

Connecting the dots: from SDGs to well-being

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Abstract

Purpose – Sustainable Development Goals (SDGs) are gaining traction globally, yet limited empirical evidence exists on how national characteristics influence SDGs achievement and how this success translates into citizens' well-being. The paper develops and tests a model examining the influence of governance, political and economic factors on SDG achievement and the subsequent relationship between SDG accomplishments and perceived well-being.

Design/methodology/approach – Using data from the United Nations (UN) database on SDGs, the World Happiness Index, democracy metrics and Gross Domestic Product (GDP) statistics, the study analyses 96 countries in 2022. Partial Least Squares Structural Equation Modelling (PLS-SEM) is employed to uncover intricate relationships and dependencies among variables.

Findings – The results indicate that strong coordination for meeting SDGs, i.e. SDG17, high democracy levels and country wealth significantly enhance SDG achievements. In turn, successful SDG implementation positively influences citizen well-being, suggesting that sustainability efforts have meaningful everyday effects.

Practical implications – Governance emerges as another key enabler for SDG achievement alongside political and economic factors. The findings highlight the importance of investments in governance capacity and the recognition of SDG targets as reflections of deeper socioeconomic mechanisms and well-being drivers and not just as standalone goals. Furthermore, our findings pose challenges in public financial management on a dual front. Firstly, whether more accounting-based ratios can better track SDG achievement and improve transparency and comparability. Secondly, whether a new system of accounting based on well-being indicators should be developed to illuminate the sustainability-well-being nexus and inform sociopolitical and environmental decision-making.

Originality/value – The study underscores governance as a central aspect to SDG successful achievement and citizen well-being, affirming the role of public administration in enhancing happiness.

Keywords Sustainable Development Goals (SDGs), SDG17, Governance, Well-being, Democracy, Partial least squares structural equation modelling (PLS-SEM)

Paper type Research article

Introduction

The 2030 Agenda has mobilized global efforts among governments around the world to meet the 17 Sustainable Development Goals (SDGs) set by the United Nations (UN). Their

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achievement is operationalised through targets and indicators that impact three dimensions, the economic, the social and the environmental, separately and as a whole, both at the national and the local levels (Abhayawansa *et al.*, 2021; Bisogno *et al.*, 2023; Cohen *et al.*, 2023; Masuda *et al.*, 2021; Ríos *et al.*, 2024).

However, despite this global movement, the level of SDG achievement is not homogeneous among countries (Reverte, 2022). In the literature, governance (Sobkowiak *et al.*, 2020; Øjvind Nielsen *et al.*, 2024; Lauwo *et al.*, 2022; Bisogno *et al.*, 2025), political (Akalın and Erdogan, 2021; Banik, 2022) and economic factors (Cling and Delecourt, 2022; Fioramonti *et al.*, 2019) have been separately analysed, demonstrating that they play a role. However, little attention has been paid to how these factors taken together facilitate or hinder the achievement of the targets of the goals, even though understanding the way they operate in tandem would provide important input in the international sustainability arena and could assist policymakers and public administrators in better managing the process (Kaur *et al.*, 2025).

At the same time, there is a consensus that the SDGs framework needs to be supplemented with proof of their positive impact. Costanza *et al.* (2014) argue that the SDGs are not an end in themselves and that without a clear end goal, they miss a key element for the success of the 2030 Agenda. This clear end goal is still being researched, but well-being can serve the purpose of such an end. Well-being reflects a convergence of good human health (both physical and mental), equity, fairness, peaceful community and amicable relationships within a flourishing natural environment (Shrivastava and Zsolnai, 2022). Thus, individuals' well-being is a multidimensional construct that presupposes the satisfaction of several dimensions that are not only related to material goods but also to society, the environment and the planet. In this sense, well-being seems to be highly related to the achievement of the sustainability targets embedded in the SDGs (De Neve and Sachs, 2020).

In this realm, the connection between sustainability and well-being has started being analysed in the literature (De Neve and Sachs, 2020; Qasim and Grimes, 2022). The achievement of a number of specific SDGs, analysed separately, seems to be positively related to well-being (De Neve and Sachs, 2020), while the adoption of sustainability-related policies has an effect on both the current and the future well-being of the citizens (Qasim and Grimes, 2022). However, there is no empirical evidence or empirical studies on whether the achievement of the SDGs suite as a whole and not on a specific SDG basis is related to citizens' well-being, as well-being can be approached when all its dimensions of sustainability are achieved in a balanced manner (Fioramonti *et al.*, 2019).

Our paper, therefore, aims to bridge these two streams of literature, that of the factors affecting SDG achievement and that of the effect of sustainability on well-being. More specifically, to expand the research on the governance, political and financial factors that affect the achievement of the SDGs and, secondly, to analyse how the sustainability status measured via the whole suite of SDGs is related to the citizens' well-being. Therefore, our research questions are the following:

- RQ1. Do political, economic and governance factors affect the achievement of SDGs at a country level?
- RQ2. Is the achievement of SDGs at a country level related to the well-being of its citizens?

To answer these research questions, this study leverages data from the UN database and incorporates information related to the 17 SDGs across 96 countries globally. Additionally, data from the World Happiness Index, democracy metrics and Gross Domestic Product (GDP) statistics for the year 2022 were gathered to provide a comprehensive dataset. The analytical framework utilised in this study encompasses Partial Least Squares Structural Equation Modelling (PLS-SEM) to unravel the intricate relationships and dependencies within the

variables under study, that is not possible when using univariate statistical analysis (De Neve and Sachs, 2020) or Ordinary Least Squares (OLS) regressions (Bisogno *et al.*, 2023; De Neve and Sachs, 2020).

This study contributes to the existing literature in several ways. Firstly, it uses SDG17 as a proxy for governance. Instead of considering SDG17 as one of the 17 goals, it separates it from the SDG suite and analyses the way it affects, as a proxy for multilevel partnerships, the achievement of sustainable development parameters. This novelty aims at providing evidence to calls for further analysis of the effects of governance on sustainable development (Bisogno *et al.*, 2025; Le Blanc, 2015; Puertas and Marti, 2023). Secondly, our study treats the SDGs (apart from SDG17) as a bundle, supporting the idea that sustainability is multifaceted and reflects a combination of interconnected dimensions, and it cannot be achieved unless progress is evidenced in all of its parts. Thus, an additional novelty of the research is that we test how sustainability as a multidimensional construct affects well-being, contrary to other studies that have analysed this relation for each SDG separately in a fragmented and SDG-specific manner (e.g. De Neve and Sachs, 2020). Finally, we adopt a pragmatic stance and include in our model also financial-related variables, acknowledging that SDG achievement not only relies on institutional dimensions but also is affected by financial resource availability (Bisogno *et al.*, 2025; Fioramonti *et al.*, 2019) that reflects state capacity and impacts resource allocation, and we test their complementarity.

The research findings provide corroborative evidence that the governance for the goals, i.e. SDG17, the level of democracy and the country's wealth (GDP) exert a positive influence on the achievement of the suite of SDGs. Therefore, the study supports earlier evidence on the importance of democratic institutions and participation for SDGs (Glass and Newig, 2019). In addition, by unravelling a positive relationship between aggregate SDG achievement (as a bundled index) and well-being, the study provides evidence that broad-based progress on the SDGs suite is what aligns with higher national well-being, reinforcing the idea that sustainability is multidimensional and indivisible.

These results hold significance for public managers, politicians, policymakers and citizens. Firstly, they provide support that the achievement of SDGs is related to factors, some of which are more easily managed than others, such as the coordination for the achievement of the goals compared to the country's financial condition or the level of democracy. This conclusion brings to the forefront the importance of governance as a significant factor contributing to SDG achievement. Secondly, they underscore the importance of the efforts of public administration in the policy arena for SDGs accomplishment, given their relationship with citizens' well-being and confirm that public administration can contribute to the happiness of citizens (Meynhardt *et al.*, 2024) despite criticisms raised regarding sustainability policies reducing government's short-term popularity (Qasim and Grimes, 2022).

The paper unfolds as follows. The next section provides the framework on which our hypotheses are based. Section three describes the research design, identifying how data have been retrieved and how PLS-SEM is applied. Section four discusses the results, while section five concludes the paper, identifying implications and future research avenues as well as recognizing some limitations.

Conceptual framework and hypotheses development

The role of governance in the achievement of the SDGs

The 17 SDGs, with their targets and indicators, correspond to different areas of worldwide progress, including a wide range of social, economic and environmental objectives aimed at promoting prosperity while protecting the planet. These goals are interconnected and designed to address the most pressing challenges, including poverty, inequality, climate change, environmental degradation, peace and justice. The 17 SDGs can, therefore, be framed within the five dimensions of the 5Ps, namely People, Planet, Prosperity, Peace and Partnership (Assembly, 2015), where Partnership (i.e. SDG17) is considered a separate dimension which poses multistakeholder partnership as a central condition for sustainable development

(Meuleman, 2018). Therefore, achieving sustainable development is facilitated by the collaborative efforts to create common governance structures to make sustainable development happen (Abhayawansa *et al.*, 2021; Eweje *et al.*, 2021).

Governance and partnerships refer to a set of coordinating actions between multiple actors in the public, private and civil sectors that affect policymaking and public service delivery that aim at solving public problems (Bryson *et al.*, 2006; Frederickson *et al.*, 2018). Understanding governance characteristics, both for network governance and collaborative governance, needs to focus on a plethora of dimensions such as resource dependency, leadership, trust, power, accountability and performance (Wang and Ran, 2023; Kapucu and Hu, 2020). Good quality governance has been evidenced to positively influence the achievement of the SDGs in the European context (Bisogno *et al.*, 2025), and similar results have been reported for the African context (Adebayo *et al.*, 2025).

SDG17 includes specific targets that consider the role of multilevel partnership. Thus, SDG17 is the dedicated goal corresponding to cross-cutting means of implementation for the whole set of SDGs (Le Blanc, 2015). The targets within SDG17 touch upon the enhancement of the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources to support the achievement of SDGs in all countries. They also address the encouragement and promotion of effective public, public–private and civil society partnerships, building on their experience and resourcing strategies. In this realm, SDG17 is a statement of means, rather than of ends (Florini and Pauli, 2018). Discussions taking place during the annual high-level political forum (HLPF) in September 2023 resulted in a political declaration of international cooperation enhancement based on the public governance of sustainable development and a renovated financial architecture to support SDGs investments (United Nations General Assembly, 2023). Thus, sustainable development is achievable through global partnerships and global cooperation among countries (Puertas and Marti, 2023).

Governance failure has been considered one of the main causes of actual delay in the achievement of SDGs (United Nations General Assembly, 2023). Strong governance structures, in combination with appropriate accountability and multilevel partnerships, are deemed essential for the national implementation of SDGs (Abhayawansa *et al.*, 2021; Lauwo *et al.*, 2022; Bisogno *et al.*, 2025). Some colleagues even call for the need for meta-governance for sustainable development (Sondermann and Ulbert, 2021). Achieving SDGs requires a shift which implies the creation of governance mechanisms at the national level able to foster participation, empowerment and engagement of less powerful stakeholders, including those that do not have a voice in policy decisions (Gjaltema *et al.*, 2020; Lauwo *et al.*, 2022). However, only a few research works discuss governance mechanisms on SDGs both in developed (Sobkowiak *et al.*, 2020; Øjvind Nielsen *et al.*, 2024; Bisogno *et al.*, 2025) and developing countries (Lauwo *et al.*, 2022).

While our study does not analyse the operationalization details of governance for the achievement of SDGs under SDG17 on a country level or a network of countries level, it studies whether the ability to collaborate and create a multilevel partnership for the goals, as measured through SDG17, can favour the achievement of all the other goals included in the 2030 Agenda. Based on the above and the fact that the level of collaboration and coordination for the achievement of the SDGs, in other words, the governance for the SDGs, is reflected in SDG17, we set the first hypothesis as follows:

- H1. The achievement of multilevel partnerships reflected through SDG17 for a sustainable world positively affects the achievement of SDGs.

The role of democracy in the achievement of the SDGs

Eweje *et al.* (2021), while examining different forms of multistakeholder partnership that emerge in literature, highlight the leadership role of governments: “Governments should make

it a priority to make partnerships consistent with their national laws and development plans in order for citizens to reap the benefits” (Eweje *et al.*, 2021, p. 203). A key point here consists of the ability of governments to ensure that the needs of local people are understood and met (Slack, 2014). To this end, according to Bowen *et al.* (2010), transformational stakeholder engagement is based on a two-way dynamic and intense communication process that is suitable to support constructive dialogue, capacity building, knowledge generation and improved mutual learning between participating actors. A dialogue of this sort presupposes a democratic context with participatory mechanisms in which individuals enjoy the freedom of choice and can make their voices heard through voting mechanisms (Akalin and Erdogan, 2021). More broadly, participation from citizens is considered an enabling factor to positively impact democracy, by increasing relevant knowledge, civic skills and public engagement and by reinforcing the ability to elaborate common decisions among the participants (Michels, 2011). On the other side, the participation of actors requires democratic societies that enable civil society to express and support their needs and claims. Furthermore, democratic countries put emphasis on fighting discrimination, achieving gender equality, securing access to education and keeping their citizens healthy. Therefore, democracy provides a backdrop for policies consistent with the achievement of sustainable development to flourish (Banik, 2022). In this realm, democratic institutions can favour the participation of citizens in policies toward the achievement of SDGs (Glass and Newig, 2019). In our study, we do not assess how nuances of democracy affect life satisfaction (Orviska *et al.*, 2014; Altman *et al.*, 2017), but rather how they impact the achievement of the SDGs. Based on the above, we set the second hypothesis as follows:

H2. Democracy positively affects the achievement of SDGs.

The role of financial resources in the achievement of the SDGs

The implementation of SDGs also requires economic resources to support SDG-related policies, and low-income countries can be slow in allocating budget resources to this aim (Banik, 2022). However, there is controversy about how GDP can impact sustainable development (Coscieme *et al.*, 2020) and to what extent GDP can be considered an indicator of social wealth, as there is growing agreement about the need to abandon GDP as the primary indicator for national prosperity (Fioramonti *et al.*, 2019).

In his famous speech in March 1968 at the University of Kansas, Robert F. Kennedy declared that a country’s GDP measures “everything except that which makes life worthwhile” (JFKLibrary.org). The call for the end of the dominant use of GDP in assessing almost everything, including performance, well-being and quality of life, and the quest for measures that reflect the things citizens care about has been heard (Stiglitz *et al.*, 2009). After more than half a century, the vast movement intending to leave GDP behind (Costanza *et al.*, 2014) involves supranational organizations, governments and central banks, apart from scholars and philosophers.

Nonetheless, it is undeniable that national wealth and economic capacity are potential means to facilitate the fulfilment of human needs (Holden *et al.*, 2014). Recent research empirically demonstrates that in the European context, the different pace in the achievement of the SDGs is directly related to the level of their economic development (Cling *et al.*, 2020). Other research addresses the difference in opportunities to obtain better life conditions between developed and developing countries (Chung and Im, 2022). On a global level, the countries that are making the most progress in achieving SDGs are those with the greatest economic freedom (Reverte, 2022).

Scholars also argue that there is a nexus between democracy and economic growth, namely democracy increases economic growth as well as resource use (Olson, 1996). The Freedom House’s list of electoral democracies shows that the countries without electoral democracy are mostly low-income countries (Guzel *et al.*, 2021). In fact, Sugiawan *et al.* (2023) found a

strong correlation between wealth and the SDGs. Consequently, a country's wealth can be an additional factor to facilitate the achievement of SDGs.

Based on the above, we set the third hypothesis as follows:

H3. The country's wealth positively affects the achievement of SDGs.

Relating SDGs to well-being

Sustainable development requires the achievement of the whole suite of goals proposed by the UN (Cling and Delecourt, 2022; Cling *et al.*, 2020). In the same line of thinking, Lim *et al.* (2018) illustrate reciprocal connections between individual SDGs and claim for a greater integration among the goals to avoid achieving the goals in a fragmented way. This could jeopardize the very goal of sustainable development: "if integration across the SDGs is not addressed then the SDGs will fail to contribute to the sustainable development end goal" (Lim *et al.*, 2018, p. 1). Thus, scholars have emphasized the need to demonstrate the interrelationship between goals and targets, and responding to all goals as an integrated whole is considered a critical point for the successful achievement of sustainable development (Nilsson and Costanza, 2015). Moreover, studies analysing possible connections among SDGs and specific targets have been developed, touching upon specific areas, such as environment, health and quality of life (a review is proposed by Sousa *et al.*, 2021).

Nevertheless, the SDGs are not an end in themselves. They are conducive to well-being, as well-being falls within the core of the achievement of the sustainability targets embedded in the SDGs (De Neve and Sachs, 2020), or stated differently, SDGs are the means for achieving well-being (Fioramonti *et al.*, 2019). The achievement of a prosperous life of high quality that is equitably shared and sustainable lies at the very core of the goals (Kubiszewski *et al.*, 2022).

Nevertheless, well-being is a fuzzy concept, which can receive several definitions (Vigoda-Gadot and Levitats, 2024). Well-being is also subjective. It can be, however, agreed that well-being requires meeting various human needs, some of which are essential as well as the ability to pursue one's goals, to thrive and to feel satisfied with one's life (OECD, 2011). Well-being reflects a convergence of good physical and mental human health, equity, fairness, peaceful community and amicable relationships within a flourishing natural environment (Shrivastava and Zsolnai, 2022). SDGs are very much related to all these dimensions (De Neve and Sachs, 2020). Democratic states strive for the well-being of their citizens, which becomes an increasingly relevant "compass" for policymaking. As a result, a growing number of countries have started using well-being metrics to guide decision-making and inform budgetary processes (Llena-Nozal *et al.*, 2019). The Well-Being Budget in New Zealand, initiated in 2019, the Well-Being Budget in Australia, introduced in 2022 (Moll *et al.*, 2024), the Canadian Index of Well-Being, applied since 2011 and the sustainable development indicators in Scotland (Russell and Thomson, 2009) are examples of well-being considerations included in public finances. While not yet entirely prevalent, the focus on citizens' well-being has begun to emerge as a central aspect of developing new tools for public financial management (Moll *et al.*, 2024). The achievement of the SDGs should eventually be reflected in the well-being of citizens.

Based on the above we set the fourth hypothesis as follows:

H4. The level of SDGs achievement positively affects citizens' well-being.

Considering the aforementioned literature and the need to better understand the factors that can facilitate SDGs achievement as well as whether achieving the SDGs can help ensure citizens' well-being, we defined the model illustrated in Figure 1. The model includes partnership for a sustainable world (i.e. SDG17) (H1), democracy (H2) and a country's wealth (H3) as essential conditions for the achievement of the suite of the SDGs, which in turn has an impact on citizens' well-being (H4).

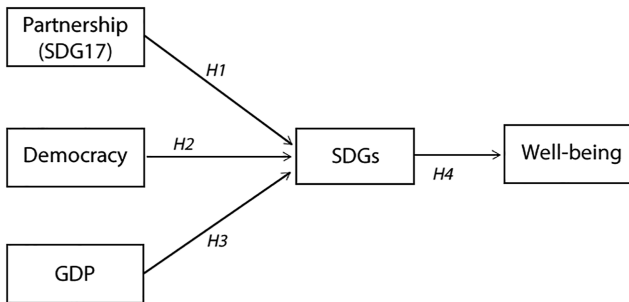


Figure 1. Conceptual model. Source: Authors' own work

Research methodology

This research aims to assess the influence of governance (H1), political (H2) and economic (H3) factors on the achievement of SDGs and unravel the empirical relationship between the achievement of the SDGs and the enhancement of citizens' well-being (H4).

It draws on data from the United Nations database (Database, 2022), which reports the scoring of each of the 17 SDGs through the colour-coded classification system established by Sachs *et al.* (2023). The coding uses four colours: the red colour (i.e. major challenges), orange colour (i.e. significant challenges), yellow colour (i.e. challenges remain) and green colour (i.e. goal achievement). We assigned the values of one (red), two (orange), three (yellow) and four (green) following the scoring methodology adopted by Bisogno *et al.* (2023). Based on the availability of complete data across all variables considered in the analysis, 96 countries were selected. To operationalize well-being, we used subjective well-being measured through the "life satisfaction metrics" included in the World Happiness Report (Helliwell *et al.*, 2023), with values ranging from 0 (worst possible life) to 10 (best possible life). Data about electoral democracy (Democracy), including the extent of comprehensive voting rights in free and fair elections and the assurance of freedoms of association and expression, was gathered from Our World in Data "Electoral democracy index, 2022" (V-Dem, 2023), ranging from 0 (least democratic) to 1 (most democratic). Information about the Gross Domestic Product (GDP), which corresponds to the financial backdrop against which these countries strive to meet their SDG targets, was retrieved from the World Bank, and it is measured in US dollars per capita in purchasing power parity (PPP) terms. All the data refer to the year 2022.

The research applies Partial Least Squares Structural Equation Modelling (PLS-SEM), an analytical technique that excels in exploring complex relationships between observed variables and latent constructs (Hair *et al.*, 2021). This method is particularly suitable for handling the SDGs' multifaceted nature and their impact on well-being, and it has been used in relevant studies (Vivona, 2024; Vandersmissen *et al.*, 2024). PLS-SEM's flexibility in model specification and its non-reliance on normal distribution assumptions make it a suitable choice for this study, which integrates diverse datasets spanning various dimensions of social, economic and governance indicators.

The decision to use PLS-SEM instead of covariance-based SEM (CB-SEM) was guided by a number of factors. First, the sample size ($N = 96$ countries) is relatively small for covariance-based SEM, which typically requires larger samples for model stability and convergence. Second, preliminary diagnostics indicated non-normality in several variables, making PLS-SEM more appropriate given its robustness to violations of multivariate normality. Third, our study is primarily an exploratory study, identifying key factors affecting SDG achievement and their relationship to well-being, rather than theory confirmation. According to Hair *et al.* (2021), these conditions justify the use of PLS-SEM, particularly in exploratory or prediction-

oriented research with complex models and a mix of metric types. We used SmartPLS 4.1.1.4 to perform the necessary analysis.

Analysis of results

Table 1 shows the descriptive statistics of the variables included in the analysis. The analysis shows that SDG1 – No Poverty and SDG13 – Climate Action show better scores of achievement, while SDG2 – No Hunger and SDG14 – Life Below Water show low levels of accomplishment. It is also noteworthy that none of the 96 countries analysed for 2022 had a score of four (green colour) on SDG17, which shows that partnership for the goals issues may not be advanced enough in the SDG arena in all countries analysed, and there is room for improvement.

The analysis carried out with PLS-SEM allows us to develop the SDG latent variable and to build the structural model defined in Figure 1. As already discussed, in our model, we intentionally exclude SDG17 from the latent SDG construct. While SDG1 to SDG16 are substantive development results, such as poverty reduction, education and clean energy, SDG17 focuses on the means of achieving those goals, focusing on partnerships, governance mechanisms and international cooperation. This distinction between means and ends is consistent with prior studies (Le Blanc, 2015; Florini and Pauli, 2018), which argue that SDG17 is not a direct goal but rather a facilitator. Thus, we model SDG17 as a distinct

Table 1. Descriptive statistics

Items	Meaning	Mean	Median	Min	Max	Std. Dev
SDG1	No Poverty	2.656	3.000	1.000	4.000	1.098
SDG2	Zero Hunger	1.302	1.000	1.000	3.000	0.481
SDG3	Good Health and Well-Being	1.750	1.000	1.000	4.000	0.878
SDG4	Quality Education	2.354	2.000	1.000	4.000	1.020
SDG5	Gender Equality	2.031	2.000	1.000	4.000	0.918
SDG6	Clean Water and Sanitation	1.771	2.000	1.000	3.000	0.743
SDG7	Affordable and Clean Energy	2.000	2.000	1.000	4.000	0.913
SDG8	Decent Work and Economic Growth	1.833	2.000	1.000	3.000	0.745
SDG9	Industry, Innovation and Infrastructure	1.885	2.000	1.000	4.000	0.789
SDG10	Reduced Inequalities	1.938	2.000	1.000	4.000	0.888
SDG11	Sustainable Cities and Communities	2.010	2.000	1.000	3.000	0.784
SDG12	Responsible Consumption and Production	2.385	2.000	1.000	4.000	1.185
SDG13	Climate Action	2.521	3.000	1.000	4.000	1.145
SDG14	Life Below Water	1.448	1.000	1.000	3.000	0.643
SDG15	Life on land	1.542	1.000	1.000	4.000	0.789
SDG16	Peace, Justice and Strong Institutions	1.552	1.000	1.000	4.000	0.776
SDG17	Partnerships for the goals	1.927	2.000	1.000	3.000	0.696
GDP	GDP per Capita PPP	27,558	18,075	251	126,905	25,765
WB	Well-Being	5.652	5.892	2.560	8.150	1.166
DEM	Democracy	0.564	0.620	0.075	0.916	0.251

Note(s): SDG1–SDG17: 1 = red (i.e. major challenges), 2 = orange (i.e. significant challenges), 3 = yellow (i.e. challenges remain) and 4 = green (i.e. goal achievement); WB: 0 (worst possible life) to 10 (best possible life) from “life satisfaction metrics” included in the World Happiness Report; DEM: 0 (least democratic) to 1 (most democratic), Our World in Data “Electoral democracy index, 2022”; GDP: GDP per Capita PPP in US dollars from the World Bank; All the data refers to the year 2022; N = 96 countries (9 countries from Eastern Europe and Central Asia, 11 countries from East and South Asia, 13 countries from Latin America and the Caribbean, 8 countries from the Middle East and North Africa, 31 OECD countries and 24 countries from Sub-Saharan Africa)

Source(s): Authors’ own work

construct that affects the achievement of the other 16 goals, consistent with its role as a cross-cutting enabler in the 2030 Agenda.

Measurement model evaluation

Table 2 contains the statistics of the SDG latent construct, which is modelled as reflective, consistent with the theoretical perspective that SDG achievements reflect an underlying dimension of national sustainable development progress. The value of Cronbach's alpha (CA = 0.768) and composite reliability (CR = 0.864) exceed the recommended threshold of 0.7 (Hair *et al.*, 2021) and thus affirm the constructs' internal reliability. Convergent validity is assessed through the calculation of factor loadings and the average variance extracted (AVE = 0.511). The results indicate robust evidence for convergent validity, as illustrated by factor loadings being statistically significant for all SDGs (from SDG1 to SDG16) at the 5% statistical significance level and the AVE value surpassing the 0.50 benchmark (Fornell and Larcker, 1981).

All 16 SDGs (i.e. all SDGs but SDG17) were used to set up the SDG latent variable, despite the presence of low factor loadings for specific goals. More specifically, our decision to retain all 16 SDGs within the model, even those with weaker statistical associations (factor loadings less than 0.50), such as SDG10, SDG14, SDG15 and SDG2, mirrors the United Nations' conceptualization of the SDGs as an interconnected set, wherein progress in one area is often contingent upon advancements in others (Niet *et al.*, 2021). Contrary to other studies (e.g. De Neve and Sachs, 2020), we built a composite SDG variable instead of using the readymade SDG Index. The fact that we exclude SDG17 from the suite of SDGs and deal with it separately is another reason not to use the SDG Index.

The observation that SDG12 – Responsible Consumption and Production and SDG13 – Climate Action exhibit negative factor loadings reveals a complex and inverse relationship with the broader SDG factor to which they are linked, underscoring the necessity for an in-depth analysis of the interconnections and possible compromises embedded within the sustainability framework. In fact, there is a negative correlation between SDG12 and SDG13 and the other SDGs, indicating the inverse relationship among these goals, while between them the correlation is positive.

These negative loadings imply that as the overall sustainability factor improves, the accomplishments or adherence to the goals of responsible consumption and production, alongside climate action, tend to diminish. Such an inverse relationship underscores the intricate balance required in the pursuit of a holistic sustainability agenda, suggesting that progress in the general sustainability metric may be achieved at the detriment to or in contradiction with, the sustainable goals highlighted by SDG12 and SDG13. In a similar vein, De Neve and Sachs (2020), based on 2019 data, have evidenced that SDG 12 and SDG 13 have strong negative correlations with self-reported measures of human well-being, which were valid for all the world's regions and Sugiawan *et al.* (2023) pointed out that fostering responsible consumption and production and climate actions can be detrimental to wealth. Our findings regarding SDG12 and SDG13 evidence the complex relationship between SDGs, with synergies and trade-offs between them, confirming previous literature about interlinkages between SDGs (Kuc-Czarnecka *et al.*, 2023; De Neve and Sachs, 2020). In particular, SDG12 and SDG13 merit further academic study. While SDG12 and SDG13 demonstrate negative factor loadings, their inclusion in the model is theoretically justified by previous studies (De Neve and Sachs, 2020; Sugiawan *et al.*, 2023). By keeping these items in the latent variable, we are in line with the holistic spirit of the 2030 Agenda, and instead of simplifying the narrative of sustainability, we capture potential trade-offs.

Table 3 contains the correlation between the independent variables used in the model, showing a positive and statistically significant relationship between democracy and economic wealth, which evidences that democracy and GDP go hand in hand, corroborating previous literature (Olson, 1996; Guzel *et al.*, 2021). Interestingly enough, the partnership for the goals

Table 2. Pearson correlations, reliability and validity of the model's latent variable

Construct	Item	Factor loading (p-values)	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	
SDGs (CA = 0.768, CR = 0.864 and AVE = 0.511)	SDG1	0.801 (0.000)	1																
	SDG2	0.238 (0.012)	0.315**	1															
	SDG3	0.853 (0.000)	0.635**	0.129	1														
	SDG4	0.692 (0.000)	0.574**	0.270**	0.471**	1													
	SDG5	0.630 (0.000)	0.393**	0.073	0.488**	0.422**	1												
	SDG6	0.744 (0.000)	0.581**	0.281**	0.551**	0.533**	0.454**	1											
	SDG7	0.698 (0.000)	0.551**	0.284**	0.559**	0.481**	0.485**	0.522**	1										
	SDG8	0.774 (0.000)	0.567**	0.227*	0.637**	0.584**	0.434**	0.533**	0.444**	1									
	SDG9	0.772 (0.000)	0.628**	0.311**	0.620**	0.607**	0.379**	0.613**	0.391**	0.605**	1								
	SDG10	0.502 (0.000)	0.555**	0.093	0.528**	0.220*	0.194	0.247*	0.270**	0.409**	0.391**	1							
	SDG11	0.799 (0.000)	0.634**	0.157	0.579**	0.581**	0.506**	0.577**	0.568**	0.573**	0.608**	0.211*	1						
	SDG12	-0.914 (0.000)	-0.699**	-0.113	-0.809**	-0.604**	-0.605**	-0.645**	-0.636**	-0.611**	-0.655**	-0.354**	-0.767**	1					
	SDG13	-0.861 (0.000)	-0.636**	-0.115	-0.761**	-0.505**	-0.491**	-0.607**	-0.508**	-0.582**	-0.637**	-0.347**	-0.691**	0.842**	1				
	SDG14	0.308 (0.004)	0.203*	-0.101	0.198	0.107	0.100	0.215*	0.177	0.199	0.224*	0.104	0.115	-0.226*	-0.331**	1			
	SDG15	0.332 (0.000)	0.227*	0.035	0.240*	0.163	0.178	0.247*	0.116	0.401**	0.083	0.197	0.159	-0.279**	-0.266**	0.302**	1		
	SDG16	0.808 (0.000)	0.566**	0.083	0.769**	0.398**	0.385**	0.491**	0.515**	0.664**	0.580**	0.550**	0.556**	-0.696**	-0.722**	0.381**	0.311**	1	

Note(s): ** Correlation is significant at the 0.01 level (2-tailed) and * Correlation is significant at the 0.05 level (2-tailed)

Source(s): Authors' own work

Table 3. Pearson correlations among the independent variables

	GDP	Democracy	Partnership (SDG17)
GDP	1		
Democracy	0.589**	1	
Partnership (SDG17)	0.017	0.064	1

Note(s): ** Correlation is significant at the 0.01 level (2-tailed)
Source(s): Authors' own work

(SDG17) does not seem to correlate either with the country's wealth or the level of democracy. This provides evidence that the way each country participates in and acts towards the governance for SDG achievement seems to be affected by national policies and priorities. This finding has important implications, as countries could invest more in governance without necessarily being more wealthy or democratic.

To assess potential multicollinearity between our constructs, we calculated variance inflation factors (VIFs) for all predictors. The VIF values remained below the commonly accepted threshold of 5 (maximum VIF = 1.7), indicating that multicollinearity is not a concern (Hair *et al.*, 2021). Also, we used VIFs to test for the risk of common-method variance (CMV). Even though our variables are drawn from independent secondary sources and the risk of CMV, which is typical of single-survey studies, is inherently limited, we compared the VIFs of all constructs against the recommended threshold of 3.3 (Kock, 2015). The VIF values (maximum VIF = 1.7) suggest that CMV is unlikely to bias our results. Additionally, the correlation between GDP and democracy ($r = 0.589$) suggests a moderate relationship that does not compromise the interpretability of path coefficients (Cohen, 2013).

Structural model analysis

Our structural model was evaluated using PLS-SEM and the bootstrapping method, which involved 5,000 iterations of resampling and 95% bias-corrected confidence intervals, following the recommendations of Hair *et al.* (2021). The outcomes of this analysis are displayed in Table 4 and Figure 2. The structural model's path coefficients were analysed to assess the hypothesized relationships between constructs. The path from national wealth (GDP per capita) to SDG achievement exhibits a significant positive coefficient ($\beta = 0.718$, $p < 0.001$), showing that wealthier countries tend to achieve higher SDG scores. Similarly, the path from democratic governance to SDG achievement was positive and statistically significant ($\beta = 0.242$, $p < 0.001$), supporting the notion that more democratic countries exhibit higher SDG values. The multilevel partnership for the SDGs (SDG17) is also positively related to the achievement of the SDGs ($\beta = 0.137$, $p < 0.01$), which reinforces the

Table 4. Hypothesis testing results

	Path coefficient	S.E.	t-value	Decision
H1. Partnership (SDG17) → SDGs	0.137	0.048	2.839**	Supported
H2. Democracy → SDGs	0.242	0.069	3.516***	Supported
H3. GDP → SDGs	0.718	0.061	11.686***	Supported
H4. SDGs → Well-being	0.756	0.056	13.580***	Supported

Note(s): *** $p < 0.001$ and ** $p < 0.01$
Source(s): Authors' own work

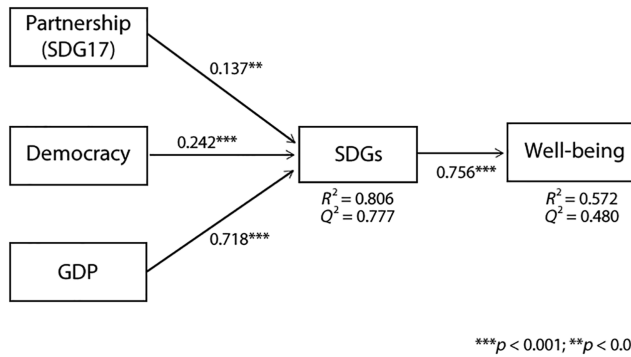


Figure 2. Conceptual model's empirical results. Source: Authors' own work

argument that better coordination among global partners significantly contributes to achieving the ambitious targets set for a sustainable future. Finally, the relationship between SDG achievement and subjective well-being also proved positive and statistically significant ($\beta = 0.756$, $p < 0.001$), indicating that progress towards meeting the SDGs is strongly associated with improvements in people's overall satisfaction with life.

The model's goodness of fit was evaluated using the Standardized Root Mean Square Residual (SRMR), with a value of 0.077, indicating a good fit between the model and the observed data (Hair *et al.*, 2021).

An R^2 value of 80.6% for the SDGs variable suggests that the predictors included in the model (i.e. democracy, GDP per capita and SDG17) successfully account for most of the variation in SDG achievements. This high R^2 value for the SDGs emphasizes the strong influence of these factors on sustainable development outcomes.

Similarly, the R^2 value of 57.2% for well-being, while lower, still signifies that the model can explain more than half of the variance of the well-being variable through the SDGs latent variable. This indicates sustainable development exerts a substantial impact on the improvement of individuals' subjective sense of well-being, further emphasizing the interconnectedness of environmental, economic and social factors in fostering overall life satisfaction.

We also calculated Q^2 values to examine the model's predictive accuracy as, according to Hair *et al.* (2019), only relying on R^2 values may not be enough. The results give Q^2 values ranging from 0.480 to 0.777, indicating a medium to high predictive relevance of the model's constructs.

Sensitivity analysis

To test the robustness of our results, we ran a sensitivity test and found that excluding SDGs with low factor loadings as well as SDG 12 and SDG 13 (that had negative factor loadings) resulted in minimal changes in the model fit in terms of the Standardized Root Mean Square Residual (Δ SRMR < 0.01). This result supports our decision to include all SDGs in the formation of the latent variable.

To address potential unobserved heterogeneity related to broad geography, we augmented the structural model with geographic-region controls. Specifically, we included a full set of region dummy variables based on the codification of the SDG database (Eastern Europe and Central Asia, East and South Asia, Latin America and the Caribbean, Middle East and North Africa, OECD, Sub-Saharan Africa and one omitted as the reference group) as exogenous predictors of the SDGs latent variable. The signs and statistical significance of all focal paths remained unchanged relative to the baseline specification. Effect magnitudes were very

similar, and the substantive conclusions are identical. This suggests the results are not driven by between-region composition differences.

Finally, as another robustness check, we estimated an extended model that contained direct paths from GDP and democracy to well-being. The results indicated that neither of these direct paths was statistically significant (GDP > Well-being: $\beta = 0.123$, $p = 0.226$; Democracy > Well-being: $\beta = 0.050$, $p = 0.573$). This suggests that, within our model, the relationships between the national wealth and the level of democracy and well-being are not direct but instead operate through their relationship with the achievement of the SDGs.

Discussion

In this study, we developed a model to explore governance, democracy and economic factors influencing the achievement of SDGs at the national level and their connection to citizens' well-being. By synthesizing existing research and leveraging a robust analytical framework, we identified key drivers such as governance (SDG17), democracy and national economic capacity as significant contributors to the achievement of SDGs.

The findings of the empirical analysis show that multilevel partnerships, as measured by SDG17, play a significant role in influencing the overall success of SDG implementation. Our findings are in line with those reported by [Bisogno et al. \(2025\)](#) in the European context and by [Adebayo et al. \(2025\)](#) in the African context, both investigating the effects of governance quality on the achievement of the SDGs. In addition, our findings provide corroborative evidence on the theoretical reflections presented by [Sondermann and Ulbert \(2021\)](#) on the pivotal role that enhanced global partnerships, multi-stakeholder partnerships and multidimensional capacity building can play in sustainable development. Partnerships can be advanced with the combination of different styles of governance adequately adapted to different situations for SDG achievement ([Meuleman, 2018](#)). At the same time, our findings evidence the relevance of SDG17 to achieve the set of SDGs, which makes it necessary for the policymakers to focus on enacting conditions for the accomplishment of global and multistakeholder partnerships and suitable governance structures. Furthermore, the scoring on SDG17 in our sample countries for 2022 shows that there is considerable room for improvement on the SDG governance front, and this can be achieved independently of the democracy level and the national economic capacity level, as there is no strong correlation between SDG17 and these variables. Governance for SDGs (i.e. SDG17), contrary to democracy and a country's financial wealth, is a dimension that can be more easily managed in the short term with positive effects on SDG achievement.

The second hypothesis of the research, which is also supported by the data, evidences that democracy influence SDGs achievement. Our findings evidence that democracy drives progress towards SDGs, which confirms that democracy provides the best platform to support negotiations and deliberations necessary to achieve sustainable development ([Banik, 2022](#)). This might be closely related to accountability and transparency-values that characterise democratic institutions. In democratic societies, citizens can participate in the political agenda by setting and prioritizing policies that could favour SDGs and sustainable development. A similar point was supported by [Glass and Newig \(2019\)](#) after the examination of the situation in 41 countries in 2015. They found a positive relationship between democratic institutions and SDG 4 – Quality Education, SDG5 – Gender Equality and SDG7 – Affordable and Clean Energy. In the same vein, [Ríos et al. \(2024\)](#) provided evidence that transparency is related to the achievement of the SDGs in Spanish local governments. Our findings confirm and expand these results as we test the role of democracy on the achievement of the whole suite of SDGs, instead of specific SDGs, and our analysis covers a broader sample of countries.

In accordance with our third hypothesis, countries with higher GDP and, therefore, economic wealth and capacity, are in a better condition to achieve SDGs. Economic wealth can favour universal health coverage, access to food and provision of the necessary infrastructures for sustainable development. This means that in spite of the criticism of the use of economic

wealth to measure the development of countries (Fioramonti *et al.*, 2019), economic performance is relevant to sustainable development achievement and there is a high correlation between wealth and SDGs' progress (Sugiawan *et al.*, 2023). Even though GDP cannot be considered a proxy of well-being, as it is just focused on the economic perspective, it is nevertheless related to resource availability for SDGs' achievement. Previous studies confirm that both at the national (Bisogno *et al.*, 2025) and at the local level (Bisogno *et al.*, 2023), better financial conditions favour the achievement of SDGs. Thus, our study extends previous results showing that in a set of 96 countries economic wealth can contribute to sustainable development and, through SDGs, to a more integrated view of social, economic and environmental well-being.

The statistical analysis also supported our fourth hypothesis, evidencing that SDGs have a positive impact on well-being. This finding provides strong evidence that the achievement of SDGs is not an end in itself, but it is highly related to citizens' well-being, which is an integral part of public policies' pursuit. Public management that creates value through SDGs can contribute to citizens' happiness (Meynhardt *et al.*, 2024), as the adoption of sustainability policies has an impact on both the contemporary and the future well-being of the citizens (Qasim and Grimes, 2022). The relation between SDG achievement and well-being provides evidence that sustainability has tangible effects on the everyday lives of people. Meeting the SDG targets is, therefore, consistent with the notion that the SDGs are managerial representations of deeper socioeconomic dynamics that are actual drivers of well-being. This also provides support to the idea that well-being can be considered as the main output of SDGs achievement, and then progress in sustainable development should also be measured through well-being and life satisfaction progress (Kubiszewski *et al.*, 2022).

Moreover, our robustness analysis confirmed that GDP and democracy do not have a direct relationship with self-reported life satisfaction when SDG achievement is included in the model. This finding strengthens the role of sustainable development as a key factor in line with subjective well-being, while also suggesting that democracy and economic wealth alone, without coexisting within a sustainability-oriented context, do not have a statistically significant direct relationship with well-being.

Conclusion

This study synthesises recent literature discussing sustainable development to structure a model that defines the factors affecting the achievement of the SDGs and the implications that this has on citizens' well-being.

This study not only reaffirms the instrumental role of achieving SDGs in enhancing subjective well-being but also provides a novel view on the complex interplay between economic, political and governance factors in this process. The empirical findings, resulting from an analysis of 96 countries, advocate that sustainable development is facilitated by multilevel partnership and coordination for the achievement of the goals, democratic governance and economic capacity and that sustainability directly affects well-being. This research enriches the sustainable development discourse by demonstrating the interconnectedness of SDG achievements with the broader societal well-being, thereby advocating for a holistic view of sustainability efforts which also have important implications for accountability and public financial management systems.

Establishing the relation between SDGs and well-being poses new challenges in public financial management. While recent literature discusses cases where well-being considerations are included in public finances (Kaur *et al.*, 2025; Moll *et al.*, 2024; Llana-Nozal *et al.*, 2019; Russell and Thomson, 2009), the interaction between accounting and SDGs and well-being measurements could become closer. Accounting can be used to establish new SDG measurement ratios (Argento *et al.*, 2025), making the follow-up of SDG accomplishment comparable among jurisdictions, more easily retrievable, more transparent and auditable. Nonetheless, innovations in public financial management could also flow into

the development of more accounting-based well-being indicators. Such indicators, apart from being used to analyse the relation between sustainability and well-being, could provide insightful input into sociopolitical and environmental-related disputes. Another implication of the findings for policymakers is the need for public financial management to support the strengthening of SDG17 achievement by improving accountability, transparency and efficient resource allocation, which are essential for fostering international and multilevel partnerships.

In addition to the public financial management implications, our study also highlights some policymaking issues. Policymaking in democratic environments is expected to prioritize actions that are consistent with SDGs. Thus, the drive to achieve sustainable development that is part of the core values of democracy flows towards SDGs attainment and, in turn, towards citizens' well-being. As a result, SDGs work as a translator of democracy into sustainable policymaking.

The paper also contributes to the debate using GDP as an indicator of social progress (Fioramonti *et al.*, 2019). The paper provides evidence that the achievement of SDGs and the overall goal of sustainable development are influenced by the national economic performance, which can be assessed through GDP. Thus, our study provides evidence that economic wealth is a significant factor for SDG performance. Financial resources and infrastructures are enabling factors for SDG achievement, which in turn affect citizens' well-being. Our study provides evidence that GDP is a factor that can positively affect well-being when financial resources are mobilized to finance and promote policies that are consistent with SDG goals. Therefore, SDGs can operate as an assessment filter of the resources devoted to policymaking, which can result in the well-being of citizens. This highlights the importance of developing appropriate systems for reporting on resources devoted to SDGs by governments and urges standard boards and regulators to include this prospect in their agendas. While EU countries report on their expenditures on a COFOG (Classification of Functions of Government) basis, they do not report on the resources devoted to the achievement of the separate SDGs. Reporting on the financial resources devoted to the achievement of SDGs could provide useful accompanying information to the achievement of SDG targets. Countries could disclose the financial resources they had devoted to promoting SDG-related policies and supplement SDG goals with monetary information related to the pursuit of the SDGs (Cohen *et al.*, 2023) either in absolute terms or in relative terms (e.g. as a percentage of the GDP or the annual budget). Such information could also be used for benchmarking purposes.

Still, our analysis comes up with some counterintuitive evidence about the complex relationships among SDGs. SDG12 – Responsible Consumption and Production and SDG13 – Climate Action exhibit negative relationships with the holistic SDG construct (i.e. the latent variable in our model), underscoring the necessity for an in-depth analysis of the interconnections and possible compromises embedded within the sustainability framework. These findings may also have implications for policymaking, showing that within the SDG suite, promoting some aspects of sustainability may have counter effects on others and that in the short run, there may be certain trade-offs to sustainable development (De Neve and Sachs, 2020). Such an analysis should take into account both conceptual issues as well as technical ones. Based on the analysis of OurWordofData.org (Our World in Data team, 2023), the data availability to measure and keep track of SDG12 – Responsible Consumption and Production is limited, and it may affect the relations revealed. Our suggestion of more accounting-based SDG ratios might also provide assistance in this direction.

Our study provides evidence that working towards SDG achievement is not an end in itself. The strong positive relationship between SDGs and well-being makes it possible to suggest the use of an SDG index as a proxy for measuring citizens' well-being. However, it needs to be clarified that SDGs themselves do not create well-being. SDGs are indicators that represent interventions and conditions that, when achieved, are expected to create a context within which the well-being of people can flourish. For example, achieving high scores in SDG 3 – Good Health and Well-Being does not directly improve health-related outcomes; it is rather an indication of efforts in healthcare access, disease prevention and healthy living conditions that

eventually contribute to well-being. Similarly, doing good in SDG 4 – Quality Education does not directly produce better educational outcomes but reflects that the educational policies, infrastructures and societal emphasis on learning collectively improve knowledge, skills and future opportunities for individuals, thus they improve well-being. Policymakers should therefore tie public policies to SDG targets and set a timeline and specific goals for their achievement, while closely monitoring the outcomes of their actions. SDG budgeting is already implemented in some countries (Manes-Rossi, 2024). In this sense, SDGs can be transformed into an integral part of public policy deployment aiming at higher levels of citizens' well-being. The relationship between SDG and well-being makes sustainability-related public financial management more relevant and opens up new challenges for public sector SDG reporting and sustainability reporting in general.

As in any study, this one is not limitations-free. Other variables may well affect the achievement of SDGs and the perceived well-being, including sociopolitical and psychological factors. Also, although our model assumes directional paths from democracy, GDP and SDG17 to SDG achievement and from SDG achievement to well-being, we recognize that these relationships should be viewed as theoretical associations and not as established causal relationships. Our study is cross-sectional, and thus we cannot draw causality. Although our hypotheses are grounded in previous literature and supported by strong statistical associations, reverse causality or bidirectional influences cannot be ruled out. Future longitudinal or experimental studies could help to more robustly test causal pathways.

Future research can incorporate additional variables addressing specific research questions to further enhance the understanding of the relations among these fundamental constructs. The study could also be replicated by using subnational data and analysing these relations at the regional level. Using longitudinal data to test the model relationships would be another possible venue of research, which, however, would ask for a different methodological execution, as PLS-SEM is only suitable for cross-sectional data. Moreover, while this study does not directly address how governance for the goals is practiced, it paves the way for future studies investigating how intergovernmental cooperation at the international level and meta-governance around the whole suite of SDGs can enhance sustainable development. Finally, a pilot well-being accounting framework – possibly in more sensitive areas such as education, health or climate change – could also be investigated to support public financial managers in planning, acting and monitoring SDG achievements.

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