

ISSUE NO. 432 JANUARY 2021





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The Role of SDGs in Post-Pandemic Economic Recovery

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Abstract

The COVID-19 pandemic has had widespread global economic impacts, and countries are gearing up for recovery. The UN Sustainable Development Goals (SDGs) will be crucial. Given that the SDGs incorporate the four pillars of capital—human, social, natural and physical—these targets will be useful in the post-pandemic economic recovery process. This brief utilises econometric analysis to illustrate how the implementation of the SDGs is a statistically significant variable in a country's improved performance in the Ease of Doing Business Index which, in turn, can aid in building back better as the world enters the second year of the pandemic.



he Sustainable Development Goals (SDGs) were adopted by the UN General Assembly in 2015, through a resolution known as the 2030 Agenda. The 17 SDGs and their 169 defined targets address various issues, including poverty and hunger, sanitation and clean water, energy, employment and economic growth, innovation and infrastructure, inequalities, climate change, terrestrial and aquatic life, the role of governments, and cooperation between institutions. By encompassing a wide array of indicators, the SDGs seek to ensure that development is measured in an inclusive manner that captures the aspects of space (equity) and time (sustainability). Indeed, the SDGs are multifaceted and a marked improvement over other measures of development, including the Human Development Index, the Gender Inequality Index, the Liveability Index, the Governance Index, and the Index of Sustainable Economic Welfare.¹

The SDGs are drivers of innovation their multi-governmental and approach, coupled with publicprivate partnerships, create scope for impact at the micro and macro levels. As governments reel under pandemic-induced economic stress, SDGs can provide the platform for global and local innovations across various scales of operation. In Bangladesh, for instance, the Women's Strengthening Ability for Productive New Opportunities (SWAPNO) project helped create local employment opportunities for vulnerable women.2 Meanwhile, in Bolivia, an SDG Fund programme was initiated in four municipalities

The SDGs seek to ensure that development is measured in an inclusive manner that captures the aspects of space (equity) and time (sustainability).

to improve child nutrition by introducing a comprehensive and multisectoral approach to food security.³ Although these programmes began some years before the pandemic, they are illustrative of the impact of SDG implementation on challenges at the grassroots level.

Globally, the United Nations Development Programme's SDG Impact initiative⁴ and Financial Sector Hub⁵ have helped create knowledge-sharing platforms for businesses to align their goals to the SDGs. The Global Partnership for Sustainable Development Data,⁶ for its part, aims to usher a "data revolution" by engaging governments, citizens, civil society groups and businesses.

The private sector has also begun to integrate with the SDG framework, making shifts towards sustainability.⁷ The technology revolution has forced many companies to be more transparent and accountable to their stakeholders, moving sustainability to the mainstream of corporate culture. Firms are increasingly being made accountable on whether or not they abide by their

social responsibility—for instance, how they source their materials, their quality, and how they treat their employees. This gives companies that align with the SDGs a competitive advantage.⁸

Given that the SDGs include elements of physical, social, natural and human capital, which are essential for creating a friendly business environment, focusing on achieving the goals can help improve the input and product market conditions^a and promote business competitiveness in the post-pandemic economies.⁹ SDGs 1-5 (no poverty, zero hunger, good health and well-being, quality education, and gender equality) are concerned with demographic parameters that improve labour market conditions, while SDG 8 (decent work and economic growth) and SDG 9 (industry and innovation) focus on output markets and innovation. SDG 14 (life below water) and SDG 15 (life on land) pertain to natural capital, and SDG 10 (reducing inequality) and SDG 16 (peace, justice and strong institutions) focus on minimising social conflicts.

The global financial system's architecture tends to aggravate existing wealth inequalities,¹⁰ reflecting in the progress that countries make on the SDGs. Nevertheless, the UN SDG framework is based on the premise that there are many forward and backward linkages within the goals' structure. The worsening of poverty and inequalities (deviations from SDG 1 and SDG 10, respectively) in a particular country affects local market demand even if there is economic growth since consumption patterns differ between the rich and the poor.¹¹ Progress in industry, innovation and infrastructure (SDG 9) also influences profitability;¹² setbacks can negatively affect the flow of private investments (domestic and foreign) in specific regions and hinder economic growth. Similarly, the heightening of gender inequalities also has severe economic impacts. Crises like the COVID-19 pandemic often result in mass unemployment with a gendered asymmetric effect on the labour market-a larger number of women workers become jobless than men.¹³ At the same time, despite the prevalent gender wage gaps, women migrant workers remit a larger portion of their income to the home country on a more regular basis.¹⁴ Delays in achieving gender equality (SDG 5) are harmful to the economy, especially in developing countries; the increased participation of women in the workforce can improve productivity and economic growth, making the country favourable for businesses.^{15,16}

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a Input market/factor market is a market in which businesses buy the resources or factors of production required to produce the good and services (products), which are then traded in the output/product market.



This brief establishes the link between the SDGs and the World Bank's Ease of Doing Business (EDB) scores by demonstrating through econometric techniques^b that an improvement in SDG indicators will have spillover effects on a country's EDB ranking (see Appendix 1 for the global region-wise SDG scores and Appendix 2 for the EDB Index's global region-wise scores). EDB captures the relative ease with which countries can attract foreign investment and businesses. Such attractiveness to business, in turn, is crucial for the post-pandemic economic recovery of developing countries. Research has shown that focusing on SDGs improves the ease of doing business in Indian states.¹⁷

b Using the UN Sustainable Development Solutions Network Index and the Ease of Doing Business Index.



and Businesses

he SDGs are a much broader concept than the EDB, and improving SDG indicators will positively impact the business environment. This is primarily because SDG 8 (decent work and economic growth), SDG 9 (industry, innovation and infrastructure) and SDG 16 (peace, justice and strong institutions) directly capture most elements in the EDB exercise.^c The 14 other SDGs have a direct bearing on improving market conditions by capturing the essence of various forms of capitals (human, social, natural and physical).

Various SDGs are directly linked to the different stages in the product value chain (see Table 1). The shared elements between the SDG framework and businesses facilitate positive effects and minimise negative impact in the value chains, encouraging a congenial business climate for future investment.

The Sustainable Development Report 2020 has shown that Countries that perform well on the SDGs have responded more effectively to the pandemic.

countries that perform well on the SDGs have responded more effectively to the pandemic.¹⁸ Although SDGs improve input and output market conditions, this can only happen in the long run. In the short run, legal and regulatory reforms, incentives and promotions, and better infrastructure facilities are needed to attract investment and improve EDB scores. However, achieving certain SDGs enhances living conditions and brings demand stability in the economy through sustainable development, reflected through better labour market conditions, reduced poverty, and improved health and education.

c The World Bank's EDB covers 12 areas of business regulation—starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, regulation on employing workers and contracting with the government. The last two parameters are not included in the EDB scores.

Table 1: Mapping SDGs against Product Value Chains

Value Chain (in order of input to output)	SDG Linkages (to enable positive impact)	SDG Linkages (to minimise negative impact)				
Raw materials						
Suppliers		SDG 6: Clean water and sanitation				
Inbound Logistics		SDG 11: Sustainable cities and communities				
Company operations	SDG 8: Decent work and economic growth					
Distribution		SDG 11: Sustainable cities and communities				
Product use	SDG 13: Climate action					
Product end life		SDG 12: Responsible consumption and production				

Source: SDG Compass, developed by GRI, UN Global Compact and WBCSD¹⁹

At the same time, despite its holistic nature, the SDG framework presents many challenges to operationalising directed policy action and the comprehensiveness of outcomes. The framework, a normative one-size-fits-all approach, also has compatibility issues between different targets and their monitoring and quantification.²⁰ The targets are the same for all countries, irrespective of their level of development.

Additionally, countries must contend with tradeoffs when working towards these goals.²¹ For example, it is difficult for poorer countries to achieve industrialisation (SDG 8) and simultaneously make progress on providing clean water and sanitation (SDG 6), make cities and communities sustainable (SDG 11), and combat climate change (SDG 13). Studies have shown that as CO₂ emissions increase, a country's economic and social indicators (such as child mortality and education) worsen.²² Such tradeoffs mainly arise due to financing constraints—a glaring issue in the developing world. Without adequate support from developed countries (through aid) and greater participation from the private sector, financing sustainable plans is non-viable.

Despite these issues, the SDG framework is the ideal blueprint to enhance global solidarity between governments, businesses, multilateral organisations and civil society to boost post-pandemic economic recovery.²³

The SDGs aim to make the world more economically prosperous, inclusive and sustainable, and socially fair and environmentally secure.²⁴ While their success hinges on each country's efforts and intergovernmental cooperation, the SDGs can help drive investment and are a boon for businesses.²⁵ The COVID-19 pandemic has caused economies to become increasingly insulated after borders were closed and trade disrupted.²⁶ It has also exposed the poor state of health infrastructure, social security and disaster preparedness in many countries. A focus on responsible consumption and production (SDG 12), climate action (SDG13), life below water (SDG14), and life on land (SDG 15) can play a crucial role in the post-pandemic recovery process and to protect from future shocks.²⁷

Post-pandemic policy planning must move beyond the physical and human forms of capital to include natural and social capital.²⁸ For instance, economic modelling must depict realistic limits to the degree to which human capital can be substituted for natural capital and account for ecosystem services' critical role

The SDGs are normative and the same for all countries, irrespective of their level of development.



and marketed natural resources.²⁹ It is important to endogenise the different types of capital in economic models, and systematically induce sustainability in economic planning.

Economic development, environmental protection and social development are intricately linked and interdependent, not mutually exclusive.³⁰ Social, ecological and economic considerations should be included while formulating policy actions so that current development does not come at the cost of future generations. The four forms of capital share varying levels of interdependencies; for instance, economic growth affects wealth inequality, which adds pressures on the environment.³¹

The SDGs promote a systemic design for governments and private partnerships to have a more holistic and interconnected response to the pandemic and beyond.³² The SDGs encompass the primary forms of capital key to a country's long term economic health—human capital (through the SDGs on education, health, hunger, poverty, gender and sanitation); social capital (through the SDGs on equality, international cooperation, sustainable cities, peace and justice); natural capital (through the SDGs on biodiversity, climate and responsible consumption and production); and physical capital (through the SDGs that deal with economic growth, clean energy, industry and infrastructure).³³

Businesses can also benefit from the SDGs in the following ways:³⁵

- **Decreasing long-term risks:** Addressing SDGs helps tackle long-term risks from environmental, political and social factors while protecting market competitiveness ahead of any policy implementation. This reduces the long-term 'transaction costs' for businesses.
- **Governance:** Transparency in sustainability risks and impacts, as a positive externality of achieving SDGs, leads to a decrease in information asymmetry, thereby creating better governance processes.

Social, ecological and economic considerations should be part of policymaking so that current development does not come at the cost of future generations.

Table 2: SDGs and Capitals

Sustainable Development Goals	Economic Linkages			
1 POVERTY 1 POVERTY 1 POVERTY 1 POVERTY 2 ZERO XINGER 3 GOOD HEALTH AND WELL BEING 	To improve the conditions of the labour market, quality of life: <i>Human Capital</i>			
7 AFFORDABLE AND CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY CLEAMENERRY	Focus on markets, growth and innovation: <i>Physical Capital</i>			
12 RESPONSIBLE CONSIGNATION AND PRODUCTION	Protection, conservation and optimal use of environmental resources: <i>Natural Capital</i>			
10 REDUCED NEQUALTIES 11 SUSTIANABLE CITIES AND COMMUNITIES 16 PEACE_JUSTICE INSTITUTIONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUTONS INSTITUT	Fair, equitable and strong societies: <i>Social Capital</i>			

Source: Author's own, images from United Nations Website³⁴



- **Competitiveness:** Deepening partnerships for SDGs and integrating them in national and corporate budgets can increase business competitiveness, market resilience and company goodwill.
- **New business opportunities:** Business solutions aligned with the SDGs can expand to new markets, maximise revenue and create jobs through partnerships at various levels.

Although India has shown considerable improvements in its EDB scores in recent years (see Figure 1), it lacks the stable business environment needed to attract large-scale investments. However, if the risks are mitigated and bankable projects are available, the private sector will be willing to invest. In sectors with a funding crunch, such as infrastructure, climate change solutions and agriculture, the government can catalyse large-scale projects with multiple investors through the blended financing model.³⁶

India has shown improvements in its EDB scores in recent years.

Figure 1: India's SDG and EDB Index Scores (out of 100)



Source: Author's own, data from World Bank³⁷ and UN Sustainable Development Solution Network³⁸

his author conducted an econometric exercise on the available data for 163 countries to investigate whether or not there was a causal relationship between achieving SDGs and a country's business environment. The exercise tested if the SDG Index,³⁹ which measures SDG implementation, positively contributes to (is a statistically significant variable) EDB scores,⁴⁰ which depicts the regulatory business environment in different economies. The exercise is represented by the following log-log regression equation (1):

$$\ln EDB_i = \alpha + \beta \cdot \ln SDG_{i+} \phi_i \dots \dots (1)$$

Where,

- ln EDB_j is the natural logarithm of the 2020 EDB score of the jth country dependent variable
- In SDG_j is the natural logarithm of the 2020 SDG score of the jth country independent variable
- *α* and *θ* are the parameters, with regression estimate of the slope coefficient is given by *θ*
- $\boldsymbol{\varphi}_{i}$ is a random disturbance term

Of primary interest is the slope coefficient θ —if it turns out to be positive and statistically significant at the chosen level of significance (1 percent), it can be inferred that the SDGs promote enabling business conditions. The Kolmogorov-Smirnov normality test⁴¹ is conducted for the dependent variable (ln EDB) in the regression equation (1); it satisfies the necessary normality conditions. The p-value (0.273) for the test statistic (1.000) is higher than 0.05, and hence, the null hypothesis that the distribution is normally distributed cannot be rejected. The regression (see Appendix 3) given in (1) was run, and the summarised estimates are given in equation (2) as follows:

$$\ln EDB_{j} = -\underbrace{0.730}_{(0.029)} + \underbrace{1.161.\ln SDG_{j}}_{(0.000)}$$

$$n = 163; R^{2} = 0.572; adjR^{2} = 0.569;$$

$$\Pr ob > F = 0.000$$

.....(2)



It is observed that the 2020 SDG scores positively contribute to the 2020 EDB grades, as highlighted by the positive sign of the slope coefficient (1.161). At the same time, the slope coefficient is statistically significant at 1 percent level. Its robustness is reflected by the R^2 (0.572) and the adjusted R^2 (0.569) values. This further strengthens the hypothesis that a larger policy focus on sustainability parameters will create a conducive business environment.

A further hypothesis that was tested is whether the improvement (or deterioration) in the sustainability parameters causes (is a statistically significant variable in positively explaining) an advancement (or decrease) in a country's EDB score. Another econometric exercise was conducted on 135 nations for which data was available for 2017 and 2020. Since 2017, the EDB report has made some methodological improvements and expanded certain indicators;⁴² to maintain statistical parity, the differences in the EDB scores between 2020 and 2017 were considered and regressed upon the corresponding SDG score differences between these two years. This exercise is represented by the following linear regression equation (3):

$$\Delta EDB_k = \delta + \gamma . \Delta SDG_k + \lambda_k(3)$$

Where,

- ΔEDB_i is the change in the EDB score (between 2017 and 2020) of the ith country dependent variable
- Δ SDG_i is the change in the SDG score (between 2017 and 2020) of the ith country independent variable
- δ and γ are the parameters, with regression estimate of the slope coefficient is given by γ
- λ_k is a random disturbance term
- k = [1, 135]

Here, the statistical significance of the slope coefficient γ is of interest—if it turns out to be positive and statistically significant at the chosen level of significance (1 percent), it can be inferred that the changes in sustainability conditions induce a change in the business environment. The Kolmogorov-Smirnov normality test is conducted for the dependent variable (Δ EDB) in the regression equation (3); it satisfies the necessary normality conditions. The p-value (0.598) for the test statistic (0.770) is higher than 0.05, and hence, the null hypothesis that the distribution is normally distributed cannot be rejected. The regression (see Appendix 4) given in (3) was run, and the summarised estimates are given in equation (4) as follows:

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V. Scores

 $\Delta EDB_{j} = \underbrace{1.037}_{(0.000)} + \underbrace{0.391}_{(0.000)} \Delta SDG_{j}$ $n = 135; R^{2} = 0.249; adjR^{2} = 0.243;$ $\Pr ob > F = 0.000$(4)

It is observed that change in the SDG Index positively contributes to change in the EDB scores, as highlighted by the positive sign of the slope coefficient (0.391). At the same time, the slope coefficient is statistically significant at 1 percent level. Even though the R² (0.249) and the adjusted R² (0.243) values are not extremely high, the results indicate that achieving SDGs positively activate changes in EDB ranks.



he Sustainable Development Agenda is pivotal to the postpandemic economic recovery process—and in the overall objective of creating a fair, equitable and sustainable world. This brief underlines two contentions: First, the SDGs contain various forms of capital—human, physical, natural and social—that are beneficial for governments and businesses, and a renewed policy focus on the goals will boost the post-pandemic global economy. Second, statistical evidence confirms a strong causal relationship between SDGs and the local business environment, and the SDGs will have long-term positive implications in the post-pandemic global economic scenario. It is crucial, however, that these results are treated as *indicative* and not more, given limitations in data availability.^d

Nevertheless, the analysis indicates directions and provides the basis for an objective instrument of decision-making by attempting to reconcile the trinity of equity, efficiency and sustainability. This is perhaps the most significant policy challenge in the developing world.⁴³

The exercise to establish the SDG index's strong positive causality on the EDB scores has two significant policy implications. First, it will help arrive at a more holistic policymaking approach than the growth-focused ones, especially in developing countries like India. South Asian policymaking's growth-fetishism has been associated with immense negative social and environmental externalities that often extract long-term costs and have been a key impediment to comprehensive growth and development aspirations.⁴⁴ The establishment of SDG causality on the business climate attempts to correct that by accommodating various capitals and preparing the economies measured to absorb or adapt to possible shocks, including those evolving from the COVID-19 pandemic.

Second, given the SDG framework's potential to enable a congenial business climate, this brief infers that a country's development policy should not be divorced from its investment and business promotion strategy. This exercise presents a business case for SDGs globally, which is missing from current policy thinking.

Policymakers must not lose sight of the challenges in implementing the SDGs, which predate the current crisis. The SDGs should not be seen as a measure of development alone, but also an important instrument to reflect the business environment. Crucial challenges to the 2030 Agenda include a rough start to the 'decade of action' (which could further delay the 2030 deadline that global institutions sought to meet), scepticism coupled with the difficulty in achieving goals, and a widening resource gap. Governments and other international players must come together with renewed political will and engagement. @RF

Conclusion

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d Since its inception in 2003, the EDB Index has drawn criticism for failing to capture a holistic picture of a country's business environment (for instance, it does not account for political environment). Yet despite this criticism, most of the missing elements are often extremely difficult to quantify. Moreover, the EDB index is the only such kind of global database on world economies.

Appendix 1: World Regions' SDG Scores 2020 (out of 100)



Source: Author's own, data from UN Sustainable Development Solution Network¹

Appendix 2: World Regions' EDB Scores 2020 (out of 100)



Source: Author's own, data from World Bank⁴⁶



Appendix 3: Regression of ln EDB on ln SDG

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.756							
R Square	0.572							
Adj R Square	0.569							
Standard Error	0.160							
Observations	163.000							
ANOVA								
	df	SS	SW	F	Significance F			
Regression	1.000	5.518	5.518	215.220	0.000			
Residual	161.000	4.128	0.026					
Total	162.000	9.646						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	-0.730	0.332	-2.200	0.029	-1.385	-0.075	-1.595	0.135
X Variable 1	1.161	0.079	14.670	0.000	1.005	1.317	0.955	1.367

Source: Performed in MS Excel

Appendix 4 Regression of Δ EDB on Δ SDG

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.499							
R Square	0.249							
Adj R Square	0.243							
Standard Error	1.674							
Observations	135.000							
ANOVA								
	df	SS	SW	F	Significance F			
Regression	1.000	123.630	123.630	44.103	0.000			
Residual	133.000	372.825	2.803					
Total	134.000	496.454						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	1.037	0.189	5.502	0.000	0.664	1.410	0.545	1.530
X Variable 1	0.391	0.059	6.641	0.000	0.275	0.508	0.237	0.546

Source: Performed in MS Excel



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Additional research by Apoorv Somanchi of the Delhi School of Economics and Debosmita Sarkar of JNU.

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