Are the financial inclusion schemes of India developing the nation sustainably?

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Abstract. Introduction- India is the world's largest democracy which has a prominent place in the world. It is proliferating and financial inclusion schemes of government as a piece of evidence for that. However, the development of any nation on the planet should not be at the cost of environmental degradation. There are indeed substantial ties between climate change and sustainable development. Evidence has shown over several decades that global temperatures are on the rise, mainly due to fossil fuel burns. Methodology- For meeting research objectives, a pooled data of variables extracted from the review of literature is constructed. Later by applying PLS-Algorithm on the constructed dataset, conclusions are made. Value- This research will develop insight into whether the financial inclusion scheme of government is sustainably developing the economy or not. Result- There exists a significant relationship between financial inclusion and CO2 emissions, which concludes that financial inclusion schemes of government are not doing sustainable development. Conclusion- There is an urge to link financial inclusion schemes with sustainable development.

1 Introduction

India is the second-most populous nation, the seventh biggest by area, and the most populous democracy [1]. In India, 51% of the pollution is generated by industrial pollutants, 27% by cars, 17% by crop burning and 5% by fireworks. Air pollution causes 2 million Indians to die prematurely each year [2]. It is not plausible to undervalue the purpose of efficient financial inclusion services in promoting money creation and economic growth [3]. An adequate financial infrastructure is required for commercial services such as deposit mobilization, trade facilitation, payment processing provision, and risk management [4]. Financial inclusion extends the reach of financial resources and develops savings amongst the have nots [5]. Financial inclusion is a significant step towards the comprehensive development of the nation [6], [7]. It assists in the overall economic advancement of the impoverished population. In India, efficient financial inclusion must uplift the underprivileged people by equipping them with the transformed financial merchandises and services [8]. There are substantial ties between climate change and sustainable development. Evidence has shown over several decades that global temperatures are on the rise, mainly due to fossil fuel burns

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[9]. The emission of carbon into the atmosphere is playing a significant role, and the availability of necessities such as fresh water, food security and energy is projected to impact. Poor and emerging nations will be among those most impacted and unable to deal with projected social, economic and environmental shocks [10].

However, financial inclusion may restrict sustainable development beneath economic globalization and climate change [11]. This research paper attempts to find a piece of statistical evidence that whether financial inclusion is leading to sustainable development or not. It is essential that, as human beings, our economic growth is not leading to environmental degradation. Economic and ecological development should go hand in hand as there is no economy without an environment. This paper will develop an insight into the need to introduce economic reforms, which will lead to sustainable development and economic expansion.

2 Variables

Table 1. Variables used in Research.

VARIABLE	SOURCE
Savings	[12], [13], [14], [15], [16]
GDP	[5], [17], [18], [19], [20]
Savings→GDP	[16], [21], [22], [23]
GDP→ Pollution	[24], [25], [26]

3 Method

To conclude and meet the research objectives, time-series data of the variables mentioned in table 1 is collected (1991-2019). After collecting data, the significance of the relationship between the variables is analysed with the help of the PLS- Algorithm using Smart PLS software.

Fig. 1. Conceptual Model.

Source: Author's Calculation

Fig. 2. Results of running PLS- Algorithm on conceptual model.

Table 2. Cross loadings and construct reliability.

CROSS LOADINGS				Construct Reliability
PARTICULARS	CO2 Emmissions	GROWT H	SAVING S	AVE
CO2 emissions (kg per 2010 US\$ of GDP)	0.93	0.886	0.877	0.69
CO2 emissions (kg per 2017 PPP \$ of GDP)	0.931	0.887	0.876	
CO2 emissions (kg per PPP \$ of GDP)	0.936	0.87	0.90	
CO2 emissions (kt)	0.987	0.992	0.935	
CO2 emissions (metric tons per capita)	0.982	0.979	0.933	
CO2 emissions from gaseous fuel consumption (% of total)	-0.159	-0.219	-0.39	
CO2 emissions from gaseous fuel consumption (kt)	0.908	0.89	0.918	
CO2 emissions from liquid fuel consumption (% of total)	-0.031	-0.004	-0.305	
CO2 emissions from liquid fuel consumption (kt)	0.967	0.981	0.853	
CO2 emissions from solid fuel consumption (% of total)	-0.202	-0.175	0.036	
CO2 emissions from solid fuel consumption (kt)	0.981	0.975	0.947	
CO2 intensity (kg per kg of oil equivalent energy use)	0.971	0.97	0.877	
GDP (constant 2010 US\$)	0.891	0.899	0.821	0.994
GDP (constant LCU)	0.891	0.899	0.892	
GDP (current US\$)	0.879	0.896	0.93	
GDP, PPP (current international \$)	0.891	0.899	0.932	
GDP: linked series (current LCU)	0.862	0.893	0.864	
Gross savings (% of GDP)	0.629	0.631	0.821	0.779
Gross savings (% of GNI)	0.638	0.641	0.829	
Gross savings (current LCU)	0.874	0.867	0.906	
Gross savings (current US\$)	0.864	0.868	0.965	

Source: Author's Calculation

Table 3. Results of HTMT inference on the variables used in research.

PARTICULARS	HTMT _{Inference}			
	Original Sample (O)	Sample Mean (M)	2.50%	97.50%
GROWTH -> CO2 Emissions	0.976	0.98	0.959	1
SAVINGS -> CO2 Emissions	0.989	0.989	0.945	1.025
SAVINGS -> GROWTH	0.9	0.903	0.848	0.951

Source: Author's Calculation

Source: Author's Calculation

Fig. 3. Results of Bootstrapping the Variables used in research.

Table 4. Testing the significance of the relation between variables.

RELATION	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Confidence Interval	
						2.50%	97.50%
GROWTH -> CO2 Emissions	0.738	0.732	0.112	6.561	0	0.538	0.936
SAVINGS -> CO2 Emissions	0.27	0.274	0.117	2.313	0.021	0.058	0.474
SAVINGS -> GROWTH	0.916	0.923	0.01	93.764	0	0.909	0.947

Source: Author's Calculation

4 Results and discussion

4.1 Cross loadings and AVE

Table 2 represents the values of cross-loadings and AVE of the variables used in research. From the values derived by performing the calculation on the software smart PLS, it can be observed that the AVE of all the construct is an acceptable limit i.e. more than 0.5 [27], [28].

4.2 HTMT inference

By analysing the computations made in Table 3, it can be discerned that mean values lie between the confidence intervals. Hence, the values derived after calculations are acceptable to define the relationship between the variables of the conceptual model.

4.3 Is Financial inclusion leading to Sustainable development?

Table 4 tests the significance of the relation between the variables. There is a significant relationship between the variables from the p-values, t-values and confidence intervals mentioned in Table 4. Thus, it can be interpreted that financial inclusion leads to growth and growth further, resulting in increasing CO2 emissions, degrading the environment.

5 Conclusion

Why invest trillions of dollars in finding life on other planets yet spend trillions of dollars to eliminate life on earth? What is wrong with us? One must understand that this is a magnificent planet — not one or two life-forms have been nourished, but millions. The diversity of life in our world, including mammals, birds, plants, insects, worms and bacteria, is striking. Although we have identified several million types of life, more than 10,000 new species are still identified every year. Nevertheless, someplace else, we believe things will be better.

If human life wants to sustain itself on this planet, sustainable development is the only way of development. The present research shows how with an increase in GDP of India, CO₂ emissions are also increasing. This has to be stopped as soon as possible. Considering the present situation of the environment, no further delays by the government can be made to link financial advancement with sustainable development.

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