Towards a composite index for assessing progress on the 2030 Agenda

Silvia Álvarez Fernández

National Statistics Institute of Spain.

Methodological approaches

- The 2030 Agenda is a global strategy that requires high-quality indicators and many disaggregated series for its monitoring, in order to ensure an adequate follow-up of the goals and targets and to guide decision-making.

- INE-Spain has been analyzing different methodological approaches developed by international organizations, mainly United Nations and Eurostat, with the objective of building an index to assess the progress achieved and the compliance with SDGs:
    - Based on SDG Progress Chart Methodology (United Nations).
    - Eurostat´s Methodology for SDG assessment.
    - AMPI Methodology.

Based on SDG Progress Chart Methodology (United Nations)

- The United Nations methodology for the trend assessment (UN, 2021) distinguishes between indicators without explicit numerical target and indicators with explicit numerical target.

- In order to facilitate the evaluation of the Agenda as a whole, numerical values are assigned to each indicator with numerical target according to its state of progress:

Table 1. Score values according to the state of progress for indicators with an explicit numerical target

	State of progress	Score
If CR ≥0.95	Target will be met or almost met	10
If 0.8<CR< 0.95	It will be close to target	Between 8 and 10
If 0.6< CR≤ 0.8	It will be moderate distance to target	Between 6 and 8
If 0.4< CR≤ 0.6	It will far from target	Between 4 and 6
If 0< CR≤ 0.4	It will very far from target	Between 0 and 4
If CR≤ 0	It will very far from target	0

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Based on SDG Progress Chart Methodology (United Nations)

- For indicators without an explicit numerical target, the progress made can be classified into one of five possible situations.

Table 2. Score values according to the state of progress for indicators without an explicit numerical target (increase over time)

	State of progress	Score
If $CAGR_a > 0.01$	Significant progress	10
If $0.005 < CAGR_a \le 0.01$	Fair progress but acceleration needed	Between 8 and 10
If $0 < CAGR_a \le 0,005$	Limited progress	Between 4 and 8
If $-0.01 < CAGR_a \le 0$	No progress	Between 0 and 4
If $CAGR_a \le -0.01$	Deterioration	0

Table 3. Score values according to the state of progress for indicators without an explicit numerical target (decrease over time)

	State of progress	Score
If $CAGR_a < -0.01$	Significant progress	10
If $-0.01 < CAGR_a \le -0.005$	Fair progress but acceleration needed	Between 8 and 10
If $-0.005 < CAGR_a \le 0$	Limited progress	Between 4 and 8
If $0 < CAGR_a \le 0.01$	No progress	Between 0 and 4
If $CAGR_a > 0.01$	Deterioration	0

- Finally, the scores of indicators are aggregated linearly upwards (indicator, target, goal, Ps and global) to obtained a composite index.

Eurostat´s Methodology for SDG Assessment

- Eurostat also evaluates the trend of indicators through the compound annual growth rate and distinguishes between indicators with explicit numerical targets and without explicit numerical targets (Eurostat, 2021).

- These values are inserted into a scoring function (which is different for indicators with and without quantitative target) in order to calculate a score ranging from + 5 (best score) to – 5 (worst score) for each indicator.

- The average scores on the goal level are then calculated as the arithmetic mean of the individual scores of the indicators chosen for monitoring the respective goal.

AMPI Methodology

- Firstly, indicators with positive polarity were selected to measure progress towards compliance with the 2030 Agenda in Spain.

- The second step is to carry out the normalization process using the Mazziota-Pareto Adjusted procedure.

- Finally, rescaled indicators are aggregated . The method is based on a linear aggregation but adding a penalty factor. In this case, MPI- is used

$$MPI_i^- = M_{zi} \ (1 - cv_i^2 \ ) = M_{zi} - \frac{S_{zi}^2}{M_{zi}} = M_{zi} - S_{zi} \ cv_i$$

- Where cv_i is the coefficient of variation of the normalized values of the indicators $\{j=1,..., m\}$ in the statistical unit i, Mz_i and Sz_i are the mean and standard deviation of the normalized values of the indicators $\{j=1,..., m\}$ in the statistical unit i.

Works Developed by INE-SPAIN

- United Nations and AMPI methods have been implemented to calculate two composite indices of the progress towards 2030 Agenda.

- For the construction of these composite indices, we have taken as basis the National Reporting Platform (NRP, https://www.ine.es/dyngs/ODS/es/index.htm).

- INE launched this Platform in 2018 and is maintained in collaboration with the ministerial departments to monitor progress 2030 Agenda. The analysis has been done with respect to the year 2019

Results

- In the table below, you can find the preliminary results obtained after applying UN and AMPI methods:

Table 4. Composite Index on the progress towards 2030 Agenda. Preliminary results

	UN Method		AMPI Method	
	2016	2019	2016	2019
People (SDGs 1, 2, 3, 4 and 5)	6,27	6,87	100,02	101,25
Planet (SDGs 6, 12, 13, 14 and 15)	7,50	7,30	n.a	n.a
Prosperity (SDGs 7, 8, 9, 10 and 11)	4,11	6,92	99,94	100,14
Peace (SDG 16)	6,66	5,00	100,49	98,68
Partnership (SDG 17)	7,33	6,33	n.a	n.a
Global	5,90	6,76	100,06	100,56

n.a.: not available due to lack of enough data

- Only targets with at least 75% of the available indicators were considered. Where possible, global targets have been used. The use of targets for some indicators has been ruled out because they were global targets that did not make sense at the national level.

Conclusions

- Different methodologies provide different results, although the sense of the trend is the same for both methods.

- The methods studied have not been applied to all the goals of the Agenda, due to data gaps.

- Our analysis using the AMPI method is based on goals instead of targets, mainly due to lack of data. Introducing headline indicators could facilitate analysis.

- Further work is necessary to improve this index before its release as experimental statistic, in particular as regards the comparison of results obtained by both methods and to choose the most suitable methodology. The soundness of the method should also be checked.

- Different data penalties could be studied.

- Composite indicators are useful since they summarise in a number a wide set of phenomena, however it is important to complement them with more detailed data, at goal and target level, to have a complete overview of the situation.

Thank you for your attention!