

## AN ANALYSIS OF SOME MACROECONOMIC INDICATORS OF ROMANIA IN THE CURRENT PERIOD - COMPLETING THE IMAGE

III Degree Researcher, Ph.D. Alina Georgeta AILINCA

"Victor Slavescu" Financial and Monetary Research Centre, INCE, Romanian Academy

E-mail: alinageorgetaailinca@gmail.com

***Abstract:** Considering the external, geopolitical and economic developments, but also a series of internal challenges in terms of budget deficits and public debt, an analysis of Romania's macroeconomic indicators for the period 2012-2022/2023 can reveal, together with the recent documents of the European Commission regarding developments in Romania, a broader and more accurate picture of the problems and the path to follow in the future for our country. Thus, in addition to the classic macroeconomic indicators, the article tries to highlight Romania's situation in terms of achieving sustainable development goals and how the two approaches (sustainability and stability) can be integrated together. Thus, the challenges are increased because, on the one hand, keeping the budget deficit and public debt under control involves measures to systematize the internal expenditure objectives, and on the other hand, the challenges come strongly from the social sphere and climate changes, which require prompt measures and especially in a first phase the correct formulation of the problems and the priorities regarding them.*

***Keywords:** public deficit, sustainability, public debt, sustainable development parameters.*

***JEL Classification:** H62, E01, E24.*

### 1. Introduction

Starting from the in-depth analysis of the macroeconomic indicators of the European Commission regarding Romania from the beginning of this year (European Commission, In-Depth Review 2024 Romania) we can analyze whether the economic situation of Romania is worrying or not. For example, the mentioned report points out that there are potential risks and vulnerabilities that can attract attention, such as: large government and external deficits, a substantial slowdown in economic growth, a rather high inflation, although decreasing (7% in December 2023), and, adding to these, a slowdown in the rate of absorption of European funds. However, it is important that not only the macroeconomic parameters evolve accordingly, but also the microeconomic parameters, the social, demographic and environmental parameters to be able to say what is the overall situation of the economic state of Romania. Therefore, in a combined analysis, an analysis of some macro-indicators will be analyzed in tandem, in parallel with a series of sustainable development indicators. The obtained results indicate the syncope of development, but also what should be done in terms of sustainable development so that Romania can at least fall in line with the European average.

### 2. Description of the problem

Studies and specialized reports at the global, international and national level rarely have in mind the capture of an overall picture. They either focus on monetary or fiscal-budgetary developments, or on social indicators and social policies and of the labor market, or on technology and the impact of artificial intelligence, or on climate and environmental issues and their impact, but they are rarely able to reflect a consolidated image with multiple interrelations. Although a series of macroeconomic elements/indicators relevant to its 17 targets were captured within the sustainable development targets, nevertheless there are numerous macro-indicators that are not captured in their dynamics in relation to the indicators of the 17 sustainable development targets. We remind you that with regard to these goals, they mark: 1. *No poverty*, 2. *Zero hunger*, 3. *Good health and well-being*, 4. *Quality*

education, 5. Gender equality, 6. Clean water and sanitation, 7. Affordable and clean energy, 8. Decent work and economic growth, 9. Industry, innovation and infrastructure, 10. Reduced inequalities, 11. Sustainable cities and communities, 12. Responsible consumption and production, 13. Climate action, 14. Life below water, 15. Life on land, 16. Peace, justice and strong institutions, 17. Partnerships for the Goals. Thus, the article tries to position other macroeconomic indicators in a proper relationship with the targets of sustainable development and to provide a series of explanations regarding the possible interdependencies, interrelationships.

### 3. Review of the literature

In order to solve some urgent current problems and especially in dealing with speedy problems that led to the formulation of sustainable development targets, international estimates point out that from billions to several of trillions of USD are needed (UNEP, 2011, UNCTAD, 2014; European Report on Development, 2015, etc.) as well as the mobilization and efficient use of funding sources - international, domestic, public and private. In their turn, fiscal policies can contribute to building an ecological economy capable of favoring social inclusion and supporting the achievement of the SDGs through substantial internal public resources, and fiscal space for investments in clean technologies, natural capital and social infrastructure, through fiscal consolidation, reduction of fiscal evasion, appropriate taxation of revenues from the exploitation of natural resources, the appropriate taxation of large polluters and the reduction or complete elimination of subsidies such as those related to fossil fuels, but also the support of subsidies related to water infrastructure, sanitation, energy, green technologies and supporting recycling and reforestation (Anderson and Ekins, 2009; OECD, 2013; Withana et al., 2014; IMF, 2015; United Nations, 2024).

Regarding in particular gender equity of SDGs, the local representation of women and gender responsive budgeting, we can observe in some studies (e.g. Chakraborty, 2014) the fact that placing women in local level governance can change the expenditure decisions of the local bodies and the fact that investment decisions in turn correspond to women's preferences.

### 4. Methodology and data source

The analysis is based on a comparative study of European data, to highlight the present developments, the data focuses on the period 2012-2022/2023. The monitored indicators are the general macroeconomic indicators, such as economic growth, inflation, labor productivity, gross debt, the current account balance and the budget balance. At the same time, a series of indicators of the sustainable development goals are followed in the analysis in order to outline the possible directions of the links between the two types of indicators that should be in our attention.

**Table 1. Description of variables and data sources**

| Acronym for indicators | Description of indicators  | Unit of measurement  | Source                           |
|------------------------|--|--|----------------------------------|
| RGDPGRNIR              | Real GDP growth rate net of inflation rate                             | Chain linked volumes, percentage change on previous period, inflation reflects annual average rate of change | Eurostat, [tec00115], [tec00118] |
| PUKHAW                 | Population unable to keep home adequately warm by poverty status       | %  | Eurostat, [sdg_07_60]            |
| GGDorS                 | General government deficit/surplus, Net lending (+) /net borrowing (-) | Percentage of gross domestic product (GDP)   | Eurostat, [tec00127]             |

|             |  |  |  |
|-------------|--|--|--|
| GGSARD      | Government support to agricultural research and development                                | Euro per inhabitant  | Eurostat, [sdg_02_30]                      |
| NIIPendi    | Net international investment position excluding non-defaultable instruments - % of GDP     | Percentage of GDP  | Eurostat, [tipsii50]                       |
| CANB        | Current account, main components, net balance - annual data, % of GDP                      | Percentage of GDP  | Eurostat, [tipsbp11]                       |
| GGGD        | General government gross debt  | Percentage of GDP  | Eurostat, [sdg_17_40]                      |
| FCEHNPISH   | Final consumption expenditure of households and non-profit institutions serving households | Percentage of GDP  | Eurostat, [tec00009]                       |
| SRUNMEC     | Self-reported unmet need for medical examination and care by sex                           | Percentage   | Eurostat, [sdg_03_60]                      |
| RGDPpercap  | Real GDP per capita  | Chain linked volumes (2010), euro per capita   | Eurostat, [sdg_08_10]                      |
| NEET        | Young people neither in employment nor in education and training (NEET), by citizenship    | Percentage   | Eurostat, [sdg_08_20a]                     |
| Stuprojpop  | Short-term update of the projected population (2022-2032)                                  | Millions of people   | Eurostat, [proj_stp22__custom_10990061]    |
| GVAEGSS     | Gross value added in environmental goods and services sector                               | Percentage of GDP  | Eurostat, [sdg_12_61]                      |
| RMC         | Raw material consumption (RMC)   | Tonnes per capita  | Eurostat, [sdg_12_21]                      |
| PciEUi      | Population with confidence in EU institutions by institution                               | Percentage   | Eurostat, [sdg_16_60]                      |
| SHWNPG      | Seats held by women in national parliaments and governments                                | Percentage of women  | Eurostat, [sdg_05_50]                      |
| NLPpperempl | Nominal labour productivity per person employed (ESA 2010)                                 | Percentage of EU27 (from 2020) total (based on million purchasing power standards), current prices | Eurostat, [tec00116]                       |
| AFIAWU      | Agricultural factor income per annual work unit (AWU)                                      | Index, 2010=100  | Eurostat, [sdg_02_20]                      |
| ANEftsw     | Annual net earnings of a full-time single worker without children earning an average wage  | Purchasing power standard (PPS)  | Eurostat, [earn_nt_netft__custom_10945817] |
| Iwarpr      | In work at-risk-of-poverty rate  | Percentage   | Eurostat, [sdg_01_41]                      |

Source: Eurostat indicators, author's systematization

The indicators effectively reflect Eurostat data or are combined in synthetic forms or reported on another basis (e.g. from percent of GDP, in number of inhabitants, or euros per inhabitant, etc.) in order to be able to combine the elements to explain the vision presented in the analysis.

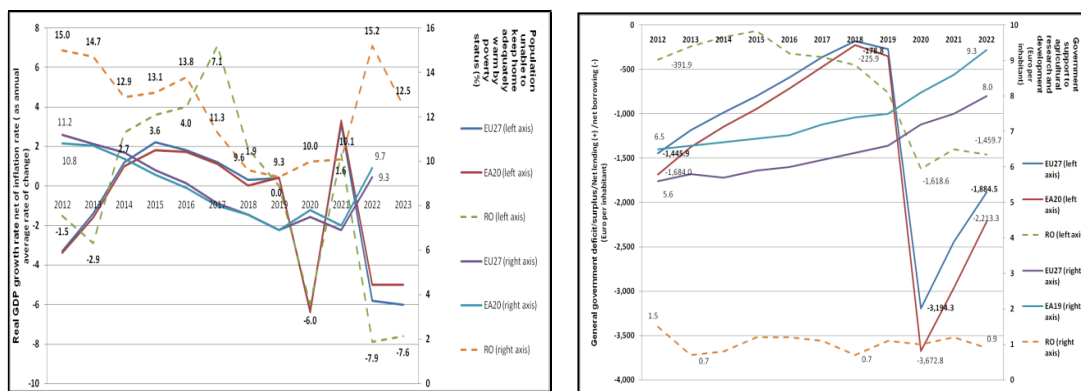
## 5. Results

Like a perfume with three notes of influence, top, middle and base, studies and especially specialist reports mark as the base note the study of nominal macroeconomic realities, such as inflation, economic growth, current account deficits, budget deficits, etc. Or, it would be normal for the basic focus to fall on sustainability, on the social and environmental impact of economic realities, on the need to first of all correct the elements of a country's sustainable development.

Therefore, the present analysis follows in tandem if and how, at least on the graphic representation, there is an influence between elements of the nominal economy and those of

sustainable development. Thus, we note that for Romania, the real economic growth net of inflation (that is, we take into account the negative influence of both the economic decline and the increase in inflation) we note that in the periods of accelerated economic growth 2014-2017 Romania registered a stronger economic growth than the average EU and the Eurozone, as well, with the outbreak of the COVID-19 crisis, the collapse of Romania's indicator was also of a larger magnitude than the EU average. There is also a time gap in the domestic economy to comply with the changes in the European and international economy. In the mirror, every time the economic growth (adjusted with inflation) suffered, so many times the population's ability to defend itself against the harmful effects of macroeconomic developments decreased.

**Figure no. 1. Real economic growth, and the budget balance in relation to the population that cannot afford housing warming up for economic reasons and government support for research in agriculture for Romania**



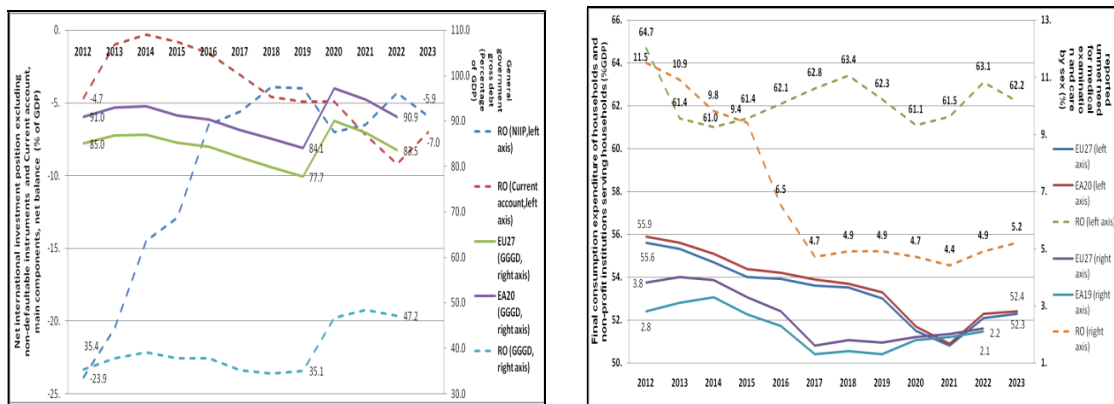
Source: Eurostat indicators, author's processing and conception

Thus we see that the indicator Population unable to keep home adequately warm by poverty status (%) increases in the period when economic growth adjusted with inflation deteriorates. The amplitude is higher for Romania than for the EU and euro zone average, a fact that demonstrates the existence of structural problems that do not allow the reduction of development gaps. We also note that the nominal indicators Romania-EU27 / Euro area are quite well aligned as a trend, regarding the indicator of sustainable development, Romania evolves almost constantly in parallel with the average of the EU27 and the Euro area, having on average for the period 2012-2022 a gap of 3.4 pp. In 2022, the gap seems to have deepened compared to the previous period to 5.9 pp. a fact that should attract the attention of the authorities that the direction of public policies is not appropriate.

Also, if we look at General Government Net lending (+) / net borrowing (-) as a percentage of GDP, we notice that the average at the EU27 level during the analysis period (2012-2022) was 2.6% of GDP compared to a deficit, on average (for 2012-2022), of 3.9% of GDP for Romania. The situation is shown graphically in a unique way by referring to the number of inhabitants. Thus, regarding this indicator, the budget deficit was for the EU27, on average for the analysis period 2012-2022, at 1212.5 euro per inhabitant, while in Romania it was 654 euro per inhabitant, with an extremely worrying level for Romania in 2022 of 1459.7 euro per inhabitant compared to 1884.5 euro per inhabitant for the EU27 and 2213.3 euro per inhabitant for the Euro area. Equally, we notice that the government investment to support

research in agriculture is modest at the level of the EU27 and the euro zone, and even more serious at the level of our country where the trend is in addition to decrease. Thus, the Government support to agricultural research and development indicator stood on average for the period 2012-2022 at 6.4 euro per inhabitant for EU27 and 7.4 euro per inhabitant for EA19 compared to an average of only 1 euro per inhabitant for Romania. In the context of climate changes and the continuous challenges coming from the sphere of unwanted environmental events, against the backdrop of the abolition of public irrigation after 1989, after the fall of the communist regime in Romania, environmental strategies in agriculture in Romania have fallen into disrepute. This aspect should be corrected as quickly as possible by the authorities with the support of non-governmental organizations and farmers' associations in Romania. If we look at Romania in an international context, we notice that the Net international investment position excluding non-defaultable instruments ( % of GDP) has improved over the 2012-2023 analysis period, but it is beyond what could be considered sustainable according to international and European standards ( -1.7% of GDP for 2023, according to the European Commission, 2023, page 3).

**Figure no. 2. Net international investment position, Current account, Final consumption expenditure of households in relation with General government gross debt and Self-reported unmet need for medical examination for Romania**



Source: Eurostat indicators, author's processing and conception

Also, the current account, although it recorded during the period of analysis and moments of improvement (2013-2015), the last years marked by the COVID-19 crisis and the war in Ukraine raised the macro-indicator in the sphere of unsustainability.

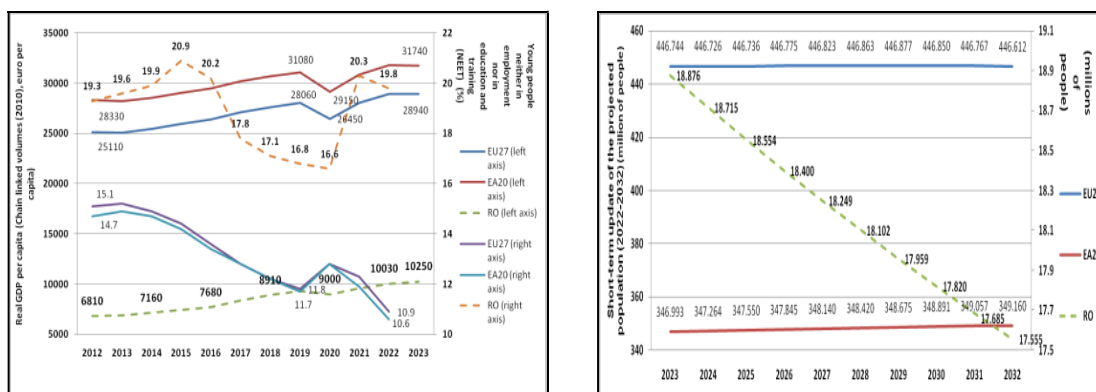
At the same time, against the background of increasing medical expenses and arming efforts, the public debt increased markedly after 2022, reaching 47.2% of GDP in 2023, far above what could be considered sustainable in the medium and long term (in around 40% of GDP, but below the threshold of 60% of GDP imposed by the Maastricht criteria). However, considering the high degree of indebtedness at the level of the EU27 average of 83.5% of GDP and over 90% at the level of the Euroarea, we can consider that there is enough room for maneuver to solve some structural problems in the Romanian economy even and in the context of a modest increase in the public debt in the near future.

If we look at the indicator Final consumption expenditure of households and non-profit institutions serving households, expressed as a percentage of GDP, we observe a constant gap in the analysis period between Romania and EU27 and the euro zone, on average over the analysis period (2012-2023) of 8.9 percentage points, with a not so clear tendency, compared

to the European average, to decrease this consumption. This aspect confirms the continued increased need of the Romanian population to improve the quality of life and comfort in the household. To the same extent, the indicator of sustainable development Self-reported unmet need for medical examination and care by sex demonstrates, despite an improvement in recent years, that there is still a substantial gap compared to the average of the EU27 and the euro area, and that the material factor and inadequate wages affect seriously the ability to solve the health problems of the population.

Despite an almost constant improvement of the real GDP per inhabitant, the gap between Romania and the EU27 average remains substantial at an average of 18,481 euros per capita for the period 2012-2023, in 2023 standing at 18,690 euros per capita. At the same time, the development gap can be seen regarding the youth, Young people neither in employment nor in education and training (NEET) unfortunately deteriorating almost constantly compared to the average of the EU27 and the euro area. Thus, while the indicator decreased in the EU27 from 15.1% in 2012 to 10.9% in 2023, in Romania, the indicator increasing from 19.3 % in 2012 to 19.8% in 2023 (see figure no.3).

**Figure no. 3. Real GDP per capita in relation with Young people neither in employment nor in education and training (NEET), and population projections for Romania**



Source: Eurostat indicators, author's processing and conception

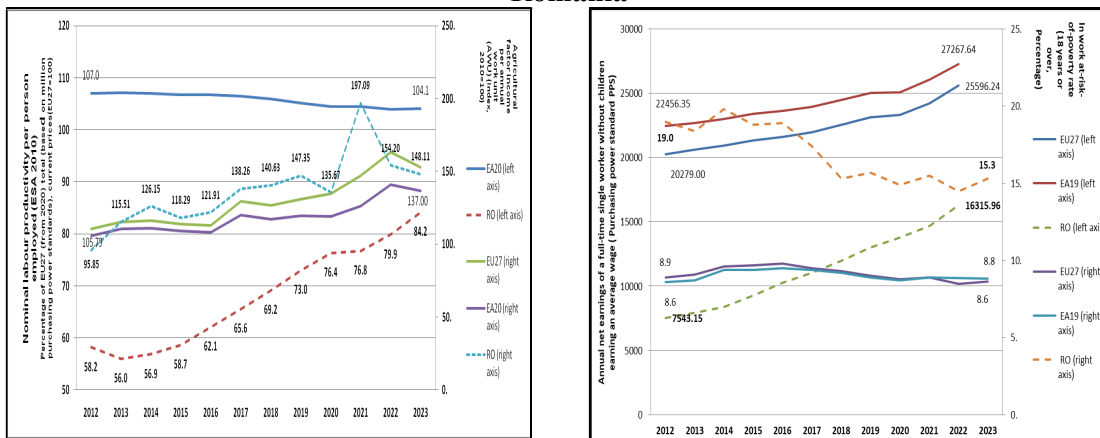
The aspect is all the more worrying as the short-term projection of the population for Romania, based on current trends, is projected by the European authorities in a negative sense for the period 2023-2032. Practically, in addition to a massive depopulation, we are witnessing not only a decrease in the population in general and a decrease in the young population able to work, but also in the involvement in work and education of the population that will be engaged in work for our country. Migration can regulate the situation in the short term, but in the medium and long term, the situation will deteriorate substantially if firm measures are not taken by the authorities now. Demography is not only a social problem, but can become a serious problem of economic gearing and can endanger not only the social security but also the economy and politics of a country.

Regarding labor productivity (see Figure no.4), the Nominal labor productivity per person employed indicator (ESA 100) increased substantially for Romania in relation to the European average (EU27=100) during the analysis period, from 58.2% in 2012 to 84.2% in 2023, percentage of the EU27 average. During all this time, except for the years 2012, 2022-2023, the Agricultural factor income per annual work unit index, indicator of sustainable development, was constantly above the EU27 and Euro zone average for Romania. The

situation reflects the understanding of the importance of the agricultural field for our country, but also the massive investments made in this field in the last decade.

In the context of productivity, salary is also analyzed. Thus, the indicator Annual net earnings of a full-time single worker without children earning an average wage improved from year to year during the analysis period 2012-2022 for Romania, but in 2023 it still shows an important difference of 9280.28 PPS in relation to the EU27 average. The indicator can also be combined with the In work at-risk-of-poverty rate, which, although it has moderated in recent years in Romania, maintains a difference of 7.8 percentage points on average during the period 2012-2023 compared to the EU27 average.

**Figure no. 4. Nominal labour productivity per person employed, respectively Annual net earnings of a full-time single worker in relation with Agricultural factor income per annual work unit and respectively with In work at-risk-of-poverty rate for Romania**



Source: Eurostat indicators, author's processing and conception

In general, wages are related not only to labor productivity and the poverty level of the population, but also to the yield produced by the economy whose wages are being analyzed. Thus, not only GDP growth but also value added must be taken into account. Thus, having in mind the goals of sustainable development, we also follow the Gross value added in environmental goods and services sector indicator at the EU27 level and in Romania (see Figure no.5). Thus, we observe that the indicator was constantly above 2% of GDP for Romania and registered a positive difference over the entire period of analysis in relation to the EU27 average, with the exception of 2020. Instead, the indicator Raw material consumption (RMC) (Tonnes per capita) seems to have exploded during the analysis period in Romania in relation to the EU27 average, a fact that could indicate the need for more careful management policies of material consumption.







small exceptions, the situation is significantly unfavourable for Romania compared to the average EU27 and the euro zone. Among the indicators that show lagging behind are elements related to comfort and the prevention of energy poverty, health, adequate wages, including for the prevention of poverty in work, education, youth who are neither in the field of work nor in the education system, raw material consumption and equity of representation between women and men in parliament.

The high salary, at a European level, could certainly combat more than half of these problems for Romania, but some aspects far exceed problems related to the income and well-being of employees and citizens, regarding the structural improvement of public policies. The higher salary/wage level is not necessarily a panacea for improving work productivity and reducing work poverty, inflation, the fiscal regime and the pressure of national and local taxes also have an important role in this regard. In general, annually, the government operates to change the minimum wage in the economy upwards, but often the connection with the average wage is lost and the correlation with performance and seniority in the work is missing. These aspects can be considered as real processes of disinvestment in work, leading to migration abroad and to a low productivity of work domestically.

Public policies can improve the parameters of the sustainable development targets for Romania by improving the legislation, the public systems of education, justice, education, culture, medical, defence and public security, but also by improving the cyber security infrastructure and respect for the citizen. With the improvement of the sustainable development targets for Romania, there are real chances to improve the nominal macroeconomic indicators in a sustainable way.

#### References:

1. Andersen, M.S. and Ekins, P. (eds.), 2009. *Carbon-Energy Taxation: Lessons from Europe*. Oxford: Oxford University Press.
2. Chakraborty, L.S., 2014. *Gender-responsive budgeting as fiscal innovation: Evidence from India on "processes"*. Working Paper, No. 797, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.
3. Coady, D., Parry, I., Sears, L. and Shang, B., 2015. *How Large Are Global Energy Subsidies?* Working Paper 15/105, International Monetary Fund, Washington, DC.
4. European Commission, 2024. *In-Depth Review 2024 Romania*, Institutional Paper 275 | March 2024, Luxembourg: Publications Office of the European Union, 2024.
5. European Report on Development, 2015. *Combining finance and policies to implement a transformative post-2015 development agenda*. Overseas Development Institute (ODI), in partnership with the European Centre for Development Policy Management (ECDPM), the German Development Institute (Deutsches Institut für Entwicklungspolitik) (GDI/DIE), the University of Athens (Department of Economics, Division of International Economics and Development) and the Southern Voice Network, Brussels.
6. OECD, 2013, *The Swedish Tax on Nitrogen Oxide Emissions: Lessons in Environmental Policy Reform*. OECD Environment Policy Paper No.2, December 2013, Paris, OECD.
7. UNCTAD, 2014. *World Investment Report 2014: Investing in the SDGs: An Action Plan*, Investing in the SDGs: An Action Plan for promoting private sector contributions. UNCTAD/WIR/2014.
8. United Nations Environment Program (UNEP), 2011. *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*. [www.unep.org/greeneconomy](http://www.unep.org/greeneconomy).

9. United Nations, 2024. *Inter-agency Task Force on Financing for Development, Financing for Sustainable Development Report 2024: Financing for Development at a Crossroads*. (New York: United Nations, 2024), available from: <https://developmentfinance.un.org/fsdr2024>.

10. Withana, S., ten Brink, P., Illes, A., Nanni, S., Watkins, E., 2014. *Environmental tax reform in Europe: Opportunities for the future*. A report by the Institute for European Environmental Policy (IEEP) for the Netherlands Ministry of Infrastructure and the Environment. Final Report. Brussels. 2014.