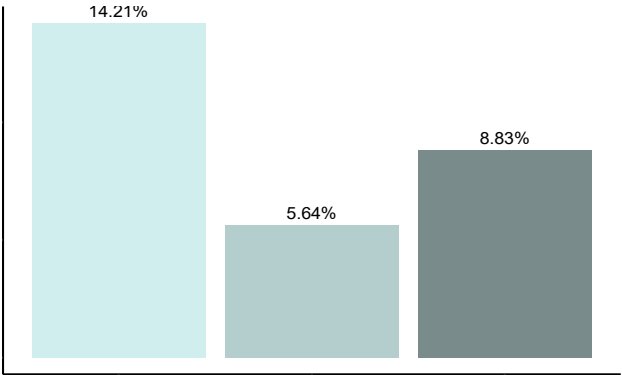
Source: Our elaboration

Figure 18: Indicator 8.5.2

Passing to another target, 8.5 has the objective to achieve full and productive employment and decent work for all the layers of society, and equal pay for work of equal value. This indicator helps measure the progress made by the states, by stating the unemployment rate, which by the chart seems to be higher in Albania than in Bulgaria, which scores even lower than the EU.


28.14%

15.32%

12.34%

Source: Our elaboration

Figure 19: Indicator 8.6.1

Another rate of unemployment and not only, we find reported in indicator 8.6.1 which more in detail defines the proportion of young persons (aged 15-24 years) not in education, employment, or training, out of the total youth population, also called the "youth NEET rate". This indicator should decrease in all cases, but Albania reports a value 2 times higher than the others, meanwhile, it seems that Bulgaria has in general less employment of adult ages than youth people.

Goal 9 - Build resilient infrastructure, foster innovation and promote inclusive and sustainable industrialization.
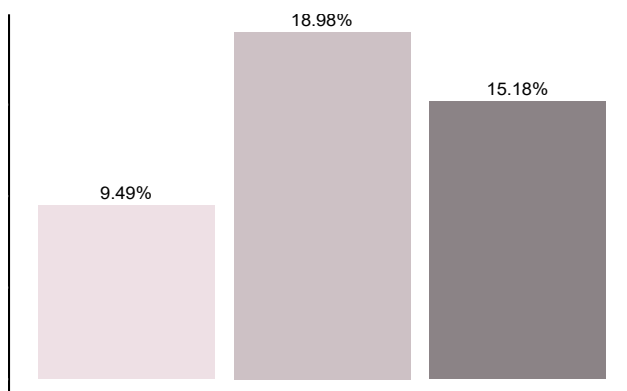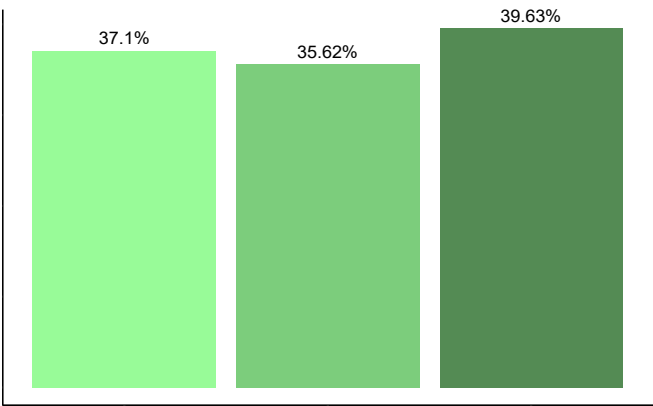

Source: Our elaboration

Figure 20: Indicator 9.2.2

Continuing in the same dimension, target 9.2 occupies promoting inclusive and sustainable industrialization and aims to significantly raise the industry's share of employment and GDP, and double its share in least developed countries. This indicator representing the contribution of manufacturing to job creation, states the lowest contribution in Albania, and twice more value in Bulgaria. Instead, the value of Europe is nearly in the middle of both states. Speaking about Albania, this indicator follows an increasing trend, but it should increase more to meet the target.

Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss.
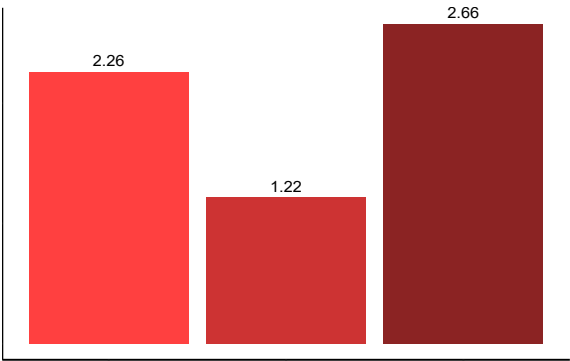

Source: Our elaboration

Figure 21: Indicator 15.1.1

The indicator available for this environmental goal was 15.1.1 which measures forest area as a proportion of total land area. 15.1 regards the conservation, restoration, and sustainable use of terrestrial and all ecosystems, in particular forests, wetlands, mountains, and drylands. Compared to Bulgaria, Albania has a higher percentage of forest area but is in a decreasing trend, starting with 37.23% in 2013 and 35.59 in 2020 the latest value reported by INSTAT. Instead, Bulgaria has increased the percentage, but only 0.48% (from 35.38% in 2016 to 35.86% in 2020). EU follows an increasing trend too, with 7.25% (from 32.6% in 1990 to 39.85 in 2020), and taking into consideration the same interval with Albania, from 39.45% in 2013 to 39.85% in 2020 has increased only 0.4%, and from 39.65% in 2016 to 39.85% 2020, therefore only 0.2%.

Goal 16 - Promote peaceful and more inclusive societies for sustainable development; provide access to justice for all and create efficient, accountable and inclusive organizations at all levels.

Figure 22: Indicator 16.1.1

Goal 16 is a goal with mainly institutional dimensions, and the indicator presented is 16.1.1 which measures the number of victims of intentional homicide per 100,000 of the population. Target 16.1 aims to significantly reduce all forms of violence and related death rates everywhere, and in these terms, the highest density is reported by the average value of Europe, followed by Albania which succeeded in having a decreasing trend, from 2.7 in 2016 to 2.1 in 2020. The same trend applies also to Bulgaria, but since the first value reported in 2016 (which is 1.11%) it shows smaller values. Overall Europe has made a lot of progress, starting with the highest value of 7.77 in 2000 arriving at 2.25 reported in 2021.
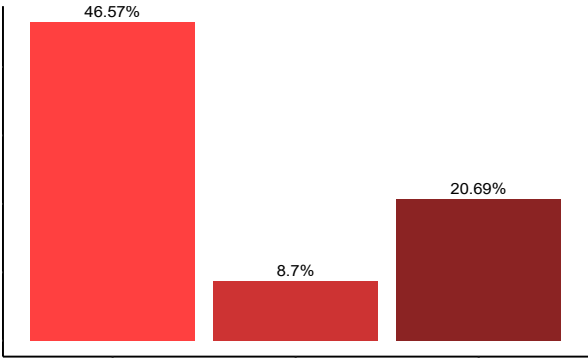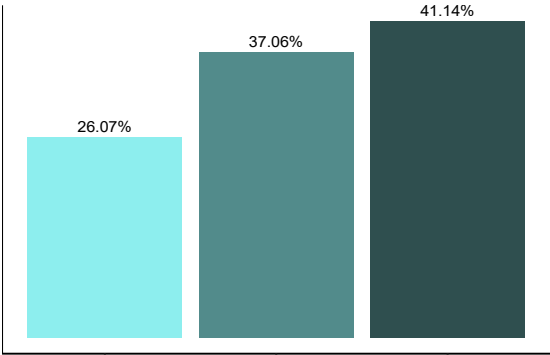
Figure 23: Indicator 16.3.2

Target 16.3 promotes the rule of law to ensure equal access to justice for all, and 16.3.2 measures the total number of persons held in detention who have not yet been sentenced, as a percentage of the total number of persons held in detention. The percentage of Albania is contrastingly higher than Bulgaria, and also 2 times more than Europe and Northern America. This value may be explained by the reform taken by the government to reform radically the Albanian justice system which caused vacancies of justice figures, and many court cases left pending (Blockmans et al. 2021).

Goal 17 - Strengthen the means of implementation and revitalise the global partnership for sustainable development.

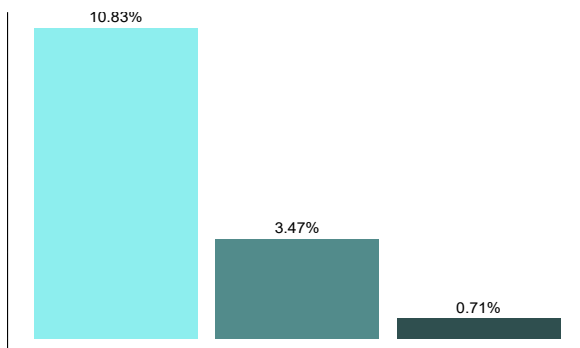*Source*: Our elaboration

Figure 24: Indicator 17.1.1

Goal 17 aims to strengthen the collaboration between states to better implement sustainable development. Target 17.1 aims to strengthen domestic resource mobilization, including through international support to developing countries. The indicator above 17.1.1 measures total government revenue as a percentage of GDP. Bulgaria and the average reported by Europe have similar values, however, we notice Albania has the fewest government revenues as a proportion of the total GDP, which corresponds to 28.07%.

79.1%

59.2%

19.59%
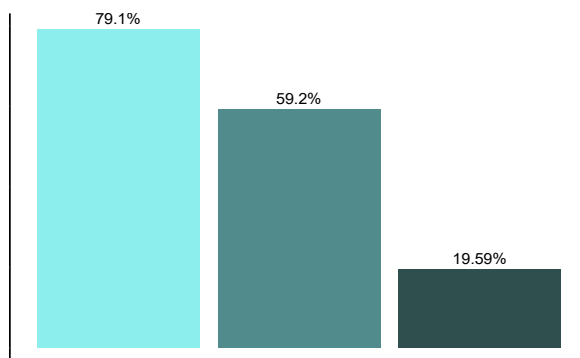
Source: Our elaboration

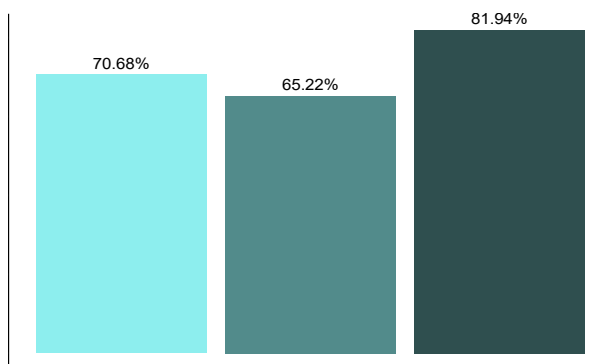**Figure 25:** Indicator 17.1.2

Following the same target, here we show the proportion of the domestic budget funded by domestic taxes. Albania has the highest revenue from taxes, nearly 80%, leaving Bulgaria with 20% less, and it is 4 times higher than the revenue generated by the same resource from the EU. Albania follows a story of having high revenues by domestic taxes, being 72.3% in 2003 and 74.34% in 2020, meanwhile, Bulgaria follows a decreasing trend from 2016 with 60.6% in 2016 and 58.5% in 2019. Contrastingly, the EU follows an increasing trend, from the very first value reported in 1973 of 14,72%, and the last 19,40% in 2020.

10.83%

3.47%

0.71%

Source: Our elaboration

Figure 26: Indicator 17.3.2

This target mobilizes additional financial resources for developing countries from multiple sources, and as we see by indicator 17.3.2 the personal remittances received as a proportion of GDP (the inflow of personal remittances expressed as a percentage of GDP) are the highest in Albania, leaving past Bulgaria with a percentage approximately 3 times lower, and EU with less than 1%. Albanian is known for having a high immigrant rate (Pere, 2015).

Figure 27: Indicator 17.8.1

This target 17.8 aims among others, to enhance the use of enabling technology, in particular information and communications technology. Here is shown the percentage of individuals aged 16-74 years old who use the Internet. Albania and Bulgaria score the same values, but still approximately 10% lower than the EU.

Conclusion

About the first indicator, we noticed a higher percentage of Albania missing access to basic services, followed by Bulgaria with a small difference of 4%, but still higher compared to the EU. Better performance is scored by the countries in the 3.1 and 3.2 targets, which targets are achieved but still far off the average of the EU. Except for target 3.3.2 about cases infected with tuberculosis, for the others, both states perform better than Europe average but it needs more work to achieve the targets.

Including all Goals 4,5 and 6, we do not notice big differences between the values, except target 6.3.1, in which Albania needs to improve the safe treatment of water resources.

The same attention should go also toward Goal 8 in which Albania should reduce the unemployment rate since the values distance not only from the target but also from the EU values. Meanwhile, Bulgaria has made more progress but still not achieving the target.

In Goals 9 and 15, our case studies perform well without major differences like the one noticed in 16.3.2 of Albania having 46.6% unsentenced detainees.

In Goal 17, Bulgaria performs similarly to the EU, while Albania makes a difference having the most volume of remittances.

Both countries are given natural competitive advantages, and integrating these resources in a plan of sustainable development which includes actors from all political, economic, and social areas is what could lead a major progress towards the objectives of the agenda.

Sponsorship

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