RE-EXAMINING NARRATIVES

A Collection of Essays

The Office of Chief Economic Adviser, Ministry of Finance
Government of India
December 2023

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Preface

The year 2023 marked a significant chapter for India as a G20 presidency. Various international events hosted across the country facilitated cross-cultural amalgamations, perspectives and addressed issues relevant across countries and times. In a period, which has seen an expanded role for India in global affairs, sustaining it and capitalising on it to develop and articulate India's economic policies becomes imperative. This compilation of essays is, thus, our attempt to present alternate perspectives on diverse areas of economic policy that have long-term implications for India's growth and development priorities.

Recent years can be called 'transformative' for the global economy, as the world has witnessed a realignment of global supply chains, geopolitical forces, and economic ideologies. A sustained period of low interest rates is likely giving way to higher interest rates. Or, the world may witness a reversion to financial repression to deal with high debt burdens. Additionally, the relevance of multilateralism is being re-evaluated. There has been a re-calibration of economic policies towards more prominent fiscal measures.

Alongside this re-orientation of economic ideologies, there is a need for a rebalancing of resources to support the growing development needs of the global economy. This necessitates mobilising resources from all possible sources, whether public or private. While public spending has traditionally been the cornerstone of development, private capital has been assigned a central role under the Indian Presidency of the G-20 to address global challenges such as climate change and supporting the energy transition.

The opening essay in this Collection, thus, addresses the critical topic of opaque methodologies adopted by credit rating agencies to arrive at sovereign ratings. These ratings are important as they are binding constraints for developing economies, hindering their ability to attract necessary funds. The essay reviews the methodologies employed in determining these ratings. It underscores the urgency for adequate reforms in the credit rating system to ensure that the ratings reflect a developing economy's true willingness to pay. Such reforms will enhance the developing countries' ability to raise long-term financial resources from both domestic and international markets by significantly reducing funding costs and, hence, supporting them in their development goals.

The second essay also addresses the opaqueness of ratings, but of a different kind, ascribed to social inclusion in the country by delving into the dynamics of inequality and inclusivity in a developing country like India. This subject has garnered significant media and public attention in recent years, especially considering the impact of the COVID-19 pandemic, which has escalated global inequality levels. However, the long-term inequality trends in India are debatable, with contradictory findings. The essay thus aims to unravel the literature and nuances related to the issue of poverty and inequality, providing a comprehensive view of the subject.

The essay emphasises that in a country like India, where targeted Government schemes for food security, health, education, cash transfers under rural employment programme (MGNREGS) play a key role in improving the financial position of the poor households, assessment of inequality must consider the impact of fiscal transfers (Commitment to equity approach). Moreover, the essay makes the case for raising economic growth to enhance the average income of an individual and, thereby, ensure the affordability of a decent standard of living for everyone. Adopting a holistic definition of poverty, such as the multi-dimensional poverty index, will allow for the evaluation of the success of policies, not just in terms of calorie intake but also in terms of ensuring the dignity of individuals. The essay thus elaborates on the rationale behind the gamut of policies adopted by the government under the umbrella of 'Sabka Saath, Sabka Vikas' over the past decade while undertaking growth-enhancing structural reforms.

The third essay in this volume draws the readers' attention to one such growth-enhancing structural transformation underway in the Indian economy. The realignment of India's position in global supply chains resulting from the evolving composition of its export basket of goods and services is the theme discussed in the volume's third essay. The share of India's total trade in GDP has risen significantly from around 15 per cent in the early 1990s to almost 50 per cent in 2022. Over the last three decades, India has not only tapped into new markets but has also emerged as a market leader in certain product categories like shipping vessels, iron and steel alloys, and more. The essay emphasises that the increasing share of technology-intensive products in India’s export basket and a surge in India's contribution to high-value-added services exports have rendered India's trade basket resilient to external shocks. These developments in India's export sector have been catalysed by a facilitative ecosystem by the government, and they will enable India to assume a key position in global supply chains.

The fourth essay in the volume seeks to decode the multiple dimensions of climate finance required for the global economy to mitigate and adapt to the adverse effects of climate change. While the International Climate Accords have recognised and reiterated the need for the developed world to take the lead in addressing climate change, the flow of funds from developed to developing countries has been grossly inadequate. Additionally, developing countries face increased pressures to reduce emissions well before reaching their peaks. In such a context, the essay highlights India's impressive commitment to its climate goals as it continues to raise climate-related finances predominantly from domestic sources, such as domestic budgetary resources, resources mobilised by dedicated financial institutions through policy and regulatory measures, and a nascent but growing sovereign green bond market. However, recognising the constraints on domestic sources of financing for developing economies, the essay suggests re-evaluating the role of international public sector, private sector and multilateral development banks towards climate-related financing.

This brings us to the volume's final essay, which discusses the key policy issues emphasised and progress made on them during India's G20 presidency. The central idea of India's G20 agenda was inclusive multilateralism. Issues ranging from mobilisation of private capital-driven climate finance to strengthening the multilateral development banks, managing global debt vulnerabilities,

and regulating crypto assets were endorsed during the year. These are all issues pertinent to the development needs of the global south. As the unanimous adoption of the G20 New Delhi Leaders Declaration (NDLD) by the G20 leaders marked the successful conclusion of India's presidency, the key learnings from India's G20 presidency were: 'Nations can collaborate despite differences; clear, ambitious, and a pragmatic agenda helps to build consensus; multilateral inclusivity takes everybody on board; and breaking silos.'

This volume of essays has immensely benefitted from the valuable comments and input received from numerous experts and government officials. We extend our sincere gratitude to Shri Amitabh Kant (G20 Sherpa, India), Shri Abhay Thakur (G20 Sou Sherpa, India), Dr. Sajjid Z. Chinoy (Part-time member EAC-PM, and MD and Chief India Economist at JP Morgan), Dr. Sonalde Desai (Professor, NCAER, and Distinguished University Professor at the University of Maryland), Dr. Rudrani Bhattacharya (Associate Professor, NIPFP), G20 team of DEA and officials from DGCI&S for their insightful comments and thorough peer review of the essays.

As always, colleagues in the Economic Division were enthusiastic and motivated and contributed immensely to the writing, compilation and verification of these essays. They engaged in external consultation and internal brainstorming and presented the earlier versions of the paper at internal seminars for critical scrutiny. We are very confident that their competence, hard work, and dedication are amply reflected in these essays. It won't be easy to pick them out and thank them individually. But they know that we know them and acknowledge their work with gratefulness and appreciation.

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19th December 2023

01 CHAPTER

UNDERSTANDING A SOVEREIGN'S WILLINGNESS TO PAY BACK: A REVIEW OF CREDIT RATING METHODOLOGIES

Sovereign credit ratings, primarily by the big three credit rating agencies (Fitch, Moody's, and Standard & Poor's), are an important metric for a country looking to raise financial resources through domestic and international financial markets. Now, approximately 120 countries are rated by each of the big three. The increase in the number of nations with sovereign credit ratings reflects an increasing reliance by countries on debt markets as a source of funding to meet their development financing requirements. Credit rating agencies play a key role since their ratings are taken to be a credible metric of the credit risk associated with a sovereign. The level of risk, in turn, determines the risk premiums a sovereign would be expected to pay. Therefore, one would expect the credit rating process to be based on comprehensively developed criteria supported by hard data.

Our review of the credit rating methodologies reveals that there is considerable reliance on qualitative variables to capture 'willingness to pay'. The enormous degree of opaqueness in the methodology makes it challenging to quantify the impact of qualitative factors on credit ratings. The significant presence of qualitative factors in credit rating methodologies also gives rise to bandwagon effects and cognitive biases amply reflected in various studies, generating concerns about the credibility of credit ratings.

From our quantitative analysis, we find that over half the credit rating is determined by the qualitative component. Institutional Quality, proxied mostly by the World Bank's Worldwide Governance Indicators (WGIs), emerges as the foremost determinant of a developing economy's credit rating, which presents a problem since these metrics tend to be non-transparent, perception-based, and derived from a small group of experts, and cannot represent the "willingness to pay" of the sovereign. Their effect on the ratings is non-trivial since it implies that to earn a credit rating upgrade, developing economies must demonstrate progress along arbitrary indicators while simultaneously contending with the discriminations the ratings tend to carry.

Reform in the credit rating process is the need of the hour. As the rated sovereign is obligated to be completely transparent, establishing symmetry of obligations warrants that the rating agencies make their processes transparent and avoid employing untenable judgements. Enhanced transparency in credit rating may compel the use of hard data and likely result in credit rating upgrades for a good number of sovereigns. This will help them access private capital, which has been assigned the central role by G-20 in addressing global challenges such as climate change and supporting the energy transition. Reforming the sovereign rating process will correctly reflect the default risk of developing economies, saving them billions in funding costs.

Introduction

1.1 As the COVID-19 pandemic, its attendant disruptions, and other global geopolitical issues kept global uncertainties elevated over the last three years, much of the economic resilience witnessed by developing economies had been bolstered by the government's large and expansionary fiscal policies. The increase in fiscal support saw the global average of public debt approaching 100 per cent, which has become a point of concern for both policymakers and private investors. Since 2020, there have been 14 separate default events across nine different sovereigns,[1] which have aggravated the concerns about the speed of economic recovery and inflation reduction weighing on the minds of investors. Consequently, risk aversion has risen, amplifying the riskiness of investment in Emerging Markets (EMs). This has led to a huge quantum of capital outflows from emerging economies over the last two years. As a result, EM's debt and equity funds witnessed substantial declines between 2022 and 2023.

1.2 In times of elevated uncertainties and risks associated with an extended period of high real interest rates, economic hard landings, ripple effects from China's economic challenges, and geopolitical tensions threatening market and business confidence, greater prominence has been assigned to the outlooks and assessments from the Credit Rating Agencies (CRAs), primarily the big three agencies (Fitch, Standard & Poor's, and Moody's). Sovereign ratings assigned by the agencies are taken to be an accurate and credible metric of the default and credit risks associated with a rated sovereign, which in turn determines the cost of funds borrowed by a country.

1.3 The International Monetary Fund (IMF) declared in 2012, "*CREDIT rating agencies have become an essential part of the financial landscape. These private companies assess credit risk for companies and governments seeking to take out loans and issue fixed-income securities, such as bonds. Reliance on these agencies is so entrenched that prospective borrowers often must obtain a credit rating before they try to raise money in capital markets. The ratings provide prospective lenders with guidance on the borrower's creditworthiness, which contributes to the determination of the interest rate, or price, the borrower must pay for financing* (IMF, 2012[2])".

1.4 However, sovereign ratings differ fundamentally from corporate ratings in the sense that a sovereign's governance and institutional quality are assigned more importance than its capacity to pay (macroeconomic performance). Since the rating agencies often must contend with the procurement of reliable data from low-income countries and the reputational costs associated with wrongly predicting the probability of default, qualitative evaluation of institutional strength and the rule of law assumes greater importance than they otherwise might (Eaton and Gersovitz,1981)[3]. This belief, coupled with the fact that credit rating significantly affects access, timeliness, cost,

[1] Sovereign Defaults at Record High (fitchratings.com)
[2] Ratings Game, Finance and Development, International Monetary Fund, 2012
[3] Eaton, J., & Gersovitz, M. (1981). Debt with potential repudiation: Theoretical and empirical analysis. The Review of Economic Studies, 48(2), 289-309.

and tenor of borrowings by the sovereigns, makes it incumbent upon the rating agencies to ensure that the rating methodology is the first-best possible.

1.5 Yet, several issues emerge while looking into the rating methodologies utilised by the CRAs. First, the methodologies utilised by credit rating agencies are opaque and appear to disadvantage developing economies in certain ways. Reading through the methodology documents of the big three agencies, one would find that the descriptions and justifications for several parameters included in the methodology are not obvious. For instance, the Fitch document mentions that the rating agency "takes comfort from high levels of foreign ownership" in the banking sector and that "public-owned banks have historically been subject to political interference." Such an assessment tends to discriminate against developing countries, where the banking sector is primarily run by the public sector[4]. It also ignores the welfare and development functions that public sector banks tend to play in a developing country, where government-owned banks have played an important role in promoting financial inclusion (Agarwala et al., 2023)[5]. In contrast, the expansion of foreign-owned banks in a developing country seems to target the already-banked middle class and does not appear to serve the unbanked low-income households (Leon and Zins, 2020)[6]. Second, the experts generally consulted for the rating assessments are selected in a non-transparent manner, adding another layer of opaqueness to an already difficult-to-interpret methodology. Lastly, the rating agencies do not convey clearly the assigned weights for each parameter considered. While Fitch does lay out some numerical weights for each parameter, they do go on to state that the weights are for illustrative purposes only. Thus, it is left to the reader to make educated guesses on what the assigned weights could be for the qualitative and the quantitative factors.

1.6 Opaqueness and non-transparency in rating methodologies are fertile grounds for sowing suspicion about the discriminatory intent of CRAs, particularly when rating downgrades are mostly in respect to economically weaker nations. For instance, between 2020 and 2022, over 56 per cent of the African countries that are rated by at least one of the big three CRAs were downgraded[7]. This is significantly smaller than the downgrades experienced by European nations, which stood at only 9 per cent. Further, the negative warning announcements by the CRAs (in the form of reviews, watches, and outlooks) have been linked to increases in the cost of borrowing for developing countries (Spiegel et al., 2022)[8]. There is a strong feeling among the developing countries that subjective assessments tilt, most often, in favour of the advanced economies, as developing countries have borne the brunt of over 95 per cent of all credit rating downgrades

[4] Bank Ownership: Trends and Implications, World Bank, 2018
[5] Agarwala, N., Maity, S., & Sahu, T. N. (2023). Efficiency of Indian banks in fostering financial inclusion: an emerging economy perspective. Journal of Financial Services Marketing, 1-13.
[6] Léon, F., & Zins, A. (2020). Regional foreign banks and financial inclusion: Evidence from Africa. Economic Modelling, 84, 102-116.
[7] Addressing the perception premium for sustainable development in Africa, Hippolyte Fofack, Brookings Institution, 2021
[8] Credit Rating Agencies and Sovereign Debt: Four proposals to support achievement of the SDGs, United Nations Policy Brief, 2022

despite experiencing economic contractions which were milder than their advanced economy counterparts. Credit downgrades for developing countries have made it difficult for them to access cheaper long-term funding from international capital markets. This situation is inimical to meeting the rising funding requirements of developing countries necessitated on account of meeting the challenges of climate change and their development goals.

1.7 Thus, the motivation of this paper is three-fold. First, we delve into a detailed breakdown and interpretation of the sovereign rating methodologies used by the CRAs to uncover the processes and parameters employed by them in their rating assessment. Second, we engage in an econometric exercise, utilising India as a case study, to quantify the impact of the qualitative and quantitative factors on the sovereign credit rating. Finally, we aim to outline the issues associated with largely employing subjective judgements.

1.8 The rest of the paper is organised as follows. It begins with a review of the methodology applied by three major CRAs and evaluates their reliance on qualitative and quantitative factors while assigning the ratings. This sets the background for a better appreciation of the evidence presented in the following section that highlights the fallouts of subjective assessment on sovereigns. The paper then presents a case study of India, employing a quantitative model, to assess the relative significance of quantitative and qualitative factors in the determination of India's credit rating. After observing heavy reliance on the qualitative variables by these agencies, particularly on the Worldwide Governance Indicators (WGIs) of the World Bank, the paper presents issues associated with such metrics and how they can be biased in their formulation. Finally, the paper highlights the pressing need for CRAs to adopt a more transparent and inclusive methodology to enhance the credibility of their sovereign ratings.

Rating Methodology: Complex structure with a high degree of opaqueness

1.9 The CRA methodologies available in the public domain are, at the very least, ambiguous. S&P documentation even fails to clarify the weightage given to various factors, and hence, one is left with no option but to rely on educated guesses. Further, one must hunt through the various linked documents to understand how the score for each factor is estimated. In the case of Moody's documentation, there is opaqueness underlying the dynamic weights and its application to arrive at the rating outcomes. Fitch mentions that weights used in their model are only for illustrative purposes. Above all, the three rating agencies fail to clearly distinguish between the indicators used to assess 'ability to pay' and 'willingness to pay', making it complicated to evaluate the assigned credit ratings. This section, therefore, attempts to "join the dots", to the best of our understanding, with the hope of presenting what we think is a clear and comprehensible version of their methodology.

1.10 CRAs use quantitative and qualitative factors, broadly classified in "ability to pay" and "willingness to pay" blocks, as inputs in their rating methodology. These factors are broadly placed

under five major categories, namely, economic, fiscal, monetary, external, and institutional. The weightage given to these pillars in their quantitative modelling varies across the three major agencies—Fitch, Moody's, and S&P.

1.11 CRAs generate scores based on econometric modelling or by developing scorecard metrics using various quantifiable and qualitative variables. The set of factors assembled to assess a sovereign's 'willingness to pay', includes a small set of quantifiable factors, such as years since the last default, and a large set of qualitative factors, which include perceptions about the country and WGIs of the World Bank. The WGIs are the dominant indicators used by all three agencies to evaluate the willingness to pay and, to a lesser extent, the ability to pay. The WGIs summarised in Annexure 1 are marred by various controversies, an exhaustive discussion of which is beyond the scope of this paper.

1.12 It is noteworthy that governance as a concept is highly subjective, and the parameters for assessment of the quality of governance should vary between different types and sizes of economies. For instance, one WGI indicator is on the extent to which the public is involved in the budget-making process of the government as higher is the involvement, greater is the pro-democratic measure. However, for countries such as India and the United States, such actions are infeasible owing to their large size. Under the 'Voice and Accountability' indicator, large democracies like India and Indonesia score percentile ranks of around 50, and the US scores a percentile rank of around 75, while countries like the UK and Netherlands score very high percentile ranks in the range of 90-97. By sheer size differences, these countries are not comparable. Relying on the WGI as a measure of the quality of governance can skew the results in favour of a handful of countries due to the design of the WGI itself. In addition to the evidence presented in Annexure 1, we argue that the WGI cannot, in any meaningful sense, represent a sovereign's willingness to pay while hard measures such as a country's default history exist.

1.13 Table I.1 maps the terms used by Fitch, Moody's, and S&P for comparable notches of ratings.

Table I.1: Long-Term Rating Scales Comparison

Grade	Standard & Poor's	Moody's	Fitch
Investment Grade	AAA	Aaa	AAA
	AA+	Aa1	AA+
	AA	Aa2	AA
	AA−	Aa3	AA−
	A+	A1	A+
	A	A2	A
	A−	A3	A−
	BBB+	Baa1	BBB+
	BBB	Baa2	BBB

	BBB−	Baa3	BBB−
Speculative Grade	BB+	Ba1	BB+
	BB	Ba2	BB
	BB−	Ba3	BB−
	B+	B1	B+
	B	B2	B
	B−	B3	B−
	CCC+	Caa1	CCC+
	CCC	Caa2	CCC
	CCC-	Caa3	CCC-
	CC	Ca	CC
	C	C	C
	D		D

Source: Compiled from Fitch, Moody's and S&P website/ document

Fitch Methodology

1.14 Fitch has a Sovereign Rating Model[9] (SRM), generating scores in calibrated scales between 'AAA' and 'CCC+', as the starting point for assigning sovereign ratings (Table I.2).

Table I.2: Rating Correspondence Table

Rounded SRM Score	**>=16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**<=0**
Predicted LT FC IDR	AAA	AA+	AA	AA−	A+	A	A−	BBB+	BBB	BBB−	BB+	BB	BB−	B+	B	B−	CCC+

Source: Fitch Methodology Document

Note: LT FC IDR stands for Long-Term Foreign-Currency Sovereign Issuer Default Ratings

1.15 The Fitch SRM model employs a combination of historical, current, and forward-looking data. It uses four pillars in their country evaluation criteria: structural features of the economy, macroeconomic performance, public finances, and external finance. Each of the four pillars has two verticals, SRM variables and Qualitative Overlay (QO) variables. Fitch contends that no quantitative model can fully capture all the relevant influences on sovereign creditworthiness, and hence, the QO variables are designed to adjust for factors that are not fully reflected in the SRM output. Table I.3 shows the SRM variables, their weights, and QO variables.

[9] The SRM for all Fitch-rated sovereigns has been estimated by applying multiple-regression based on Ordinary Least Squares employing 18 economic and financial variables over a period from 2000 until the latest full year available.

Table I.3: Fitch Sovereign Rating Model and Qualitative Overlay

Factors	Weights	SRM variables	Weights		QO Variables
Structural Features	53.5	**Composite governance indicator**	**21.4**		• Political stability and capacity • Financial sector risks • Other structural factors
		Gross Domestic Product (GDP) Per Capita	12.4		
		Share in world GDP	13.9		
		Years since default or restructuring	4.6		
		Broad Money Supply	1.2		
External Finances	17.9	Reserve currency flexibility	7.3	+	• External financing flexibility • External debt sustainability • Vulnerability to shocks
		Sovereign net foreign assets (% of GDP)	7.4		
		Commodity dependence	1.2		
		Foreign exchange reserves (months of Current External Payments)	1.5		
		External interest service (% of Current External Receipts)	0.4		
		Current account balance + FDI	0.1		
Public Finances	18.5	Gross General Govt Debt/GDP	8.9		• Fiscal financing flexibility • Public debt sustainability • Fiscal structure
		General Govt Interest (per cent of Revenues)	4.5		
		General Govt Fiscal Balance/GDP	2.4		
		Foreign Currency Govt Debt as % of Gross Govt Debt	2.7		
Macroeconomic outlook, policies, and prospects	10.1	Real GDP growth volatility	4.6		• Macroeconomic policy credibility and flexibility • GDP growth outlook • Macroeconomic stability
		Consumer price inflation	3.4		
		Real GDP growth	2.0		

Source: Authors' compilation based on the Fitch Methodology

1.16 Table I.3 shows that the quantitative variables related to income, monetary, fiscal and external blocks account for 73.9 per cent of the total SRM weight, while the Composite Governance Indicator has a weight of 21.4 per cent, and the years since the last default or restructuring has a weight of 4.6 per cent. The agency further mentions that the weights provided in their methodology are for illustrative purposes, adding another layer of opaqueness.

1.17 The composite governance indicator is only based on the WGIs. Further, the overall qualitative overlay applied to the SRM output is based on the CRA's perceptions of the country regarding various socio-economic developments. The methodology does not clearly indicate the weightage given to the qualitative overlay in the final rating. Table I.4 shows the impact of QO adjustment on the SRM score and, hence, on the final rating. The potential change in notches ranges from (+) 2 to (-) 2 for each of the four analytical pillars.

1.18 The overall movement based on QO-based adjustment is capped at a range from (+) 3 to (−) 3 notches. Illustratively, country A can go down by three notches from its SRM score-based rating depending on conclusions from the qualitative overlay applied to it, while country B can go up by three notches based on the same. This makes the inter-country range of adjustments, purely based on qualitative judgements of the agency (outside of the SRM-modelled output of rating), as wide as 6 out of the overall number of 22 notches. Note that this is in addition to the highest weightage assigned to the 'composite governance indicator' in the SRM model.

Table I.4: Treatment to SRM score based on Qualitative Overlay Factors

Definition	Notching from SRM output
Exceptionally strong macro-outlook, policies and prospects /public finance/external finance/structural features relative to SRM output.	+2
Strong macro-outlook, policies, and prospects /public finance/external finance/structural features relative to SRM data and output.	+1
Average macro-outlook, policies, and prospects /public finance/external finance/structural features relative to SRM output.	0
Weak macro-outlook, policies, and prospects /public finance/external finance/structural features relative to SRM data and output.	-1
Exceptionally weak macro-outlook, policies and prospects /public finance/external finance/structural features relative to SRM output.	-2

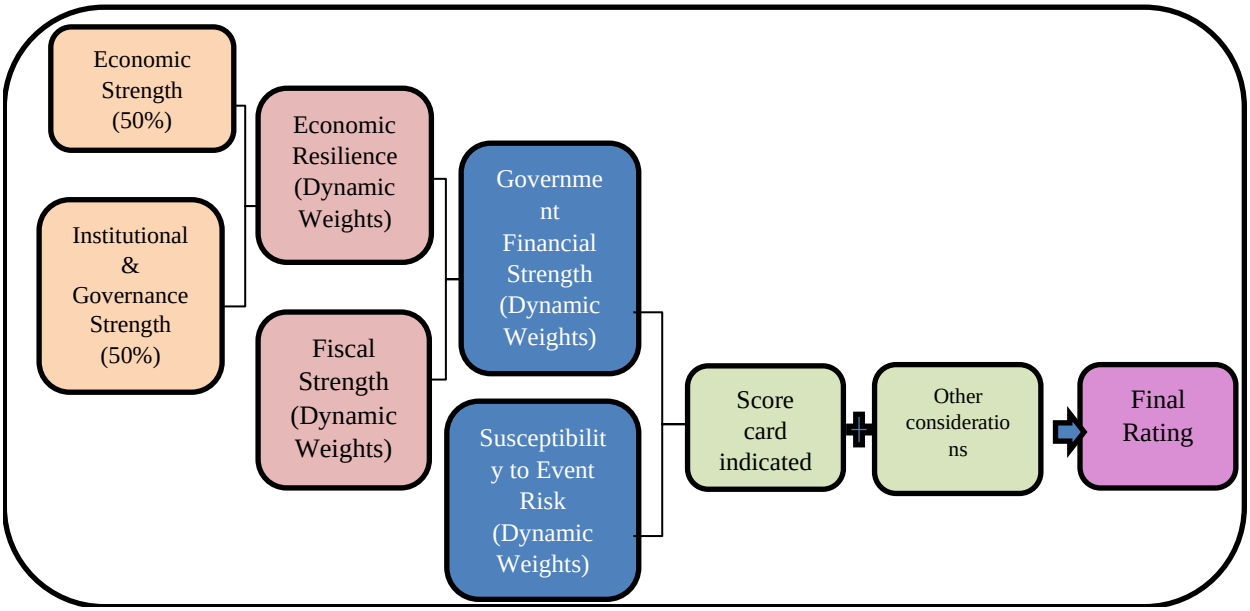
Source: Authors' compilation based on the Fitch Methodology

Moody's Methodology

1.19 Moody's combines four analytical pillars – institutional and governance strength, economic strength, fiscal strength, and susceptibility to event risk-- to arrive at the scorecard in a way that is summarised in Figure I.1. It first combines the final scores of the economic strength and the institutions and governance strength factors to arrive at the economic resiliency score using equal weights. Then, it combines the economic resiliency outcome with the final score of the fiscal strength factor to arrive at the government's financial strength score. They then consider a sovereign's susceptibility to event risk to arrive at an aggregate scorecard, which is expressed as a range. After applying various other considerations to the scorecard-indicated outcome, the final rating is given.

1.20 Economic Resiliency, comprising economic strength and institutional & governance strength, is understandably given greater weight than fiscal strength in arriving at government financial strength. This is clear from Table I.5. For instance, if economic resiliency is given a score of Aaa and fiscal strength of Ca, then the combined value for government financial strength is Aa3. However, if we reverse the value for both, then government financial strength equals b1.

Figure I.1: Moody's Sovereign Methodology Framework



Source: Authors' Compilation based on Moody's Methodology

Table I.5: Dynamic Weights used to arrive at Government's Financial Strength

Economic Resiliency \ Fiscal Strength	aaa	aa1	aa2	aa3	a1	a2	a3	baa1	baa2	baa3	ba1	ba2	ba3	b1	b2	b3	caa1	caa2	caa3	ca
aaa	aaa	aaa	aaa	aaa	aaa	aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3
aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3	aa3	aa3	aa3	aa3
aa2	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3	aa3	aa3	aa3	aa3	aa3	a1	a1	a1	a1
aa3	aa2	aa2	aa2	aa2	aa3	aa3	aa3	aa3	aa3	aa3	aa3	a1	a1	a1	a1	a1	a1	a1	a2	a2
a1	aa2	aa2	aa3	aa3	aa3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1
a2	aa3	aa3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1	baa1	baa1	baa2
a3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1	baa1	baa1	baa2	baa2	baa2
baa1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3
baa2	a1	a1	a2	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa3	baa3	baa3	ba1	ba1	ba1
baa3	a1	a2	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa3	baa3	baa3	ba1	ba1	ba1	ba2	ba2
ba1	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa3	baa3	baa3	ba1	ba1	ba1	ba2	ba2	ba2
ba2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa3	baa3	ba1	ba1	ba1	ba2	ba2	ba2	ba3	ba3
ba3	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba3	ba3
b1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3
b2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	b1	b1
b3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	b1	b1	b1	b1	b2
caa1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	ba3	ba3	b1	b1	b1	b1	b1	b1	b1	b2	b2	b2
caa2	ba3	ba3	ba3	ba3	ba3	ba3	b1	b1	b1	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2	b3
caa3	ba3	b1	b1	b1	b1	b1	b1	b1	b2	b2	b2	b2	b2	b2	b3	b3	b3	b3	b3	b3
ca	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2	b3	b3	b3	b3	b3	b3	caa1	caa1	caa1	caa1

Source: Moody's Methodology (2017)

1.21 The score given to each of the four pillars derives from the interplay of both the quantitative and qualitative factors. Typically, the component-wise score of each pillar is aggregated to which an adjustment factor is applied. The components can be either quantitative or qualitative, but the adjustment factor is only qualitative. In other words, there are qualitative overlays to both

quantitative and qualitative factors. The basis for the use of different notches in adjustment factors is not given explicitly in the methodology. Overall, out of 18 assessments, only 5 are quantitative, reflecting the dominance of judgments and perceptions in Moody's rating methodology (Table I.6). This is further enhanced when qualitative factors are further brought in as 'other considerations'. Quantitative and qualitative aspects of Moody's Sovereign Scorecard are shown in Table I.6 below.

Table I.6: Moody's Sovereign Scorecard Overview

Factor	Sub-Factor	Assessment Type (Quantitative /Qualitative)
Economic Strength	Growth Dynamics	**Quantitative**
	Scale of the Economy	**Quantitative**
	National Income	**Quantitative**
	Adjustment to Factor Score (0-9 Notches)	**Qualitative**
Institutional & Governance Strength	Quality of Institutions	**Qualitative**
	Policy Effectiveness	**Qualitative**
	Adjustments to Factor Score (0-3 Notches)	**Qualitative**
Fiscal Strength	Debt Burden	**Quantitative**
	Debt Affordability	**Quantitative**
	Adjustments to Factor Score (0-3/6 Notches)	**Qualitative**
Susceptibility to Event Risk	Political Risk	**Qualitative**
	Government Liquidity Risk	**Qualitative**
		Qualitative
	Banking Sector Risk	**Qualitative**
		Qualitative
	External Vulnerability Risk	**Qualitative**
		Qualitative
	Adjustment to Factor Score (0-2 scoring categories)	**Qualitative**
Other Considerations (on top of the scorecard review)		**Qualitative**

Source: Authors' Compilation based on Moody's Methodology

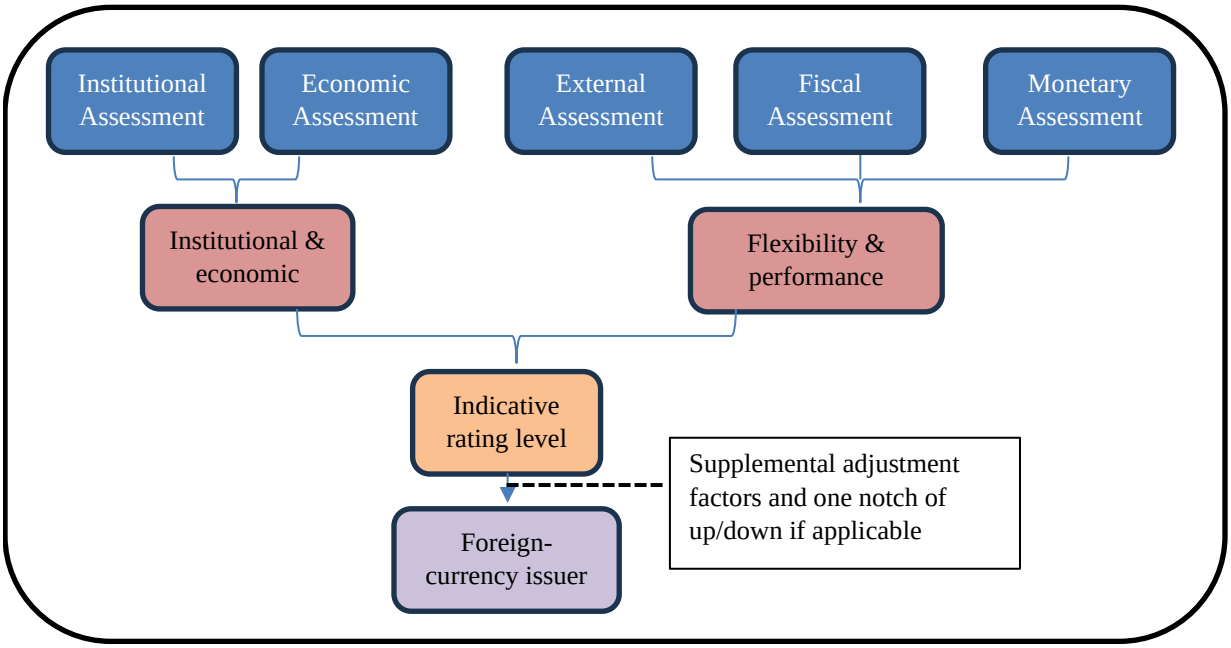
1.22 Some qualitative assessments also spiral when adverse conditions are perceived. This is seen in Moody's definition of a "minimum function" in handling susceptibility to event risk. The aggregation of political risk, government liquidity risk, banking sector risk, and external vulnerability risk follows a minimum function, i.e., as soon as one area of risk warrants an assessment of elevated risk, the country's overall susceptibility to event risk is scored at that specific, elevated level.

1.23 Finally, in the assessment of economic resilience, WGIs have a weight of 40 per cent embedded in the institutional and governance strength. At the final stages, when evaluating the susceptibility to event risk, the agency again relies on WGI indices. The preponderance of WGI indicators, augmented with other qualitative considerations, in rating assessment is a feature that Moody's also has.

S&P Methodology

1.24 S&P uses five pillars-- institutional, economic, fiscal, external, and monetary—in their country assessment (Figure I.2). All five are rated on a scale from 1 (strongest) to 6 (weakest).

Figure I.2: S&P Sovereign Credit Rating Framework



Source: S&P Methodology

1.25 Table I.7 provides the details of the implied weightage given to each factor. Institutional assessment, which is based on qualitative judgment, gets a weightage of 25 per cent. It is further learnt that the reference indicators used in the institutional assessment are the level of economic development, the general economic and political history of the country, wealth and inequality metrics, WGIs, Transparency International (Corruption), the World Press Freedom Index, and the World Bank's Doing Business Report.

Table I.7: Implied weightage to each indicator in Sovereign Credit Rating

Factors	Indicators	Implied Weights
Institutional Assessment	• Qualitative judgment	25.0
Economic Assessment	• GDP per capita • 10Y average growth in real GDP/capita	25.0

	• Economic diversity and volatility	
Fiscal Assessment	• Fiscal performance and flexibility • Debt burden	16.7
External Assessment	• Currency status in international transactions • External liquidity • External indebtedness	16.7
Monetary Assessment	• Exchange rate regime • Monetary policy's credibility and effectiveness and inflation trends	16.7

Source: Authors' Compilation based on S&P Methodology

1.26 S&P combines the flexibility and performance (F&P) profile with the institutional and economic (I&E) profile to determine an "indicative rating level". From Table I.8, one can see that the agency, for some assessment scores, gives higher weightage to flexibility and performance profiles compared to institutional and economic profiles and equal weightage otherwise. This adds to the lack of methodological clarity. For instance, consider the following cases. If a sovereign has 'very strong' I&E profile and 'strong' F&P profile, the indicative rating is 'aa'. If we switch between the strengths of the two profiles, then also the indicative rating is 'aa'. Likewise, if the sovereign has 'moderately strong' I&E profile and 'strong' F&P profile, the indicative rating is 'a'. However, if we interchange the strength of the two profiles, then the indicative rating changes to 'a+', which is higher than 'a' rating.

Table I.8: Indicative Rating Levels

Indicative Rating Levels

From The Combination Of The Institutional And Economic Profile With The Flexibility And Performance Profile

FLEXIBILITY AND PERFORMANCE PROFILE		INSTITUTIONAL AND ECONOMIC PROFILE										
	Category	Assessment	Superior	Extremely strong	Very strong	Strong	Moderately strong	Intermediate	Moderately weak	Weak	Very weak	Extremely weak	Poor
	Category	Assessment	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
	Extremely strong	1 to 1.7	aaa	aaa	aaa	aa+	aa	a+	a	a-	bbb+	bb+	bb-
	Very strong	1.8 to 2.2	aaa	aaa	aa+	aa	aa-	a	a-	bbb+	bbb	bb+	bb-
	Strong	2.3 to 2.7	aaa	aa+	aa	aa-	a	a-	bbb+	bbb	bb+	bb	b+
	Moderately strong	2.8 to 3.2	aa+	aa	aa-	a+	a-	bbb	bbb-	bb+	bb	bb-	b+
	Intermediate	3.3 to 3.7	aa	aa-	a+	a	bbb+	bbb-	bb+	bb	bb-	b+	b
	Moderately weak	3.8 to 4.2	aa-	a+	a	bbb+	bbb	bb+	bb	bb-	b+	b	b
	Weak	4.3 to 4.7	a	a-	bbb+	bbb	bb+	bb	bb-	b+	b	b-	b-
	Very weak	4.8 to 5.2	bbb	bbb	bbb-	bb+	bb	bb-	b+	b	b	b-	b-
	Extremely weak	5.3 to 6	bb+	bb+	bb	bb-	b+	b	b	b-	b-	b-	b-

Assigning 'CCC+', 'CCC', 'CCC-', and 'CC' ratings is based on "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012

Source: S&P Methodology

1.27 There could be adjustments other than supplemental adjustments that can impact the indicative rating by one notch. There are multiple factors mentioned in the methodology that can lead to a rating that is one notch higher or lower than the indicative rating level. For instance, if a sovereign receives an institutional and economic profile assessment of 2.0 and a flexibility and performance profile assessment of 4.8, the final rating set by the agency might be one notch higher at 'BBB' instead of 'BBB-' as indicated in the matrix (Table I.8). The agency states that this kind of adjustment will happen only if one unit change in any assessment is sufficient to raise the indicative rating level by two notches higher, in this case to 'BBB+', also highlighted in Table I.8. All these adjustments are qualitative in nature and are beyond supplemental adjustments. Another consideration is that if a sovereign demonstrates sustained over/underperformance relative to similarly rated sovereigns for at least one of the key rating factors during an evaluation period that can also lead to a change in its rating by one notch. The methodology further provides no clarity on how the simultaneous play by multiple factors will move the ratings. Finally, the set of supplemental adjustment factors superimposed on the quantitative calculations to arrive at the final rating is an overarching qualitative layer.

Key Message from the Review of the Methodologies

1.28 The lack of clarity is a serious constraint in understanding the methodologies followed by these agencies. Nonetheless, it is quite clear that subjective assessments or soft information, mainly in the form of the inclusion of World Governance Indicators, qualitative overlays, and other perception-based indices, play a substantial role in the determination of a sovereign's credit rating. Thus, these factors are apparently the most important influence on sovereign credit rating, which tends to affect Emerging and Developing Countries (EMDCs) adversely. Sovereign ratings tend to be more subjective in nature compared to the corporate rating process.

1.29 What motivates the following sections is the need to have a greater understanding of the aggregate impact of qualitative variables and judgements on sovereign ratings. The over-reliance on subjective assessment often gives rise to unintended consequences in the form of bandwagon effects and cognitive biases, which are captured in the upcoming literature survey.

Subjective Assessments and Consequent Biases: Impact on Developing Countries

1.30 The inclusion of a large subjective component in the sovereign rating contributes to the view in the literature that CRAs tend to be biased. Such a view is not inaccurate since it is well-established that biases and heuristics are employed when making decisions in the face of uncertainty (Tversky and Kahneman, 1973)[10]. CRAs, particularly in the case of low-income

[10] Tversky, A., & Kahneman, D. (1973). *Judgment under uncertainty: Heuristics and biases.* Oregon Research Inst., Vol. 13(1).

countries, face uncertainties due to the unavailability or unreliability of data, prior histories of defaults within the country group, and the reputational cost of misdiagnosing the probabilities of default, among others. In such circumstances, the experts' judgements are susceptible to less than rational decision-making in the form of biases, leading them to neglect prior probabilities or present regression estimates in favour of biases elaborated below: -

- Availability bias is a heuristic by which estimates of frequencies or probabilities are made based on which instances or occurrences are easily recalled by the mind. This could lead them to overestimate the probabilities of default in income groups that recently experienced an economic crisis and vice versa. However, the likelihood of default may also depend on other present and forward-looking factors, such as an individual sovereign's economic conditions, policy changes, or structural reforms.
- Illusory correlation is possible when the decision maker perceives a stronger association between two variables than exists based on the availability or representativeness of the instance. For example, the correlation between the Governance Indicator performance and the "willingness to pay" is likely overestimated since "willingness to pay" could be better represented by a sovereign's repayment history.
- Representativeness is another mental shortcut that is utilised to assess the likelihood of an event or membership of a country in a specific group by the degree to which it resembles a typical case. In other words, the probability of risk factors would be judged based on how well a country matches their preconceived notions. For instance, when rating a high-income country, despite the deterioration in the debt quality, rise in debt servicing costs, or risk of violence due to communal disagreements, the rating agency may not downgrade the sovereign since such instances are atypical within the group to which the country belongs. Similarly, improvement in the debt quality of an emerging economy may not prompt the CRA to upgrade its rating due to the atypical nature of such an event within the group to which the economy belongs.

1.31 These heuristics can lead to incorrect estimates about a sovereign's creditworthiness, leading to the perception that credit rating agencies are intentionally biased towards certain groups of countries. However, it is important to note that many times, the biases are a result of cognitive limitations rather than being attributable to deliberate motivations. Cognitive limitations produce bounded rationality, which results in experts interpreting transformations according to their own values, perceptions, and political processes (Eisenhardt and Zbaracki, 1992; Simon, 1993)[11.12].

1.32 Empirical verification of the presence of biases indicates that subjectivity in sovereign ratings leads to CRAs underestimating EMDCs while simultaneously overestimating the capacities of Advanced Economies. Moor et al. (2018) highlight how the subjective component is larger and

[11] Eisenhardt, K.M. and Zbaracki, M.J. (1992), "Strategic decision making", Strategic Management Journal, Vol. 13 No. S2, pp. 17-37

[12] Simon, H.A. (1993), "Strategy and organizational evolution", Strategic Management Journal, Vol. 14 No. S2, pp. 131-142.

downward biased for low-rated countries while, the upward bias for high-rated countries has gone up[13], especially after the Global Financial Crisis of 2008.

1.33 CRAs also tend to apply subjective assessments of different magnitudes based on the income group of the country being rated. They hold different opinions for different country groups, resulting in other forms of biases such as economic proximity bias, home-country bias, and often, cultural proximity bias. This indicates that home countries of the rating agencies receive more favourable ratings and foreign countries which are either culturally or economically similar to the home country also benefit from favourable assessments (Dahler, 2020; Slapnik and Loncarski, 2023)[14,15].

1.34 Such treatment leads to incorrect estimations about the default risk of a country at best and proves detrimental to the investment environment of the country at worst. Home country bias is found to be unrelated to a country's true credit risk, which often leads to the rating agencies falsely forecasting defaults over a specified horizon (Vernazza and Nielsen, 2015)[12]. Thus, the ratings and outlooks are likely to be downward biased for sovereigns that are further away (politically and culturally) from the home country of the rating agency.

1.35 This is an important consideration since how countries are rated, in turn, tends to affect their cost of capital when borrowing from the international markets. Spiegel et al. (2022) of the United Nations Department of Economic and Social Affairs highlight that negative warning announcements by the CRAs in their reviews, watches, and outlooks are linked to inflation in the cost of capital for developing countries.

1.36 Such an increase in the cost of capital is akin to developing markets paying a "perception premium" rather than simply a "risk premium". As illustrated by Tennant et al. (2016), the highly subjective nature of the sovereign rating process leads to situations where the rating agencies refrain from upgrading a developing country even if its macroeconomic fundamentals improve[16]. Experts often ignore signals from hard data and rely more on their judgements when assigning a developing country's rating.

1.37 Similarly, CRAs are hesitant to downgrade high-rated countries (typically advanced economies) even if their macroeconomic fundamentals deteriorate since rating agencies desire stability in their rating assignments. As a result, the thresholds for upgrades and downgrades are significantly different for countries depending on their income group. It is far easier for an

[13] De Moor, L., Luitel, P., Sercu, P., & Vanpée, R. (2018). Subjectivity in sovereign credit ratings. Journal of Banking & Finance, 88, 366-392.
[14] Bias or Ignorance? The politics and economics behind sovereign credit ratings, Timo Dahler, University of Southern California, 2020
[15] Slapnik, U., & Lončarski, I. (2023). Understanding sovereign credit ratings: Text-based evidence from the credit rating reports. Journal of International Financial Markets, Institutions and Money, 88, 101838.
[16] Tennant, D.F., Tracey, M.R. (2016). Are Poorer Countries Disadvantaged by the CRAs? Empirically Establishing a Bias. In: Sovereign Debt and Credit Rating Bias. Palgrave Pivot, New York.

advanced economy (developing country) to receive an upgrade (downgrade) if its debt quality improves (deteriorates)[17]. This difference in the treatment of EMDC ratings and Advanced Economy ratings is accounted for by the subjective component of sovereign credit ratings.

1.38 CRA perceptions, in turn, reinforce the markets' belief that the risks associated with developing nations are justifiably high, as illustrated by Fofack (2021)[18]. Due to this, African nations now face significant constraints when trying to access development finance from International Organisations and the markets.

1.39 In addition to the difficulties in accessing development finance, developing countries also overpay for the capital that they manage to raise. Counter-factual exercises conducted by the United Nations Development Programme (2023) estimated that if the CRAs would employ less subjective assessments, a resulting revision in the ratings of African countries would save them up to USD 74.5 billion in borrowing costs[19]. Reforming the rating process is a costless intervention on the part of the rating agencies but would be of great benefit to emerging and developing countries.

1.40 Reforms would not only lower the cost of capital for EMDCs but also increase the pool of available domestic and foreign capital. Cheaper and greater access to capital could also allow these nations to invest in their developmental goals and generate both economic and welfare gains. The pursuit of development agendas enhances a sovereign's domestic resource generation, thus allowing them to repay their domestic and foreign creditors in full and on time (Natrajan and Nageswaran, 2023)[20].

Quantifying "Ability to Pay" vs "Willingness to Pay": A case study of India

1.41 The Economic Survey of the Government of India 2020-21 argued that the sovereign credit ratings assigned to India by the big three CRAs (Fitch, Moody's, and S&P) fail to accurately depict the underlying economic fundamentals of the country[21]. A case for India was made which outlined India's core strengths across various macroeconomic fundamentals such as the country's declining and now low external debt, comfortable foreign exchange reserves, low short-term general government debt, and high GDP growth. Furthermore, with improvement in India's business conditions, implementation of wide-ranging structural and governance reforms, and improvement

[17] Tennant, D. F., Tracey, M. R., & King, D. W. (2020). Sovereign credit rating: Evidence of bias against poor countries. The North American Journal of Economics and Finance, 51, 100877.
[18] The ruinous price for Africa of pernicious 'perception premiums', Hippolyte Fofack, Brookings Institution, 2021
[19] Lowering the cost of borrowing in Africa - The Role of Sovereign Credit Ratings, United Nations Development Programme, 2023
[20] Natarajan, G., and Nageswaran, V. A., (2023). Harnessing private capital for global public goods: Issues, challenges and solutions (CSEP Working Paper 57). New Delhi: Centre for Social and Economic Progress.
[21] Chapter 3: Does India's Sovereign Credit Rating reflect its fundamentals? No! Economic Survey 2020-21

in the quality of government expenditures, India's ability to meet its debt obligations has improved substantially over the last decade[22].

1.42 Present economic conditions are no less optimistic. On the back of strong private consumption, gradual strengthening of investment demand, firming of industrial activity, and encouraging employment trends, the IMF revised India's growth projection upwards. The IMF now places India's growth projection at 6.3 per cent for FY24, signifying confidence in India's macroeconomic performance despite global uncertainties and emerging geopolitical issues. The government's fiscal position appears to be similarly robust, as steady growth in revenue through direct taxes coupled with a prudent expenditure profile has kept market borrowing tied to the budgeted targets[23]. Yet, despite these positive macroeconomic developments, there has been no change in the assigned sovereign ratings.

1.43 Thus, we investigate whether an excessive reliance on subjective appraisals coupled with the considerable weight assigned to these qualitative factors, affects how India is rated. The question is very relevant in view of contrasting patterns emerging from the World Governance Indicators (WGI), and outcome-based indices like the Doing Business Rankings, constructed with clear, quantifiable, and well-defined factors.

1.44 The sovereign ratings and outlooks issued by the CRAs are defined by them as forward-looking assessments of the "ability" and the "willingness" of the sovereign to honour its debt obligations. However, a detailed assessment of the methodologies outlined in the previous section reveals that the CRAs tend to place a disproportionate emphasis on the "willingness to pay". Further, despite what the methodology documents mention, it has been verified that there is a mismatch between the documents of the agencies and the actual factors that go into determining a sovereign's rating (Choy et al., 2021)[24].

1.45 Among the determining factors, the literature has found regulatory quality, control of corruption, democracy, law, and order are among the most important factors that predict the sovereign rating of a country with sizeable effects (Montes et al., 2016)[25]

1.46 With the inclusion of several qualitative considerations within the overall methodologies of the three CRAs, it is of relevance to quantify to what degree does India's rating stands affected by changes in both its macroeconomic fundamentals and its governance performance.

[22] Economic Survey 2022-23

[23] Monthly Economic Review, September 2023, Department of Economic Affairs, Government of India

[24] Choy, S. Y., Chit, M. M., & Teo, W. L. (2021). Sovereign credit ratings: Discovering unorthodox factors and variables. Global Finance Journal, 48, 100548.

[25] Montes, G. C., De Oliveira, D. S., & De Mendonça, H. F. (2016). Sovereign credit ratings in developing economies: New empirical assessment. International Journal of Finance & Economics, 21(4), 382-397.

The Model

1.47 Thus, we conduct an econometric exercise with a panel specification that explores to what degree fiscal performance, external debt variables, monetary variables, national income, and governance factors affect the assigned credit ratings. The selection of the set of variables is based on our study of the methodology notes published by the CRAs and summarised in Section 2 above.

1.48 We model the sovereign credit rating assigned to India as a function of macroeconomic fundamentals and the quality of institutions (as captured by the World Bank's World Governance Indicators) from the year 1998 to 2022. The credit ratings are specified as ordinal values based on the scale used by Tennant et al. (2020)[26], where each alphabetical rating from the three agencies has been harmonised into a comparable numerical scale. On this scale, the highest value a country can be assigned is 21 (corresponding to AAA for Fitch and S&P, Aaa for Moody's), while the lowest value is 1 (corresponding to D for Fitch and S&P, C for Moody's).

1.49 Despite the integer values assigned to ratings over time, standard linear panel regressions can provide inconsistent beta estimates since the dependent variable does not contain any cardinal information. A change from a rating of BB+ to BBB- does not have to be equivalent to a country being upgraded from BBB+ to an A-.

1.50 Thus, we employ an extension of binary dependent models, namely the ordered response model as developed by Baetschmann et al. (2020)[27]. Under an ordered response model, the dependent variable can take any number of finite and discrete values that contain ordinal information.

1.51 Within the specified time-period between 1998 and 2022, across the three rating agencies, India has achieved the highest rating of BBB (Baa2 equivalent for Moody's) and the lowest rating of BB (Ba2 equivalent for Moody's). Thus, we consider four observed outcomes, consistent with the maximum possible numerical range of ratings from 1 to 21. Hence,

$$y = 10,11,12,13$$

1.52 To estimate the effect "ability to pay" and "willingness to pay" have on the sovereign ratings of India, the latent variable y^* is utilised to relate the observable characteristics of x to the observable ordered dependent variable y which takes one of the four values specified above. This latent continuous variable y^* for agency i at time t depends linearly on x_{it} (macroeconomic fundamentals and governance measures) and two unobservable characteristics α_i (individual specific unobserved component called the fixed-effect) and the error term ε_{it}.

$$y_{it}^* = x_{it}'\beta + \alpha_i + \varepsilon_{it}$$

1.53 While we do not observe the latent variable y^*, the following observation rule ties the observed ordered choices of y to the latent variable through the thresholds τ_{ik}:

[26] Tennant, D. F., Tracey, M. R., & King, D. W. (2020). Sovereign credit rating: Evidence of bias against poor countries. The North American Journal of Economics and Finance, 51, 100877.

[27] Baetschmann, G., Ballantyne, A., Staub, K. E., & Winkelmann, R. (2020). feologit: A new command for fitting fixed-effects ordered logit models. *The Stata Journal*, *20*(2), 253-275.

$$y_{it} = k \quad if \quad \tau_{ik} < y_{it}^{*} \leq \tau_{ik+1};\ k = 10,11,12,13$$

1.54 The thresholds partition the latent continuous variable into a series of regions corresponding to the various ordinal outcomes. The number of thresholds will be one less than the possible number of values that the dependent variable 'y', can take. Moreover, the probability of observing outcome k for agency i at time t is:

$$\Pr(y_{it} = k|x_{it}, \alpha_i) = \Lambda(\tau_{ik+1} - x_{it}'\beta - \alpha_i) - \Lambda(\tau_{ik} - x_{it}'\beta - \alpha_i)$$

1.55 This probability depends on x_{it} and β, the parameter of interest. However, it also depends on α_i, τ_{ik} and τ_{ik+1}.

1.56 "Ability to Pay" is captured through a set of observed economic fundamentals utilised by the Credit Rating Agencies in their models. The rating agencies consider several factors which might affect the debt sustainability of a sovereign and consequently, its credit quality. After assessing the economic fundamentals utilised by the Credit Rating Agencies, the parameters considered, and the variables included are listed below: -

- **Fiscal Component:** General Government Debt to General Government Revenue Ratio, General Government Debt to GDP ratio, General Government Interest Payments to Revenue ratio, and Gross Fiscal Deficit (per cent of GDP).
- **External Sector Component:** Current Account Balance (per cent of GDP), Foreign Exchange Reserves to Government External Debt ratio, Government External Debt to General Government Debt ratio, Government External Debt to GDP ratio, Interest Payments on External Debt (per cent of GDP).
- **Monetary Component:** Broad Money Supply Growth Rate, CPI Inflation, Credit to Private Non-Financial Sector (per cent of GDP).
- **National Income:** Nominal GDP Growth Rate, Real GDP Per-capita Growth Rate, Real GDP Growth Rate

1.57 Institutional Quality or "Willingness to Pay" is measured as the average of the standardised Worldwide Governance Indicators of Control of Corruption, Political Stability and Absence of Violence, Regulatory Quality, Government Effectiveness, Voice and Accountability, and Rule of Law, in line with the variables the rating agencies use. World Bank's governance indicators are said to help gauge a country's respect for the institutions that govern economic structures, and its effectiveness in formulating and implementing sound policies.

1.58 We do note that while the CRAs utilise other qualitative parameters within their assessments, such as the Gini Index and World Justice Project's indices among others, the World Governance Indicators are chosen as the central proxy for our analysis since the WGI sub-indicators factor into both the quantitative and qualitative assessments made by the CRAs. Thus, the WGI coefficient would represent the sum of the direct and indirect impact of the qualitative factors on India's rating.

Further, the WGI and the critique of it that follows is utilised as an example for our case study to highlight the various issues pertaining to the usage of perception-based indicators in the rating assessment and how they can adversely affect developing country outlooks.

1.59 All variables have been sourced from the World Bank, the IMF, the Bank for International Settlements (BIS), the Reserve Bank of India (RBI), and the Ministry of Statistics and Program Implementation (MoSPI).

1.60 In total, our analysis includes 21 variables grouped into five major categories. All these variables are relevant for explaining the ratings assigned to India, but they tend to co-move with one another, creating collinearity issues when included in the regression. The large number of variables also introduces degrees of freedom issues, further making estimates unreliable.

1.61 To tackle these issues, we utilise Principal Component Analysis (PCA), which reduces the dimensionality of the dataset while retaining as much of the original information as possible. This allows us to reduce the number of inputs into the regression while extracting the maximum information available. The generated components are linear combinations of the original variables, which are standardised (with normal distribution), thus making it convenient for comparisons and interpretation. The Factor Loadings of the first Principal Components are available in the Technical Appendix detailed in Annexure-II.

Estimation and Results

1.62 Thus, having created relevant categories that are consistent with the methodologies of the credit rating agencies and macroeconomic considerations, we estimate the impact of economic performance and governance indicators on India's credit ratings. The regression results are as follows[28]:

Table I.9: Regression Results

Credit Rating	Coefficient (p-value)
Governance	15.85*** (0.000)
Fiscal	-3.14*** (0.000)
External	-2.58*** (0.000)
Income	0.17*** (0.000)
Monetary	-1.41** (0.015)
Threshold Values (τ)	
Cut1 (normalised at zero)	0
Cut2	2.5
Cut3	14.18

Source: Authors' Calculation

Note: ***, **, and * represent significance at the 1%, 5%, and 10% respectively.

[28] The model was estimated in STATA 18

1.63 Theoretically, a higher fiscal burden, higher external liabilities, and higher inflation (along with the risk of a bubble due to excess credit) should result in a rating downgrade. Similarly, better governance and higher GDP growth positively influence a sovereign credit rating. The results we observe from the coefficients are in line with the theoretical expectations of each component and all the estimated components are statistically significant.

1.64 An increase in India's indebtedness, cost of servicing its debt, fiscal deficit, and external debt burdens all increase the probability of a rating downgrade. The factor loading[29] for the Reserves to External debt ratio has a negative sign, indicating that higher reserves are favourably affecting the probability of a higher rating since higher reserves improve India's capacity to service its external obligations.

1.65 Similarly, higher GDP growth, higher per capita incomes, and better governance all improve India's chances of receiving a credit rating upgrade. The monetary component has a negative coefficient, which indicates that higher inflation adversely affects the chances of a higher rating. High credit growth, especially upward deviations from the trend levels estimated by the agencies, is considered an economic bubble risk, thus resulting in a negative coefficient. From the coefficients, we can infer that better governance, a healthy fiscal position, and low external liabilities emerge as the most important determinants of India's rating.

1.66 To further understand the effects of the composite indicators on the assigned rating, we calculate the magnitude of change required in the indicators for earning a higher rating (marginal effects). These marginal effects inform us of how sensitive the sovereign rating is to changes in a particular composite indicator. The sensitivity can be calculated from the coefficients and threshold values provided in Table I.9. For example, the change required in the component x_{it} to earn an upgrade from BBB- (Baa3 for Moody's) to BBB (Baa2 for Moody's) can be calculated as the difference in the threshold values divided by the beta estimate of the composite indicators, allowing us to quantify the improvement needed for a rating upgrade. The lower the unit change value is, the more sensitive the ratings are to changes in the parameter and vice versa (holding all other parameters constant). These estimates are presented in Table I.10.

1.67 The results presented in Table I.9 and Table I.10 bring to light some stark conclusions. We observe that the composite governance indicator has the largest and statistically significant coefficient of 15.85 within our specification. To put it another way, the composite governance indicator explains approximately 68 per cent of our assigned rating (the governance coefficient divided by the sum of all absolute coefficients). Further, in terms of sensitivities, the assigned credit rating to India is most sensitive to changes in the governance parameter. For a 0.74 unit change in the average WGI score, India stands a chance to be upgraded from BBB- to BBB. Such

[29] Factor Loadings are akin to correlations, indicating the strength of information shared between a variable and the Principal Component. Thus, if the factor loading has a negative sign, it indicates that the variable moves in the opposite direction of the Principal Component.

a high sensitivity to the governance indicator implies that they are granted a far higher than specified weightage in the methodology documents published by the rating agencies.

Table I.10: Unit Changes in Explanatory Factors required for a rating upgrade from BBB- to BBB

Composite Indicator	Unit changes
Governance	0.74
Fiscal	-3.72
External	-4.53
Monetary	-8.28
Income	68.71

Source: Authors' Calculation

1.68 For instance, in Fitch's structural model, the composite governance indicator is granted a weightage of 21.4 per cent while S&P assigns a weight of 25 per cent to Institutional Quality. However, judgements about a sovereign's institutional quality also factor into the additional qualitative overlays applied by the CRAs during the rating process since the WGI is included in the structural models and is also used to inform the qualitative assessments. This results in a larger weightage being indirectly assigned to the governance metric than initially stated by the agencies. The direct and indirect effect of the WGI on the credit rating makes the assigned rating highly sensitive to the governance parameter, implying that the stagnant nature of India's ratings over the last two decades has mostly been a result of unmoving perceptions about the country's governance and institutional qualities. Further, as highlighted earlier, given that the weights are generally for illustrative purposes only, combined with the opaqueness of the rating process, it is plausible to consider that qualitative assessments are disproportionately weighted higher in the case of developing countries such as India.

1.69 This crucial finding emphasises a compelling reality: the influence of the composite governance indicator and perceived institutional strength surpasses the collective influence of all other macroeconomic fundamentals when it comes to the chances of earning India and other developing economies an upgrade. The effect is non-trivial because it implies that to earn a credit rating upgrade; developing economies need to demonstrate progress along arbitrary indicators, which are also criticised for being constructed from a set of several one-size-fits-all perception-based surveys. Additionally, developing economies also need to contend with the perceptions of the CRAs too, since the big-three agencies are found to discriminate cross-regionally when it comes to perceiving the value and role of public debt (Hmiden et al., 2023)[30].

1.70 This presents a serious challenge for developing countries since a common thread among the indices and surveys used for qualitative assessments by the CRAs is derived from the perceptions

[30] Hmiden, O. B., Tatoutchoup, D., Nguimkeu, P., & Avelé, D. (2023). Discrepancy and cross-regional bias in sovereign credit ratings: Analyzing the role of public debt. *Economic Modelling*, 106600.

of a small sample of experts surveyed through a non-transparent selection process. For instance, the WGI itself tends to reward herd mentality in expert opinions since the WGI econometric model is designed to reward higher weights to sources that agree with one another. Thus, even though the rating agencies might be utilising qualitative assessments to varying degrees, we can nevertheless conclude that there is an urgent need for reform in the credit rating process toward greater objectivity.

What are the governance indicators measuring?

1.71 Good governance and economic development go together. But does good governance precede growth, or it is the other way around? This is a question that requires proper consideration since the CRAs rely so heavily on governance as a metric when assessing the credit risk associated with a developing economy. The literature has demonstrated that across several case studies, especially in East Asian economies, good governance came well after economic growth since effective institutions became more affordable with development[31,32]. For example, in China's case, improved governance was found to be an outcome of its economic growth[33]. Furthermore, in Latin American countries where standards of 'good governance' were observed, the countries were witnessing disappointing changes to per capita incomes and an increasing divergence in their regional development indicators[34]. Theoretical expectations lead rating agencies and other experts to assume that there exists a linear relationship between governance and economic growth. However, the experiences of developing economies over the last three decades have shown us that the relation is highly non-linear, and often flipped.

1.72 In the early 2000s, Hernando De Soto[35] emphasised that the developing world is currently undergoing a transformative industrial revolution akin to the one that transpired in the West more than two centuries ago. Drawing a parallel, he noted that while Britain took over 250 years to progress from an agrarian society to a technology-driven one, Indonesia accomplished a similar

[31] Khan, M. (2004). State failure in developing countries and institutional reform strategies. *Toward pro-poor policies: aid, institutions, and globalization*, 165-96.

[32]Grindle, M. S. (2004). Good enough governance: Poverty reduction and reform in developing countries. Governance, 17, 525-548

[33] Wilson, R. (2016). Does governance cause growth? Evidence from China. World Development, 79, 138-151.

[34] Franz, T. (2019). Why 'good governance' fails: Lessons from regional economic development in Colombia. *International Journal of Urban and Regional Research*, *43*(4), 776-785.

[35] As De Soto goes on to show, the governance quality at the start of this 250-year-old process resembles the present reality in many developing countries. He writes, "The past of Europe strongly resembles the present of developing and former communist countries. The fundamental problem that the latter face is not that people are invading and clogging the cities, that public services are inadequate, that garbage is piling up, that ragged children beg in the streets, or even that the benefits of macroeconomic reform programs are not reaching the majority. Many of these difficulties existed in Europe (and also the United States) and were eventually overcome…". Moreover, "Even Members of Parliament, which by the end of the seventeenth century had the power to authorise the establishment of businesses, were known to receive bribes for special favours. Local authorities were worse. In 1601 a speaker in the House of Commons defined a justice of the peace as 'a living Creature that for half a Dozen of Chickens will Dispense with a whole Dozen of Penal Statutes'…".
De Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the West and fails everywhere else*. Basic books.

transformation in just four decades. Generally, governance evolves slowly over time in tandem with economic development, as highlighted by Kurtz and Schrank (2007)[36]. This implies that it is not appropriate to employ the same criteria to assess the quality of governance in a growth process that has spanned 250 years as opposed to one that is only a few decades old.

1.73 Yet, the authors of the WGI have defended their work, deeming it as necessary. Despite the atheoretical nature of the indicators and its failure to establish "construct validity", the authors have stated that waiting for a coherent and consistent theory of governance before measurement would be "impractical to the point of irresponsibility"[37]. While we do agree that good governance is required and an important input in the assessment of the risks associated with a sovereign, it is worth asking the question, what are the governance indicators measuring?

1.74 Take the case of India, for example. As per the World Governance Indicators, India has made trivial progress in its percentile ranking between 2014 and 2022. Yet, within the same time frame, India has risen to the position of being the fifth-largest economy in the world, lifting millions out of poverty and expanding its middle class substantially. The country has also become a major investment destination for foreign capital, with total FDI inflows for FY23 coming in at USD 71 billion and equity inflows at USD 46 billion[38].

1.75 Educational attainment has gone up significantly, and today, the country has the third-largest group of scientists and technicians in the world[39]. Further, the corporate sector has been deleveraged, and the banking sector balance sheets have been cleaned up, which has resulted in efficient credit provisioning[40]. The government also undertook a wave of structural and regulatory reforms catering to the product and capital markets. With dedicated programs for connectivity through investments in logistics and the creation of digital public infrastructure with strong forward linkages to the non-digital sectors of the economy, the expansion of the physical and digital infrastructure further strengthens India's potential economic growth. The introduction of several schemes to promote the domestic manufacturing sector, such as the Production Linked Incentive scheme, has also resulted in firms scaling up their investments within the country.

1.76 The government has also shifted to a trust-based governance model, bringing in reforms such as the Insolvency and Bankruptcy Code, the Real Estate (Regulation and Development) Act, decriminalisation of minor economic offences under the Companies Act of 2013, repealing more than 1400 archaic laws, abolishing the Angel Tax and most notably, rationalising the indirect tax system under the Goods and Services Tax (GST). The gains emerging because of these reforms

[36] Kurtz, M. J., & Schrank, A. (2007). Growth and governance: Models, measures, and mechanisms. *The journal of politics*, *69*(2), 538-554.
[37] Kaufmann, D. (2007). *The worldwide governance indicators project: answering the critics* (Vol. 4149). World Bank Publications.
[38] DPIIT, Govt. Of India
[39] All India Management Association, Boston Consulting Group
[40] Economic Survey 2022-23

have been captured through India's progress in the Global Competitiveness Index[41], the Logistics Performance Index[42], and the Global Innovation Index[43], among others.

1.77 Not only is the country progressing towards a path for high economic growth, but it is also doing so in line with its Nationally Determined Contributions for the path to net zero. India is leading the charge towards net zero (along with China) through its substantial investments in renewable energy and schemes to support the adoption of Electric Vehicles. India has already surpassed the commitments it made at the COP21 Paris Summit and is almost nine years ahead of its commitment to integrating renewables into the electricity mix[44]. It is also laying the groundwork to scale up important emerging technologies such as hydrogen battery storage systems and decarbonising the steel, cement, and fertiliser sectors.

1.78 Therefore, in the context of the reforms laid out above, which have produced both tangible and intangible benefits, we reiterate our question: What exactly are the governance indicators measuring? The host of structural and regulatory reforms has already borne fruit, while at the same time, the country has seen little to no improvement in its WGI ranking. None of the reforms and outcomes would have been possible without good governance, leading to the question of whether the governance indicators are measuring governance. Also, given that the WGI plays such a significant role in determining India's credit rating, the utility and information content of these indicators need to be revisited by the rating agencies. If governance is going to be considered a necessary inclusion in the sovereign rating process, a different metric needs to be adopted by the CRAs.

1.79 Reconsidering the usage of the WGI in the sovereign rating process could lead to fairer evaluations not just for India but also for many other EMDCs, which are disadvantaged by the inclusion of this perception-based indicator.

Summing up

1.80 Over-reliance on non-transparent qualitative factors, including perceptions, value judgements, views of a limited number of experts, and surveys with loose methodologies in sovereign rating, results in unacceptable outcomes from a global point of view. It makes the rating of developing countries almost invariant with respect to even sizeable movements in relevant macroeconomic fundamentals. This happens because the base rating, estimated through quantitative scoring of macro-fundamentals, is overridden by qualitative considerations while finalising the published ratings. The set of loose qualitative information fed into the quantitative scoring of countries and the final qualitative overlay, based purely on the agency's subjective assessment of the countries' ability and willingness to pay, become heavily loaded against the developing countries. The composite result of this is exemplified by India's recent rating history.

[41] International Institute of Management Development
[42] World Bank
[43] World Intellectual Property Organization
[44] International Energy Agency

The rating of India remained static at BBB- during the last 15 years, despite it climbing the ladders from the 12th largest economy in the world in 2008 to the 5th largest in 2023, with the second-highest growth rate recorded during the period among all the comparator economies. Thereby, any improvement in macro-economic parameters may virtually mean nothing for a credit rating if qualitative parameters are judged to be in need of improvement. This has serious implications for developing sovereigns' access to capital markets and ability to borrow at affordable rates.

1.81 The question whether the dependence on less-than-optimal qualitative information is unavoidable also comes to the fore. The answer is a clear NO. On a zero base, there cannot be any better-revealed preference for willingness and determination to pay back a country's debt obligations than its repayment history itself. Thus, a nation that has not defaulted throughout its external debt history and through the vicissitudes of its socio-economic development should be taken as fool-proof in its 'willingness to pay' back. This, if made the benchmark, can form the basis for the treatment of different combinations of debt defaults and the reasons therein on the one hand and the assessment of the willingness to pay on the other. This involves painstakingly building up country-wise baseline information on debt history, instances of restructuring, defaults, and the circumstances leading to such events. However, this will do enormous good to the credibility of credit rating by enabling the CRAs to dispense with mechanical application of unconvincing qualitative information and judgements. Such information can be the last resort when all other options for applying authentic, verifiable information are precluded.

1.82 Even if governance indicators are to be relied upon, they must be based on clear, well-defined, measurable principles than subjective judgements by CRAs. Like all subjective qualifications, these judgements also suffer from heuristic and cognitive biases such as echo chambers, bandwagon effects, and difficult-to-change commitment and confirmation biases.

1.83 While CRAs expect sovereigns to make improvements in the quality of their governance, reduce market risks, and improve the regulatory environment, the agencies themselves offer no insights or guidance on exactly what factors are part of their considerations and suggestions. This opaqueness makes it difficult for any country to fully understand what reforms are needed to earn a credit rating upgrade. Just as countries are obligated to be as transparent as possible with the rating agencies to be viewed favourably, the obligation must extend the other way around, too. CRAs tend to have a detailed database of best practices from around the world, which they apparently rely upon to form their judgements. This knowledge must be shared with the countries they rate so that appropriate action can be taken on a sovereign's part to improve its creditworthiness. The symmetry of obligations would prove to be beneficial for all parties involved since it would restore a sovereign's confidence in the rating agencies while also recalibrating the perceived risks associated with low-income countries, basing it more on objective parameters.

1.84 A salient example of positive change emerging from two-way transparency and consultation is India's significant improvement in its Ease of Doing Business Ranking between 2014 and 2020. Through periodic discussions and engagement with the World Bank regarding its methodology and measuring processes, the Indian Government was able to identify critical areas in need of

reform and address them in a timely manner. Reforms were brought in through studying global practices and by involving Nodal Ministries and States. This led to India's rapid rise in the Doing Business rankings, going up 79 ranks in a span of six years[45]. Thus, a symmetry of obligations between the rating agencies and the rated sovereign is a necessary first step in reforming how countries are rated. Transparency between the parties can also reduce the uncertainties the rating agencies face, allowing them to assess the creditworthiness of a country more accurately.

1.85 Lastly, under the Indian Presidency, the G-20 has prioritised the mobilisation of private capital as a central strategy for addressing global challenges, including climate change, and supporting the energy transition in developing countries. Sovereign ratings presently act as a ceiling in attracting the necessary funds, influencing the borrowing costs, and adversely affecting the bargaining power of developing countries versus private financiers. Given that private capital has a larger role to play in addressing global challenges over the coming decades, even a small reduction in the cost of borrowing for developing countries would go a long way. Reforming the sovereign rating methodology to more accurately reflect a developing nation's default risk has the potential to save billions of dollars for borrowing countries. Thus, bringing about positive transformations in the rating process through greater accuracy and transparency has never been more crucial than it is now.

[45] Ease of Doing Business Booklet, Ministry of Commerce and Industry, Government of India, 2020

Annexure I: Worldwide Governance Indicators

The World Bank measures the quality of "Governance" of countries through the Worldwide Governance Indicators (WGIs). As per the authors of the WGIs, "the WGI indicators attempt to optimally combine many data sources to get the best possible signal of governance in a country". These indicators are based on more than 300 indicators taken from more than 30 sources, including think tanks, international organisations, NGOs, private firms, and household surveys. The WGIs are listed below.

(i) *Voice and Accountability:* Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedoms of expression and association, and a free media;

(ii) *Political Stability and Absence of Violence/Terrorism:* Captures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism;

(iii) *Government Effectiveness:* Reflects perceptions on the quality of public services, the quality of the civil service and its independence, the quality of policy formulation and implementation, and the government's commitment to such policies;

(iv) *Regulatory Quality:* Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that promote private sector development;

(v) *Rule of Law:* Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence;

(vi) *Control of Corruption:* Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Major sources used by WGIs	Summary of the methodology employed by these sources
Bertelsmann Transformation Index	Based on assessments of 286 local and foreign experts from academic institutions and civil society organisations. Just to give a sense of coverage: for instance, none of the listed experts for Asia and Oceania are Indians and/or based in India.
Economist Intelligence Unit	Compiled by the research and analysis division of The Economist Group, using 60 indicators and a network of over 500 correspondents
Freedom House	Assessments are made by Freedom House staff, analysts, and external experts from academics, think tanks, and human rights communities, based on news articles, academic analysis, reports by non-governmental organisations, and individual professional contacts.

IHS Markit Country Risk Service	Based on an expert assessment of the IHS Markit staff, and is sensitive to events like elections, violent attacks, or changes in government policies[46].
iJET Country Security Risk Ratings	Based on the response from iJET staff with prior experience in governmental agencies, military operations, and corporate security departments. The rating process is not revealed.
Institute for Management & Development World Competitiveness Yearbook (WCY)	Based on a survey by WCY (Institute for Management & Development World Competitiveness Yearbook) of the businesspeople in assessed countries (one-third weight) and on hard data (two-thirds weight).
World Economic Forum Global Competitiveness Report	Based on the views of domestic and foreign-owned firms on issues related to the business environment.
IFAD Rural Sector Performance Assessments	IFAD country economists rate the rural policy environment.
Political Risk Services (PRS) International Country Risk Guide	PRS uses their staff's assessments and peer review them. Rating process is not revealed.
World Justice Project (WJP) Rule of Law Index	The WJP uses a combination of expert assessments and general public poll**.**

The following are the issues with WGIs relevant to the context of sovereign credit rating.

(i) The same parameters/standard formulae may not be appropriate to measure the quality of governance of countries that vary vastly in size and structure. For example, under the Voice and Accountability indicator, large democracies like India and Indonesia score percentile ranks of around 50 and the US scores a percentile rank of around 75, while countries like the UK and Netherlands score very high percentile ranks in the range of 90-97. By sheer size differences, these countries are not comparable.

(ii) **Changing the composition of sources across years:** The indicators are released annually. The number and composition of sources reporting values for respective indicators change every year. This renders the annual scores incomparable sequentially in a time series.

(iii) **Source organisation bias:** A majority of the source organisations are based in developed economies. Some sources, with maximum weights in WGIs, especially the Bertelsmann Foundation and Economic Intelligence Unit, have often produced reports contrary to the positions advanced by India and developing countries at international negotiating forums.

[46] https://assets.marketplace.spglobal.com/_assets/documents/marketplace/ihs-markit-country-risk-ratings-strategic-risk-methodology.pdf

The opinions of these organisations vary[47] from those of the World Bank, IMF, etc., in overall economic assessments. One of the sources for the Rule of Law indicator is the 'US State Department Trafficking in People Report' which categorises countries on the basis of the government's efforts to prevent severe trafficking.[48] A representative mix of public sector data providers belonging to developed, developing, and least developed countries can lend more credibility to the estimates.

(iv) The data sources used are mostly perception-based. The WGIs are based excessively on the value judgements of experts and much less on household and firm surveys, primarily for cost reasons.[49] Our understanding is that about 30 per cent of the data sources are based on surveys, while the remaining comprise assessments from experts from commercial business information providers, public sector data providers, and NGOs.[50] Further, the household surveys are apportioned low weights, *for instance*, a negligible weight is assigned to the *Gallup World Poll* for Voice and Accountability Indicator for India in 2022 despite it assigning the highest value among all sources reporting for the Voice and Accountability indicator for India.

(v) Source indicators like IHS Markit Country Risk Service are sensitive to events like elections, violent attacks, or changes in government policies. Governance, as a concept, is more fundamental in nature and measures of governance should reflect structural changes in a country and not be sensitive to one-off events.

(vi) **Absence of conceptual clarity on governance:** This problem arises on account of all the reasons above plus other factors. First, many data sources are not published, and hence, the complex calculations are not replicable. Second, it is not clear as to how different repeated combinations of some data sources can lead to a coherent and complimentary set of governance indicators. Third, and most important, it is not clear as to how, based on questionable and non-transparent data sources, six governance indicators aggregate into a comprehensive measure of governance of a country.

One implication of overreliance on these indicators is that they directly impact the cost of credit to the borrower countries. There is a need to acknowledge that the numbers cannot be looked at in isolation as a measure of the quality of governance for making assertions about a set of countries. The authors of the WGI, Kauffman et al. (2010) also sound against over-reliance on small differences in scores of countries over time.[51] As perceptions tend to be biased and sticky in nature, such indicators should be used with reasonable caution. The most critical weakness of deploying

[47] For instance, the Bertelsmann Foundation's report in 2022 states that "*India is faced with a weakening economy, slowing economic growth*". Source - https://bti-project.org/en/reports/country-dashboard/IND

[48] Kauffman et al (2010) write that these indicators use expert assessments provided by the United States Department of State and France's Ministry of Finance, Industry and Employment for Public sector data providers. (https://www.brookings.edu/wp-content/uploads/2016/06/09_wgi_kaufmann.pdf)

[49] https://www.brookings.edu/wp-content/uploads/2016/06/09_wgi_kaufmann.pdf

[50] https://www.govindicators.org/documentation#ex3-tabs-2

[51] https://www.brookings.edu/wp-content/uploads/2016/06/09_wgi_kaufmann.pdf

the WGIs in sovereign credit rating is their inability to even remotely represent either willingness or ability to pay.

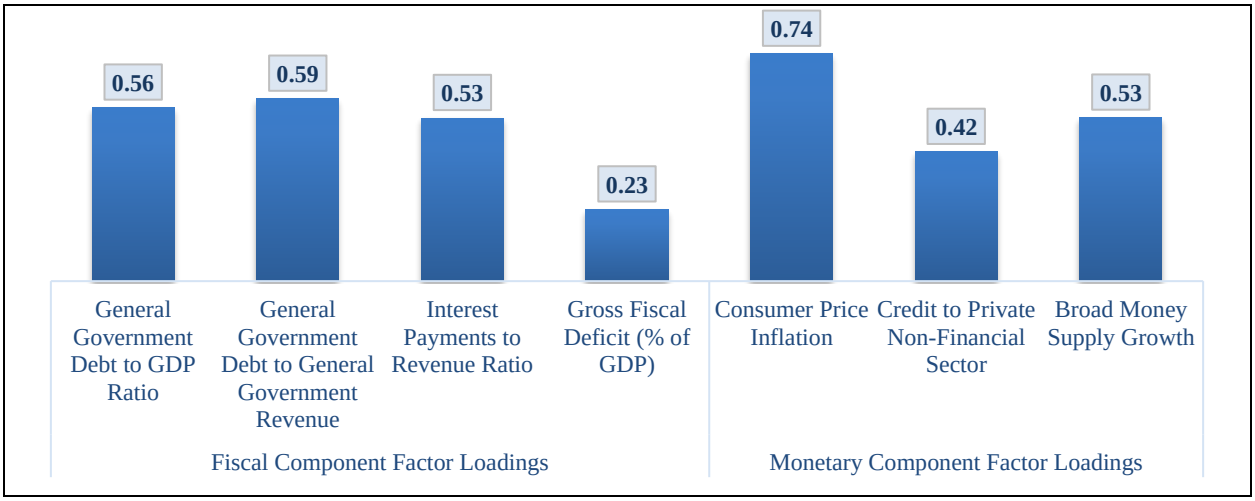
Annexure II: Technical Appendix

Pair-wise Correlation Table

	Governance	Fiscal	External	Income	Monetary
Governance	1.00				
Fiscal	0.1144	1.00			
External	0.0194	0.1067	1.00		
Income	-0.1400	0.0503	-0.1507	1.00	
Monetary	-0.3863	-0.3993	-0.2868	0.0165	1.00

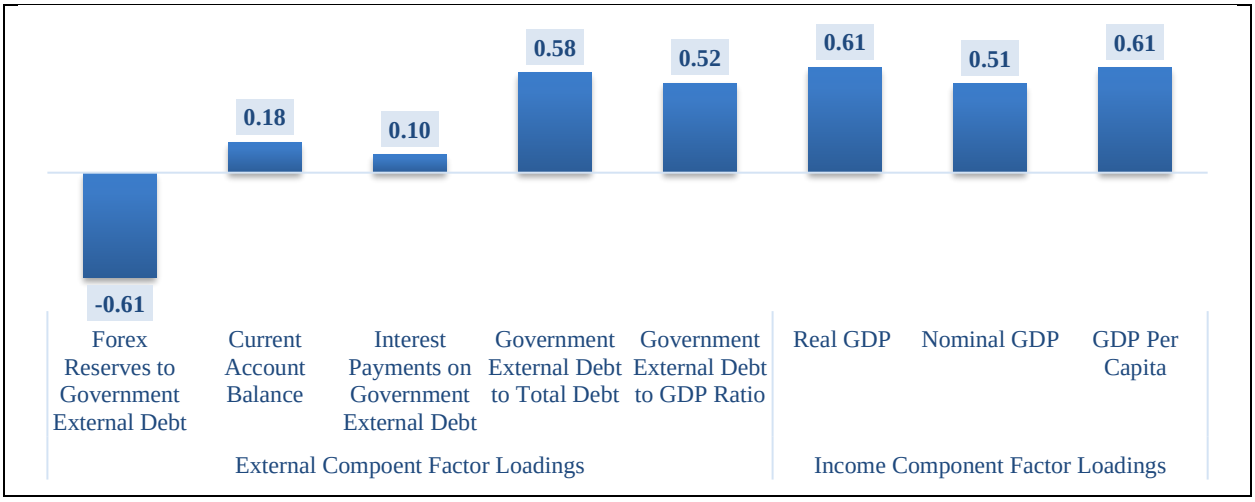
Source: Authors' Calculation

Component Wise Factor Loading of the Base Model



Source: Author's Calculation

Component Wise Factor Loading of the Base Model



Source: Authors' Calculation

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02
CHAPTER

PERSPECTIVES ON THE INEQUALITY DEBATE IN INDIA

The issue of economic inequality has garnered substantial media and public attention, interspersed with ideological leanings. This essay attempts to shed light on the theoretical framework of economic inequality, its trend worldwide and in India, and its relevance for a developing economy relative to a more tangible issue of poverty. It also discusses 'Commitment to Equity', an approach that comprehensively measures inequality after incorporating fiscal transfers. The essay further argues that high growth is imperative for a developing country like India as it increases the size of the pie for shared equitable economic progress. At the same time, equality of opportunity and universal access to basic amenities are non-negotiable as they ensure the dignity of an individual, in turn empowering her to utilise the avenues in a fast-growing economy. As the erstwhile economically deprived sections join the ranks of the middle class en masse, policy attention needs to extend beyond the "roti, kapda, makaan" class to keep the growth engine up and running.

Introduction

2.1 It is a hard fact that humanity has been, for a long time, confronted with inequality in various forms, viz. gender, ethnicity, religion, income, wealth, resources, or opportunities. This poses a complex mix of challenges within and across countries. Challenging these inequalities is at the forefront of various global policy debates, with the United Nations (UN) goal of "*Leave no one behind"* forming part of the 2030 Agenda for Sustainable Development. Here, we limit ourselves to a discussion on income/wealth inequality.

2.2 This essay presents the theoretical background of the inequality debate worldwide and in India; it dwells on the measures of inequality and presents recent studies, attempting to paint a wholesome picture of the levels of inequality. The essay begins with the major theories linking economic inequality and growth, followed by empirical evidence spanning regions, including the East Asian economies. In the second section, the measurement of inequality is discussed while also presenting the global inequality trend. The essay then proceeds to elaborate on the Indian context, touching upon the trend in consumption inequality since the 1980s and the impact of the COVID-19 pandemic. In the fourth section, the essay emphasises prioritising poverty alleviation before engaging with the vexed notion of inequality. While emphasising the significance of economic growth for poverty reduction, the essay discusses the desirability of raising incomes over redistribution for developing countries. This is followed by looking at India's economic history, where growth has been a powerful force behind the sharp decline in poverty. The fifth section discusses the rising magnitude and significance of the middle class, which not only reflects poverty reduction but also catalyses self-sustained

economic growth. Bringing attention to "bad inequalities", the sixth section talks about the more serious issue of inequality of opportunity and how public policy is addressing it by building an opportunity ladder. The seventh section sheds light on the role of fiscal policies in reshaping income distribution and the need to incorporate fiscal transfers and taxes in household income before measuring inequality, taking a cue from the research of the 'Commitment to Equity' Institute at the University of Tulane, United States.

Drivers of Economic Inequality: A Leaf from the Textbooks

2.3 How did unequal societies emerge? The genesis of inequality in a society can be traced to the initial conditions encompassing its history and geography, coupled with the political set-up, social fabric, and economic forces. In effect, answering the question of why economic growth has been uneven across societies involves many complex processes, simplified in economic theories and stylised facts.

Inequality vs. Economic Growth: Lewis Model, Kuznets Hypothesis, and Empirical Evidence

2.4 Is inequality an unintended consequence of economic growth? In the middle of the 20th century, the belief was that higher economic growth would necessarily bring prosperity for all sections of society, following the adage "*a rising tide lifts all boats*", the argument being that the prosperity of the rich would automatically "*trickle down"* to others.

2.5 Adam Smith, the father of classical economics, prioritised reducing absolute poverty over addressing inequalities specifically. He emphasised promoting economic growth and providing opportunities for individuals to lift themselves out of poverty rather than directly addressing wealth disparities. As long as individuals had access to food, clothing, and shelter, it is believed that the extent of economic inequality was of less concern to Smith. In fact, some argue that Smith viewed economic inequality as a positive outcome.[52]

2.6 There is a vast body of literature focusing on the dynamics of the distribution of income and wealth over various stages of economic development, starting with the work of W. Arthur Lewis (1954)[53] and Kuznets (1955)[54].

2.7 According to the Lewis model, economies are characterised by a dualistic structure in the early stages of development, with a traditional subsistence sector and a modern industrial sector. This dualism contributes to income disparities, as the modern sector generates higher wages and productivity than the traditional sector. However, Lewis also identified a potential pathway for reducing inequality through the process of economic development.[55] Moreover,

[52] Walraevens, B. (2021). Adam Smith's view of economic inequality. Cambridge Journal of Economics, 45(1), 209–224. https://doi.org/10.1093/cje/beaa024.
[53] Lewis, W. Arthur (1954). "Economic Development with Unlimited Supplies of Labour," *Manchester School.*
[54] Kuznets, S., (1955), "Economic growth and income inequality", American Economic Review, March.
[55] Nations, U. (n.d.). W. Arthur Lewis: Pioneer of Development Economics. United Nations. Retrieved July 14, 2023, from https://www.un.org/en/chronicle/article/w-arthur-lewis-pioneer-development-economics.

increasing inequality is not only an effect of economic growth but also a necessary condition for growth. According to the *pro-inequality* argument, an economy with a high concentration of income with a set of people who can save and invest is more likely to grow faster than one with a more equitable distribution of income. However, this debate is far from settled, facing many empirical challenges.

2.8 Kuznets (1955, 1963)[56] suggested that inequality follows an inverted "*U-shaped*" pattern. As a country undergoes industrialisation and economic development, there is typically a rise in income inequality in the initial stages of this process. However, after a certain point, the level of inequality starts decreasing, and eventually, it reaches a state of balance or equilibrium.

2.9 Kuznets' conjecture finds considerable support in research conducted on Western European countries. A notable example is England, where the Gini coefficient, a measure of income inequality, experienced a notable increase from 0.400 in 1823 to 0.627 in 1871. However, it subsequently declined to 0.443 in 1901, as documented by Williamson (2013).[57] Similar patterns aligning with this hypothesis have been found in France, Sweden, and Germany. Alm et al. (2016)[58] focus on the Kuznets' hypothesis and its applicability to Russian regions from 2002 to 2012. They find strong evidence supporting the hypothesis, both before and after the 2008 crisis, with some Russian regions experiencing a decline in inequality during the post-crisis period, possibly due to the implementation of socially oriented projects and programs.

2.10 In the context of growth with equity, the example of East Asian economies is notable. The eight high-performing Asian economies–Japan, South Korea, Taiwan, Hong Kong, Singapore, Thailand, Malaysia, and Indonesia– constitute the "East Asian miracle" as their real per capita GDP grew twice as fast as in any other regional grouping between 1965 and 1990. This coincided with a reduction in poverty and income inequality. Stiglitz (1997)[59] attributes this to openness to foreign investment, sound macroeconomic management, a stable political environment, and well-managed labour markets with educated labour. Later research, however, indicates high or rising inequality in East Asia post-1980s, in a "great reversal", where, half a century after the genesis of "growth with equity", income inequality had surpassed the initial levels (Feng 2011).*[60]* The main impetus for poverty reduction in the miracle economies was

[56] Refer Note 1 and Kuznets, S.(1963), Quantitative aspects of the economic growth of nations: VIII distribution of income by size, Economic Development and Cultural Change, January.
[57] Williamson, J. G. (2013). Did British Capitalism Breed Inequality? Routledge. https://doi.org/10.4324/9781315019383.
[58] Alm, J., Grigoryev, R., Kramin, M., & Kramin, T. (2016). Testing Kuznets' Hypothesis for Russian Regions: Trends and Interpretations. *Economy of Region*, *12*, 560–568. https://doi.org/10.17059/2016–2–20.
[59] Stiglitz, Joseph E. (1996), "Some Lessons from the East Asian Miracle", The World Bank Research Observer, vol. 11, no. 2 (August 1996), pp. 151-77
[60] Feng, W. (2011), "The End of 'Growth with Equity'? Economic Growth and Income Inequality in East Asia", Brookings, Analysis from the East-West Center No. 101

rapid growth, which received little or no help from improvements in income distribution (Quibria 2002).[61]

2.11 In the Indian setting, Ganaie et al. (2017)[62] reject the relevance of the Kuznets Hypothesis and reveal a U-shaped relationship between GDP per capita and inequality in the period 1964 to 2007 when, initially, inequality decreases with rising GDP per capita, but as GDP further increases, inequality starts to rise. The study also finds a positive association between the Consumer Price Index (CPI) and inequality, indicating that higher price levels contribute to increased inequality. However, government expenditure shows a negative relationship with inequality, suggesting that higher spending is linked to reduced inequality.

Figure II.1: Trends in Income Inequality (Per Capita Gross Income) in East Asia, 1960–2005

Source: Feng (2011)

2.12 The above discussion highlights the need for a nuanced understanding of the relationship between economic growth and inequality, suggesting that the dynamics can be more complex and less predictable than previously assumed.

Measuring Inequality and Trends

2.13 Inequality and poverty are often measured in terms of levels of income, consumption, and wealth, which are considered proxies for living standards. Due to a lack of accurate income data, consumption-based measures of inequality are more widely used and are more likely to

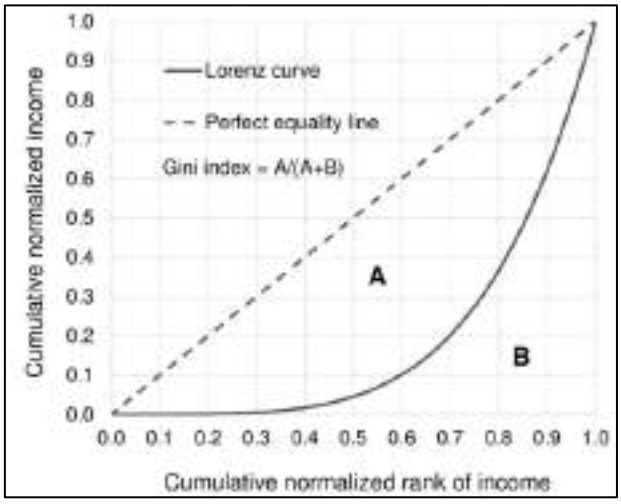
[61] Quibria, M. G. (2002), "Growth and Poverty: Lessons from the East Asian Miracle Revisited", ADB Institute Research paper 33

[62] Ganaie, A. A., Bhat, S. A., & Kamaiah, B. (2017). "An Empirical Verification of Kuznets Hypothesis in India". In U. K. De, M. Pal, & P. Bharati (Eds.), "Inequality, Poverty and Development in India: Focus on the North Eastern Region" (pp. 49–80). Springer. https://doi.org/10.1007/978-981-10-6274-2_3.

yield lower estimates. Mathematically derived measures include those suggested by Lorenz (Lorenz, 1905)[63] (Gastwirth, 1972)[64] and the well-known Gini coefficient.

2.14 The Gini index can be derived from the Lorenz curve framework, which plots the cumulative normalised rank of income against the cumulative normalised income. The index (Gini, 2005[65]) can be calculated as the ratio of the area between the perfect equality line and the Lorenz curve (A) divided by the total area under the perfect equality line (A + B). The closer the index is to zero (where the area A is small), the more equal the distribution of income. The closer the index is to one (where the area A is large), the more unequal the distribution of income.

Figure II.2: Lorenz Curve



Source: Sitthiyot et al., 2020[66]

2.15 However, while the level of income or wealth is an indicator of a lack of resources to achieve a socially acceptable standard of living, the Gini coefficient does not accurately measure the capacity of individuals to attain access to such a living standard as it is influenced by other factors such as education, social background and social networks, information, legal rights, illness, threatened domestic violence or insecurity.[67]

2.16 Researchers and think tanks mostly employ survey-based methods to gauge the level of inequality in an economy. Tax data and national account statistics are also used for this purpose. The use of tax data to study inequality was first done by Kuznets (1953)[68], and Atkinson and Harrison (1978)[69] used them to study wealth inequality.

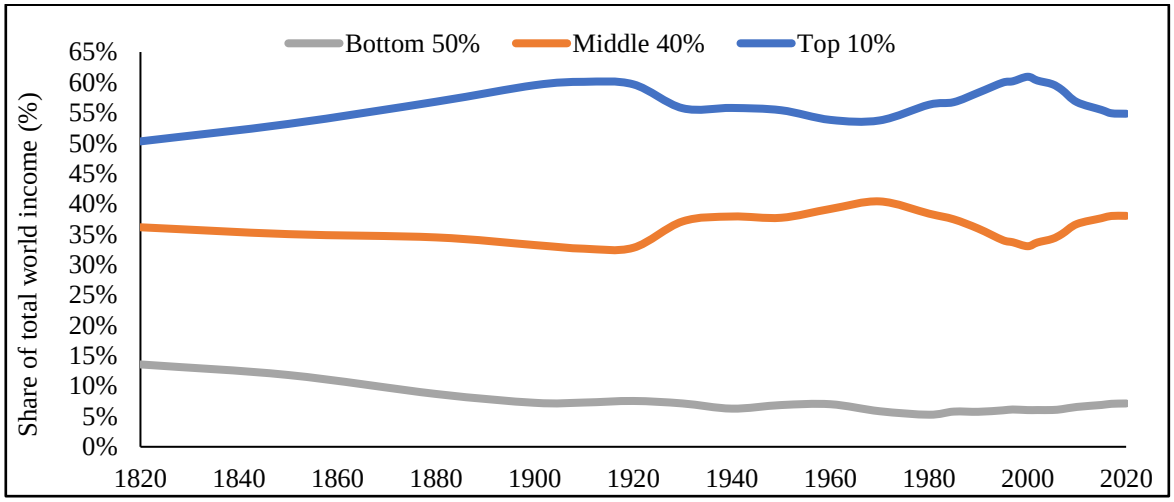
[63] Lorenz, MO (1905), "Methods for measuring the concentration of wealth". Pub Am Stat Assoc 9(70):209–219
[64] Gastwirth, Joseph L. (1972), "The Estimation of the Lorenz Curve and Gini Index." The Review of Economics and Statistics, vol. 54, no. 3, pp. 306–16.
[65] Gini, Corrado (1912), Variabilità e Mutuabilità. Contributo allo Studio delle Distribuzioni e delle Relazioni Statistiche. C. Cuppini, Bologna
[66] Sitthiyot, Thititep , Holasut, Kanyarat (2020), "A simple method for measuring inequality". Palgrave Commun 6, 112. https://doi.org/10.1057/s41599-020-0484-6
[67] Wratten, E. (1995). Conceptualizing urban poverty. Environment and Urbanization, 7(1), 11–33.
[68] Kuznets S., (1953), Shares of Upper Income Groups in Income and Savings, NBER.
[69] AtkinsonA.B. *et al.* (1978), The Distribution of Personal Wealth in Britain.

2.17 The World Inequality Database (WID), a popular source of economic inequality globally, estimates inequality using tax data (for the top income groups) and extrapolates it on consumption survey data for the entire society by assuming specific income-consumption ratios. The WID data addresses data gaps by assuming a constant growth rate between the years of data availability. [70] However, using tax data has its own limitations, such as under-reporting of income, especially by the richest, underestimation of non-earning family members' living standards, accounting for capital gains, etc.

Global inequality trend

2.18 According to the WID, global inequality has mostly been large. It rose between 1820 and 1910 and shows little long-run trend between 1910 and 2020, measured in terms of distribution of per capita incomes. The share of global income going to the top 10 per cent of highest income earners has fluctuated around 50-60 per cent between 1820 and 2020 (50 per cent in 1820, 60 per cent in 1910, 56 per cent in 1980, 61 per cent in 2000, 55 per cent in 2020), while the share going to the bottom 50 per cent of lowest incomes has generally been around 10 per cent or lower (14 per cent in 1820, 7 per cent in 1910, 5 per cent in 1980, 6 per cent in 2000, 7 per cent in 2020). According to the World Inequality Report 2022, while inequality between countries has been declining in the past two decades, inequality within countries has been on the rise. This has led to 'within countries' inequality to surpass 'between countries' inequality in the 21st century.[71]

Figure II.3: Global income inequality, 1820-2020



Source: wir2022.wid.world/methodology

2.19 The World Inequality Report, 2022, further shows the richest 10 per cent of the global population taking 52 per cent of global income, whereas the poorest half of the population earns 8.5 per cent of it. As regards global wealth inequalities, the poorest half of the global

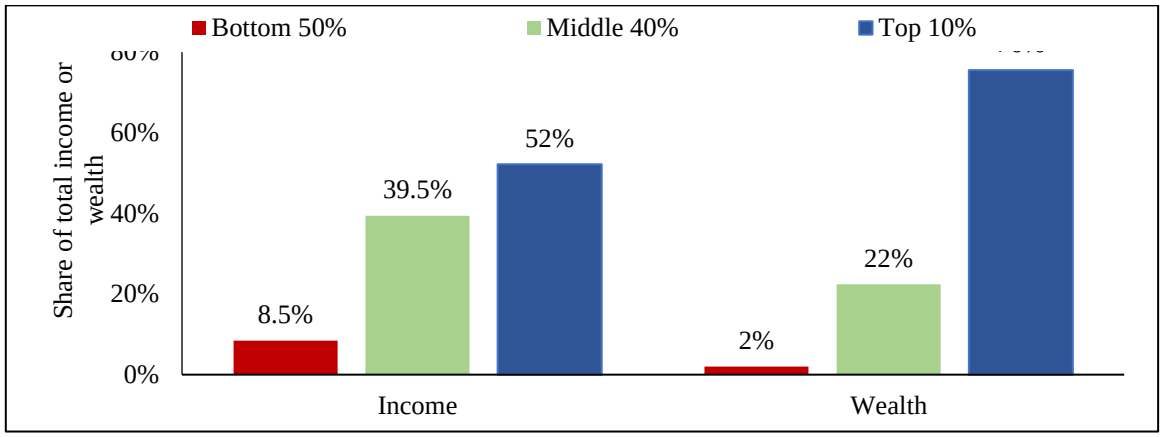
[70] https://wid.world/document/distributional-national-accounts-guidelines-2020-concepts-and-methods-used-in-the-world-inequality-database/.

[71] Chapter 2, World Inequality Report (2022), World Inequality Lab

population possess just 2 per cent of the total global assets, while the richest 10 per cent own 76 per cent of all wealth.[72]

2.20 The economic shock of the COVID-19 pandemic also affected levels of inequality across the globe, disrupting a continuous process of poverty alleviation. According to the UN SDG Report 2022 projections, between-country inequality rose by 1.2 per cent between 2017 and 2021, the first such increase in a long time. Before the pandemic, inequality was expected to have fallen by 2.6 per cent over the same period. Income inequality within countries also increased by around 1 per cent, on average, in emerging markets and developing countries, halting the steady decline seen in these countries since the start of the millennium.

Figure II.4: Global income and wealth inequality, 2021



Source: wir2022.wid.world/methodology

Indian Context

2.21 The debate on inequality in India has gained traction, and a variety of perspectives have emerged, calling for a holistic discussion. The heterogeneity may be partly attributable to limitations of data availability, methodological issues in calculating income inequality, structural transformation for economic growth, and its possible non-uniform impact on different sections, etc. Arguments and counterarguments are made on whether the levels are rising, falling or holding ground, especially in the aftermath of the pandemic. This section presents a bird's eye view of the empirical evidence on economic inequality since the 1980s, with the following section exploring its linkages with the broader macroeconomic setting, further examining its pre-dominance in policymaking and popular narrative relative to other pressing issues.

Trend in Inequality in India

2.22 The National Sample Survey (NSS) data on household consumption, prepared and released by the Central Statistical Organisation (CSO), Government of India, forms the basis

[72] Note that top wealth holders are not necessarily top income holders. Incomes are measured after the operation of pension and unemployment systems and before taxes and transfers.

for measuring consumption inequality, taken as a proxy of income inequality in India. Researchers have used this data to arrive at the Gini coefficient for the country.

2.23 According to Himanshu (2019)[73], consumption inequality declined between 1983 and 1993–94 but rose appreciably in the following decade after the onset of reforms in 1991. Post-2005, inequality increased slightly or remained stable, depending on the indicator being considered. Notably, after correcting for cost-of-living differences across States and between rural and urban areas, the inequality levels turn out to be lower while the trend is similar.

Table II.1: Trends in Consumption Inequality in India

	1983	1993	2004-05	2009-10	2011-12
Rural Gini	0.27	0.26	0.28	0.29	0.29
Urban Gini	0.31	0.32	0.36	0.38	0.38
All India Gini	0.30	0.30	0.35	0.36	0.37

Note: Authors calculations based on MRP consumption aggregates
Source: Himanshu (2019)

Table II.2: Gini Coefficients of Real Consumption Expenditure after accounting for cost-of-living differences[74]

	1993	2004-05	2009-10	2011-12
Rural Gini	0.25	0.27	0.27	0.27
Urban Gini	0.31	0.36	0.38	0.37
All India Gini	0.28	0.31	0.32	0.33

Source: Himanshu (2019)

2.24 According to a World Bank study by Chaudhuri and Ravallion (2006)[75], the rise in inequality with the introduction of market reforms in India can be partly attributed to market-based incentives at work, in contrast with the earlier period of artificially low levels of inequality brought about by regulatory distortions and interventions that suppressed incentives for individual effort and innovation. Dutta (2005)[76] finds instances of growing variance in wages, attributable partly to increasing wage dispersion within educational attainment categories. This reflects increasingly competitive product and labour markets in the country.

2.25 Dang and Lanjouw (2021)[77] find that the rise in inequality in India between 1983-84 and 2011-12 varies across the dimensions being considered and the measurement method

[73] Himanshu (2019), "Inequality in India: A review of levels and trends", WIDER working paper no. 2019/42, The United Nations University World Institute for Development Economics Research (UNU-WIDER)
[74] Real mean per-capita expenditures (MPCE) are MRP consumption estimates corrected for cost-of-living differences across states, rural and urban areas, and over time, using deflators implicit in the official poverty lines.
[75] Shubham Chaudhuri and Martin Ravallion (2006), "Partially awakened giants: uneven growth in China and India," Policy working paper no. WPS 4069, World Bank Group.
[76] Dutta, P. 2005, "Accounting for wage inequality in India," Poverty Research Unit at Sussex Working Paper No. 29, Department of Economics, University of Sussex.
[77] Hai-Anh H. Dang and Peter Lanjouw (2021), "India: Inequality Trends and Dynamics: The Bird's-Eye and the Granular Perspectives In: Inequality in the Developing World", Oxford University Press, United Nations University World Institute for Development Economics Research (UNU-WIDER).

employed. They further show that local-level inequality (within-village in rural areas; within-block in urban) accounts for the bulk of overall inequality in India.

2.26 Post-2012, estimations of poverty and inequality have relied on some proxy indicators. According to the WID, India's inequality has increased slightly from 2000 to 2021. However, using tax data to arrive at the estimates comes with its own caveats, as discussed in the previous section.

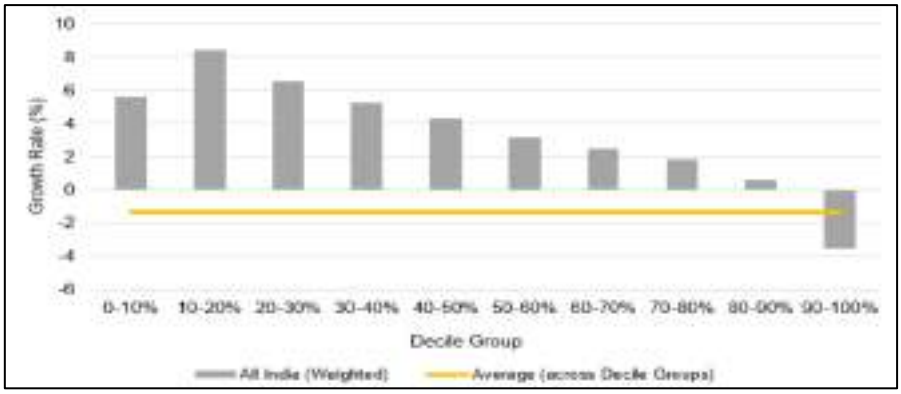
2.27 The National Statistical Organisation's (NSO) All India Debt and Investment Surveys (AIDIS)[78] for 2014 and 2019, providing basic information on the assets and liabilities of the households, can be treated as a proxy for wealth inequality in India. The survey data suggests that wealth inequality has decreased in recent years, with the share of net assets of the middle 40 per cent and bottom 50 per cent having risen, respectively, from 33 per cent to 39 per cent and from 4 per cent to 6 per cent. The top 10 per cent's net asset share has fallen from 63 per cent to 55 per cent.

Table II.3: Share of net assets by decile groups, 2012 and 2018

	All India (weighted)	
	2018	**2012**
Top 10%	54.98	62.98
Middle 40%	39.37	33.13
Bottom 50%	5.65	3.89

Source: AIDIS 2014 and 2019

Figure II.5: Annual Real Growth of Net Assets by Decile Group



Source: estimated by Maitreesh Ghatak et al. from AIDIS 2014 and 2019 https://www.theindiaforum.in/economy/trends-economic-inequality-india

Impact of Covid-19 on Indian Inequality

2.28 The impact of the COVID pandemic on inequality levels in India has been debatable, with contrary findings from various authors often using the same data, i.e., the CMIE Consumer

[78] The All India Debt & Investment Survey is conducted by NSO, Ministry of Statistics and Programme Implementation. The objective of the survey is to collect basic quantitative information on the assets and liabilities of the households. The latest survey was carried out during the period January – December, 2019 as a part of 77th round of NSS. Prior to this the survey was carried out in NSS 26th round (1971-72), 37th round (1981-82), 48th round (1992), 59th round (2003) and 70th round (2013).

Pyramid Household Survey (CPHS). Jha and Lahoti (2022)[79], using the CPHS, find that inequality increased during the lockdown but thereafter began to decline and has returned to the pre-pandemic levels in the post-second wave phase. However, according to Gupta, Malani and Woda (2021)[80], who also use the CMIE CPHS, there was a striking decrease in income inequality outside the lockdown. They attribute this to the capital income of top-quartile earners covarying more with aggregate income and demand for labour falling more for higher quartiles.

2.29 More recently, Saxegaard et al. (2023)[81] deployed both CPHS and the Periodic Labour Force Survey (PLFS) by the NSO to conclude that COVID-19 led to an escalation in poverty and inequality, which was largely transitory, with the public distribution system and food subsidy playing a substantial role in curbing the surge in poverty.

2.30 It is undeniable that the pandemic has profoundly impacted people's lives, especially their economic status. The impact has been particularly severe on the vulnerable sections of society, including daily wage earners and informal sector workers. There should be no attempt to trivialise their suffering. At the same time, there is a need to acknowledge that the government took various measures to alleviate the people's sufferings and concentrated on protecting their lives and livelihoods, as mentioned in subsequent paragraphs.

First Things First: Growth and Poverty Alleviation as Overarching Priorities

2.31 While inequality is a relative concept, absolute poverty is a more urgent and tangible reality lived by millions of people every day. Called “the parent of crime and revolution” by Aristotle, it is a touchstone of socioeconomic progress, especially for a highly populous and diverse country like India. Yet, much of the public discourse in India has turned to “deteriorating income distribution” rather than “how to reduce poverty” (Lahiri, 2014)[82], the answer to which lies in increasing economic growth. According to the Economic Survey 2021-22[83], in contrast to the advanced economies, where higher inequality leads to adverse socioeconomic outcomes while income per capita has little impact, the Indian experience has been that of convergence between growth and inequality rather than of conflict. Thus, for a developing country such as India, where the growth potential is high and the scope for poverty reduction is also significant, the focus needs to continue to be on growing the size of the economic pie rapidly, at least for the foreseeable future.

[79] Mrinalini Jha and Rahul Lahoti (2022), “Who was Impacted and How? | COVID-19 Pandemic and the Long Uneven Recovery in India”, CSE Working paper no. 49, Azim Premji University
[80] Arpit Gupta, Anup Malani, and Bartosz Woda (2022), “Inequality in India Declined During COVID”, NBER Working Paper No. 29597, JEL No. I15,O15,O53
[81] Erif C. Arbatli Saxegaard, Mattia Coppo, Nasser Khalil, Shinya Kotera, Filiz D Unsal (2023), “Inequality and Poverty in India: Impact of COVID-19 Pandemic and Policy Response”, Working Paper/23/147, International Monetary Fund.
[82] Ashok K Lahiri (2014), “The Middle Class and Economic Reforms”, Economic and Political Weekly vol XLIX no 11
[83] “Inequality and Growth: Conflict or Convergence?”, Chapter 4, Volume I, Economic Survey 2020-21

2.32 Hence, growth in the lowest rungs of society is a reasonable policy goal *per se*, even if the upper rungs grow faster. The role of the State thus boils down to ensuring that the disadvantages of non-endowment are minimised or eliminated, i.e., creating opportunities for those at the bottom.

Redistribution Vs. Need to Raise Average Incomes

2.33 It is a popular idea that redistribution is the solution to raising living standards at a large scale, alleviating poverty and inequality in one stroke. This approach has two major problems. Firstly, the infeasibility of taxing wealth is widely discussed, for example, in Scheuer and Slemrod (2020) and Fleischer (2017), with high administration costs and difficulties in valuation. Like many European countries[84], India, too, did away with the wealth tax in 2015, in line with the recommendations of the Chelliah Committee (1993) and Kelkar Committee (2002), while increasing income tax surcharge on top earners[85]. At the same time, India's progressive income tax regime and corporate social responsibility requirements remain aligned with the maxims of equity and pragmatism.

2.34 Secondly, India being a lower-middle income country (as per World Bank classification), the average income itself needs to increase several times to afford a decent standard of living for everyone. In this spirit, continuously high economic growth becomes a prerequisite for poverty alleviation. For instance, Max Roser of Oxford University found that the minimum necessary growth to reduce global poverty to the level of poverty in Denmark (a developed economy with a low degree of income inequality, claimed to be one of the happiest countries as well) is 410 per cent![86] Most countries, including India, need to grow rapidly to even get to those levels of average incomes[87] (In purchasing power parity terms, Roser finds that India needs to grow by more than 12 times to get to the same mean income as Denmark. Being the fastest-growing major economy is, thus, an achievement as much as the need of the hour.

2.35 As an illustration, Roser compares the income distributions of Ethiopia and Denmark, revealing broadly similar levels of inequality but stark differences in average incomes and concludes that lower-income countries need growth more strongly than redistribution.

[84] National Public Radio newsletter (February 2019), "If a Wealth Tax is Such a Good Idea, Why Did Europe Kill Theirs?", Washington DC https://www.npr.org/sections/money/2019/02/26/698057356/if-a-wealth-tax-is-such-a-good-idea-why-did-europe-kill-theirs

[85] Hindu Business Line (January 2018), "Why Jaitley decided to scrap wealth tax"https://www.thehindubusinessline.com/economy/why-jaitley-decided-to-scrap-wealth-tax/article6971992.ece

[86] Max Roser (2021), "How much economic growth is necessary to reduce global poverty substantially?", Our World in Data, https://ourworldindata.org/poverty-minimum-growth needed#:~:text=A%20five%2Dfold%20increase%20is,to%20reduce%20global%20poverty%20substantially. accessed on 10th September 2023

[87] Here, the author takes a poverty line of USD 30 per day in PPP terms, which he considers a minimum necessity. Even otherwise, the discussion can be viewed in the light of reaching Denmark's mean income.

The Salience of Economic Growth for Poverty Reduction in India: through the lens of history

2.36 Glancing through India's economic history since Independence, the arguments for prioritising high growth and the pre-conditions to maximise its returns appear unclouded. As poverty reduction and economic inequality weighed on the minds of the policymakers, the salience of growth was accepted way back in the 1950s, as stated in the following excerpt from the first five-year plan.

2.37 *"The urge to economic and social change under present conditions comes from the fact of poverty and inequalities in income, wealth and opportunity. The elimination of poverty cannot, obviously, be achieved merely by redistributing existing wealth. Nor can a program aiming only at raising production remove existing inequalities. The two have to be considered together; only a simultaneous advance along both these lines can create the conditions in which the community can put forth its best efforts for promoting development."* [88]

2.38 India, at Independence, chose a strategy of growth over redistribution, recognising that there was a large proportion of poor and a low proportion of taxpayers and that India needed to grow to be able to alleviate large-scale destitution, a result of many years of colonial rule. Poverty alleviation, therefore, was a guiding thought and not an afterthought. Even with due cognisance of the criticality of health and education, the Government was revenue-constrained, given the low-income levels of the vast majority and the limited taxing capacity of the state. While economic growth was the desideratum for long-term human development in India, the increasing bent towards nationalisation and license-permit systems around the 1970s suffocated investment and growth, thereby limiting medium-term poverty alleviation. According to Bhagwati and Panagariya (2013)[89], the rigid industrial and labour laws penalised large-scale hiring, choking the route of labour-intensive industrialisation, which formed the launchpad for the high-growth economies in East Asia. According to Datt (1998)[90], poverty ratio hovered between 43 per cent and 60 per cent between 1951-52 and 1973-74.

2.39 In the 1980s and the 1991 Liberalisation-Privatisation-Globalisation (LPG) reforms dismantled the license-permit system and steered the move towards privatisation, essential to promoting investment. The high growth years following LPG reforms coincided with large-scale poverty reduction, which was largely a product of design rather than destiny since growth by itself became an antidote to poverty. Resultantly, the poverty headcount ratio more than halved from 45.7 per cent in 1983 to 20.3 per cent in 2009-10 as measured against Lakdawala

[88] Jagdish Bhagwati and Arvind Panagariya (2013), "Why growth matters: how economic growth in India reduced poverty and the lessons for other developing countries", Council of Foreign Relations.
89 Ibid
[90] Gaurav Datt (1998), "Poverty in India and Indian States: an update", FCND Discussion paper no. 47, International Food Policy Institute.
http://cdm15738.contentdm.oclc.org/utils/getfile/collection/p15738coll2/id/125701/filename/125732.pdf

poverty lines in Panagariya and Mukim (2014)[91]. As per the Tendulkar poverty line, poverty headcount ratio declined steeply in the high growth years, from 45.3 per cent in 1993-94 to 21.9 per cent in 2011-12 (Planning Commission 2013[92]).

2.40 According to Datt, Ravallion, and Murgai (2016)[93], the year 1991-92 marked a structural break when the rate of poverty reduction accelerated, and despite rising inequality, the responsiveness of poverty to growth increased, i.e., faster growth has also been more pro-poor. They also find strong inter-sectoral linkages in poverty reduction, where urban consumption growth brought gains to the rural as well as the urban poor.

2.41 That said, the pre-conditions for labour-intensive industrialisation, i.e., flexible labour laws, were still missing in India while its Asian peers, such as China, Vietnam, and Bangladesh, were growing through their comparative advantage of low labour costs. A sustainable and full-blown attack of growth on poverty thus awaited an improvement in competitiveness and 'Ease of Doing Business' in India, which was put in high gear in 2014. The unshackling of growth potential since then formed the *raison d'etre* of big-ticket structural reforms, including labour codes, digitisation of clearances, *Gatishakti*, Insolvency and Bankruptcy Code, 2016, Foreign Direct Investment liberalisation, Goods and Services Tax, etc. Besides these, a landmark push for quality education and skilling is the cornerstone of long-term growth as well as the elimination of absolute poverty.

2.42 With high growth in recent decades, India has also achieved a large-scale improvement in quality of life. Recently, the National Family Health Survey data for 2019-21 shows a consistent rise in access to electricity, drinking water, sanitation, clean fuel, etc. National health accounts data shows a consistent decline in out-of-pocket health expenditure from 62.6 per cent in 2014-15 to 47.1 per cent in 2019-20. These ground-level changes matter for the common people much more than the number of billionaires in the country. Reduction in poverty, not inequality, is the litmus test of inclusive growth.

India achieved a great feat in reducing multidimensional poverty: 2019-21 vs. 2015-16

2.43 The National Multidimensional Poverty Index Report, 2022, of the NITI Aayog shows a remarkable decline in the prevalence of multidimensional poverty in India, majorly attributable to the government's strategic focus on achieving universal access to basic amenities. The national MPI has nearly halved from 0.117 in 2015-16 to 0.066 in 2019-21, thereby setting India on the path of achieving SDG Target 1.2 of reducing multidimensional poverty by at least half, much ahead of the stipulated timeline of 2030. Resultantly, 13.5 crore

[91] Arvind Panagariya and Megha Mukim (2014)," A Comprehensive analysis of poverty in India", Vol. 31, Asian Development Review
https://documents1.worldbank.org/curated/en/847861468257945118/pdf/946460v10JRN0B0O0900170adev0a000021.pdf

[92] Press note on poverty estimates 2011-12, July 2013, Planning Commission

[93] Gaurav Datt, Martin Ravallion, and Rinku Murgai (2016), "Growth, Urbanization and Poverty Reduction in India", Working Paper No. 21983, National Bureau of Economic Research

Indians are estimated to have escaped multidimensional poverty between 2015-16 and 2019-21.

2.44 There has been a sharp decline in the headcount ratio of multidimensional poverty from 24.9 per cent in 2015-16 to 15.0 per cent in 2019-21, accompanied by a decline in the intensity of poverty from 47.1 per cent to 44.4 per cent over the same period, driven by declining deprivations in nutrition, sanitation facilities, cooking fuel, and housing. The largest improvements were reported in States like Bihar, MP, UP, Odisha, and Rajasthan, with rural areas steering the fall in the incidence of poverty. Notably, the number of States with less than 10 per cent of people living in multidimensional poverty doubled from 7 in 2016 to 14 in 2021.

Figure II.6(a): A sharp decline in the Headcount Ratio of MPI driven by Rural Areas

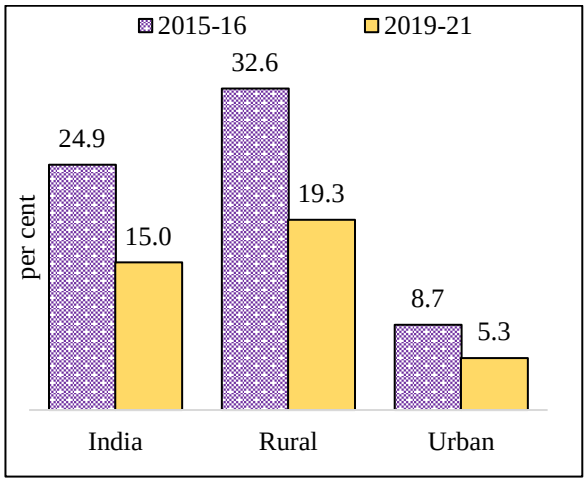
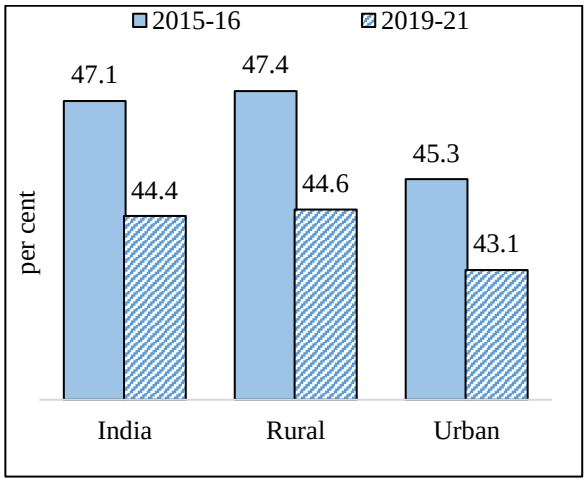


Figure II.6(b): Decline in Intensity of Multidimensional Poverty



Source: NITI Aayog MPI Report 2023

Global MPI Report further endorses India's accomplishment in reducing multidimensional poverty

2.45 According to the Global MPI report[94] by the United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI), India has seen a remarkable reduction in poverty, with more than 13.9 crore people exiting poverty between 2015-16 and 2019-21. The headcount ratio has declined from 27.7 per cent in 2015-16 to 16.4 per cent in 2019-21, while the intensity of deprivation has declined from 42.0 per cent to 44.0 per cent over the same period. Consequently, the MPI value has nearly halved from 0.122 in 2015-16 to 0.069 in 2019-21. India has outshone its South Asian peers in reducing multidimensional poverty despite a relatively similar prevalence of income-based poverty.[95]

[94] Data is compiled from 110 developing countries-22 low-income countries, 85 middle-income countries and 3 high-income countries, covering 6.1 billion people, accounting for 92 per cent of the population in developing countries.

[95] Estimated using a monetary poverty line of 2017 PPP USD 2.15 per day

Notably, while the monetary poverty headcount in Bangladesh is 3.5 ppt higher than in India, the multidimensional poverty headcount is 8.2 ppt higher.

2.46 Between 2005-06 and 2019-21, the fall in headcount of multidimensional poverty stood at 41.5 crore, according to the UNDP. A large number of citizens coming out of multidimensional poverty and graduating to the middle class would provide a fillip to healthy economic growth, oiling the wheels of the virtuous cycle, as discussed in the following section.

Middle-Class Expansion: The Future of Poverty and Growth

2.47 The middle class is generally understood as the income class, which is neither poor nor rich, with a degree of savings, income security, and discretionary consumption. With economic growth and poverty alleviation, the erstwhile poor are expected to graduate to the lower middle class, followed by a further ascent to the upper middle class, which is also critical for a healthy political democracy (Thurow, 1984)[96].

2.48 The middle class is seen as the engine of demand and self-sustained growth for a developing economy, enabling a self-sustained growth cycle by consuming, saving, and human capital accumulation. The Asian Development Bank (2010) reports, "*Economic historians such as Adelman and Morris (1967) and Landes (1998), among others, have argued that the middle class was a driving force in the faster pace of economic development in the United Kingdom and continental Europe in the 19th century".*[97]

2.49 There exists a multitude of definitions of the middle class, leading to varying estimates. Birdsall et al. (2000) [98] defined the middle class as those with incomes between 75 per cent and 125 per cent of the median income in each country. Banerjee and Duflo (2008) [99], on the other hand, identified the "middle class" in developing countries as those living between USD 2 and 10 a day. Ravallion (2009) [100] defines the middle class "as those who live above the median poverty line of developing countries but are still poor by US standards". In the Indian setting, the NCAER in 2005 defined the middle class as comprising households with an annual income between ₹2 lakh and ₹10 lakh at 2001-02 prices.[101]

[96] Thurow, L.C. (Feb 1984), "The Disappearance of the Middle Class," The New York Times
[97] Asian Development Bank (2010), "Rise of Asia's Middle Class", Key Indicators for Asia and the Pacific 2010
[98] Birdsall, N., Graham, C., and Pettinato, S. (2000), "Stuck in tunnel: Is globalization muddling the middle?" Brookings Institution Center Working Paper
[99] Banerjee, A. and Duflo, E. (2008): "What Is Middle Class About the Middle Classes Around the World?", Journal of Economic Perspectives", 22(2): 3-28.
[100] Ravallion, M (2009): "The Developing Countries' Bulging (Vulnerable) Middle Class", Policy Research Working Paper 4816, Development Research Group, World Bank
[101] National Council of Applied Economic Research (2005): "The Great Indian Market", 9 August, available at http://www.ncaer.org/downloads/PPT/ thegreatindianmarket.pdf

2.50 Notwithstanding the profusion of definitions, an expansionary trend in the Indian middle class is robustly established by varying definitions (Lahiri, 2014)[102]. Shukla (2010) [103] (using NCAER's National Survey of Household Income and Expenditure and national accounts data) estimates that the Indian "middle class" doubled in size over the last decade, growing from 5.7 per cent of all households in 2001-02 to 12.8 per cent of all households in 2009-10.

2.51 Examining the trends in some Asian economies, according to Chun (2010) [104], China, Vietnam and Indonesia dominated the trend of 1.3 billion people joining the middle class in developing Asia between 1990 and 2008. India ranked 12th among 21 developing countries in terms of growth in the share of the middle class. Lahiri (2014)[105] attributes this to a lack of infrastructure growth and undue focus on providing handouts rather than improving the poor's income-earning capacity.

2.52 As per more recent estimates from PRICE[106], there are about 43.2 crore middle-class Indians (with an annual household income of between 5 to 30 lakhs) in 2021, i.e., nearly 31 per cent of the population. This is expected to rise to 61 per cent of the population by 2046-47, indicating a huge economic opportunity for consumer goods companies.

2.53 Thus, considering its economic significance, policy attention towards the middle class involves looking beyond a polar view of a rich vs. poor economy and beyond the charitable notion of redistribution towards rights-based claims for economic justice.[107] In the empowerment of this class lies the path to a self-sustained virtuous growth cycle.

Addressing Inequalities by Upward Mobility: Providing an Opportunity Ladder

2.54 Economic inequality is perhaps most troubling when it is determined by the circumstances constraining equal opportunities to all citizens for realising their full potential. According to Ravallion et al. (2006)[108], as opposed to good inequalities, which encourage innovation, entrepreneurship, and growth, bad inequalities owe their origins to market failures such as unequal opportunities for education and skilling, lack of access to credit and insurance, etc. With these infirmities, certain sections of the population may not be able to respond to the incentives provided by market-oriented reforms. Bad inequalities directly reduce the potential

[102] Ibid. Note 31.
[103] Shukla, R. (2010), "How India Earns, Spends and Saves – Unmasking the Real India", SAGE and NCAERCMCR: New Delhi.
[104] Chun, N. (2010): "Middle Class Size in the Past, Present, and Future: A Description of Trends in Asia", ADB Economics Working Paper Series No 217, Asian Development Bank, Manila, September.
[105] Ibid.Note 31.
[106] People Research on India's Consumer Economy (PRICE) is a not-for-profit think tank on India's Macro Consumer Economy and Citizen's Environment. In the 2021 PRICE ICE360 pan-India survey, 40,000 households were selected out of a sample of 2,00,000.
[107] Ibid.
[108] Chaudhuri, S. and Ravallion, M. (2006), "Partially awakened giants: uneven growth in China and India," Policy working paper no. WPS 4069, World Bank Group.

for growth because segments of the population are left behind, lacking the opportunity to contribute to the growth process.

2.55 In a recent study, Asher et al. (2022)[109] undertake a partial identification approach to conclude that India's rate of upward mobility has remained broadly constant since Independence, noting that "*Indians born in the 1980s have only about as much chance of outstripping their parents in socioeconomic rank as those born in the 1950s".* In addition, the study notes that contrary to the widely held belief, Dalits and Adivasis have seen some improvement, with the Scheduled Castes having undergone considerable improvement. However, scheduled castes are also more likely to fall back into poverty (Thorat et al. 2022)[110], necessitating long-term conditions for upward mobility rather than a one-time effort.

2.56 Rapid economic growth, economic liberalisation, development of agriculture and allied activities and urbanisation have vastly expanded the set of opportunities available to citizens, leading to the emergence of a large middle class. In addition, public policy in India has been aiming to build a ladder of opportunities through universal access to education, affordable health, customised credit, etc. This has accompanied affirmative action programs running since Independence and widening in coverage to create a level playing field for historically disadvantaged groups. Further, the Government's focus on inclusive growth is reflected in its commitment to "Sabka Saath, Sabka Vikas" to reduce poverty and inequality, provide social security, income generation and livelihood options, and improve the quality of life of the vulnerable sections of the population in the country.

2.57 In this regard, several targeted programmes are being implemented to cater to the varying needs of a diverse populace. They include the Pradhan Mantri Awas Yojana (PMAY), Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM), National Social Assistance Programme (NSAP), Pradhan Mantri Jan-Dhan Yojana (PMJDY), Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana, Atal Pension Yojana, Pradhan Mantri Mudra Yojana, Stand Up India Scheme, Umbrella Programmes for Development of Minorities and Other Vulnerable Groups; Rashtriya Krishi Vikas Yojna; PM Kisan Samman Nidhi scheme, PM Fasal Bima Yojana; fertiliser subsidies; interest subvention for dairy cooperatives; etc.

2.58 Further, the Government is implementing various programmes, including Jal Jeevan Mission, Swachh Bharat Abhiyan, PM Ujjwala Yojana, PM Saubhagya Yojana, and Ayushman Bharat to bring about overall improvement in the quality of life of the people through universal access to basic amenities.

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[109] Sam Asher, Paul Novosad, Charlie Rafkin (2022), "Intergenerational Mobility in India: New Methods and Estimates across Time, Space, and Communities", G²LM|LIC Working Paper No. 66, Institute of Labour Economiccs

[110] Thorat, A., Vanneman, R., Desai, S., & Dubey, A. (2017). Escaping and falling into poverty in India today. World Development, 93, 413-426.

2.59 During COVID-19, the Government made several targeted interventions to mitigate the adverse impact of the pandemic on the lives and livelihoods of the people, particularly the vulnerable sections of the society through the Pradhan Mantri Garib Kalyan Yojana (PMGKY), consisting of the world's largest free food program, cash transfers to women Jan Dhan account holders, increase in MGNREGA wages, assistance to low-wage earners in organised sectors, etc.

2.60 Continuing with the commitment to ensure food and nutritional security, the Government is implementing, from 1 January 2023, a scheme to supply free food grain to all Antyodaya and priority households for the next one year under PMGKAY. Recently, this has been extended to the next five years.

2.61 Employment generation, coupled with improving the quality of jobs, is a priority. Following this path, the organised sector job market conditions measured by the Employee Provident Fund Organisation and the National Pension System subscriptions indicate a year-on-year increase, pointing towards improved formalisation. Labour market indicators have improved beyond pre-Covid levels, with the unemployment rate falling and the labour force participation rate increasing.

2.62 In the spirit of regional equity, the Government has also implemented the Aspirational Districts Programme (ADP) since 2018 to target efforts in the pockets of deprivation in key areas of health & nutrition, education, agriculture & water resources, etc. Within five years, the programme has transformed the lives of about 25 crore people in 112 districts, with visible improvements in key indicators across districts.[111] Inspired by the ADP, the 'Aspirational Blocks Programme' was launched recently to drill down to more granular units of administration.

2.63 In the health sector, progress of the path-breaking Ayushman Bharat programme, with more than 28 crore beneficiaries as of December 2023, is being further tech-enabled through digital health ID 'ABHA' and telemedicine through eSanjeevani. In the classrooms, efforts to translate enrolment into learning are underway. Within the progressive framework of the National Education Policy, improving schools' basic facilities and the pupil-teacher ratio are expected to yield medium-term human capital dividends. The expanding higher education and skilling infrastructure are improving the quality of education and employability of the youth. There are now 23 IITs, 20 IIMs, nearly 700 medical colleges, 25 IIITs, over 1113 Universities and several skill-enhancing initiatives.

2.64 These breakthroughs have materialised due to smart policymaking based on process reengineering, technology adoption and effective implementation. The ecosystem of Jan Dhan Yojana-Aadhaar-Mobile (JAM) trinity, common service centres, geospatial technology, and real-time monitoring of outcomes have infused speed and efficiency into the citizen-state

[111] https://pib.gov.in/PressReleseDetailm.aspx?PRID=1962419

relationship. Technology is being harnessed to help deliver various Government schemes to the targeted citizens. Aadhaar has been instrumental in enabling targeted delivery of Direct Benefit Transfers (DBT) through 314 Central Schemes and over 2460 State DBT schemes, seamless portability of ration cards across States through 'One Nation One Ration Card' and the 'eShram portal', the national database of unorganised workers. The 'National Career Service project is a one-stop solution providing various employment and career-related services. As part of the world's largest vaccination drive, more than 220 crores of COVID-19 vaccine doses were administered, powered by the indigenously developed digital vaccine delivery platform, Co-WIN.

2.65 The abovementioned steps authenticate the significance of policy measures in facilitating the advancement of the underprivileged sections, aiding the eradication of poverty by direct and indirect means, thereby abating the extent of inequality, too.

Fiscal Measures and Inequality

2.66 It is a known fact that fiscal policies play a key role in reshaping income distribution in an economy. These policies include decisions on levels and scope of direct and indirect taxes, subsidies, pensions, and other direct transfers, as well as public spending on social services such as education and health. In the US context, Citro and Michael (1995) recommended redefining family resources to include in-kind benefits and exclude taxes to get a wholesome measure of income and inequality.[112] Evidence from more than 80 countries studied using the Commitment to Equity (CEQ) methodology of the CEQ Institute, Tulane University, shows that all these fiscal policies help to provide resource distribution to the financially deprived sections and, thus, favourably impact people's standard of living.

2.67 For example, a study estimates inequality in Brazil by estimating the Gini Coefficient after incorporating government expenditure on social transfers. The Gini coefficient, as calculated, shows a decline of 6 per cent between 2002 and 2017. [113] In the context of the US economy, the Congressional Budget Office estimates for 2020 show a 24 per cent decline in the average income of the highest quintile and an increase of 65 per cent in the average income of the lowest quintile upon netting out transfers and taxes, with the distribution becoming less skewed. Moreover, the degree to which income inequality was reduced by transfers and taxes increased between 1979 and 2019.[114] These examples establish the remarkable role of fiscal policies in reshaping income distributions in the country.

[112] Citro, C. F., & Michaels, R. T. (Eds.). (1995). Measuring Poverty: A New Approach. Washington, D.C: National Research Council

[113] Barros, Cury, France, and Machado (2021). On the decline in the degree of inequality over the new millennium. Insper, mimeo.

[114] Congressional Budget Office (2023), "The Distribution of Household Income in 2020" https://www.cbo.gov/publication/59757 accessed on 29th Nov 2023

CEQ Study: Findings on India

2.68 A CEQ study on India[115] analyses the individual and combined impact of these policies on poverty and income distribution in India. The report has used household consumption expenditure data from the NSS 2011-12 survey (the latest available such survey), as the base for its income-distribution analysis. It has also used other surveys, such as the NSS survey of household consumption expenditure on Education and Health, conducted in 2014, the Indian Human Development Survey, and the NSS Employment and Unemployment Survey 2011-12, to impute values of cash and in-kind transfers, as well as direct taxes.

2.69 After a detailed examination of all the policies, the study finds that the Government's fiscal interventions played a significant role in reshaping income distribution by reducing economic deprivation and inequality. The study notes that India's taxation policies are progressive, as a large part of the taxes are collected from the top 10 per cent of the population. According to the study's estimates, personal income tax is concentrated in the 10th decile, with a small amount being paid by those in the 8th and 9th deciles and not paid at all by those in the 1st to 7th deciles. Thus, this tax is progressive in nature. Further, policies such as the Public Distribution System (PDS) subsidy, spending on education and health, and direct cash transfers through the rural employment scheme MGNREGS have played an equalising role in overall income distribution.

Relevance of CEQ Study for the current decade

2.70 The applicability of the CEQ study (which uses 2011-12 data) remains reliable in the current decade as well, given that fiscal policy has continued to be largely progressive, coupled with a transformational rise in efficiency of expenditure, with the implementation of JAM trinity, DBT, and multiple e-governance reforms to eliminate leakages.

2.71 Not only have the earlier programmes continued in one way or the other, but their targeting has also expanded. The social sector expenditure of the Central Government has increased at a CAGR of 5.9 per cent between 2011-12 (Actual Expenditure) and 2022-23 (Revised Estimates).[116] In terms of general government expenditure (i.e., combined Centre and State expenditure), the spending on critical sectors, such as health and education, grew from 6.6 per cent of GDP in 2015-16 to 8.3 per cent of GDP in 2022-23 (Budget Estimates).[117]

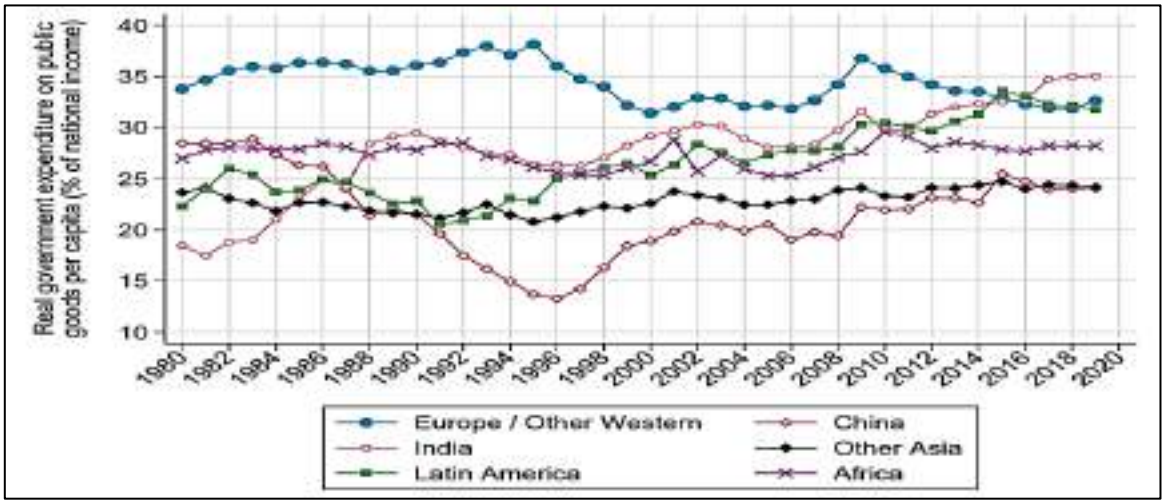
2.72 Further, as per Dutt, Ray, and Teh (2021)[118], personal income taxes in India have a high degree of progressivity, which has not changed much over 2011–18. According to the paper, personal income tax revenues constitute a mere 2.5 per cent of GDP. Over 40 per cent of the tax assesses pay zero taxes, and positive income taxpayers account for less than 6 per cent of

[115] Sridhar Kundu and Maynor Cabrera (2022), "Fiscal Policies and their Impact on Income Distribution in India", CEQ Working Paper 120, April.
[116] Budget Documents, Government of India
[117] Economic Survey 2022-23, Ministry of Finance, Government of India
[118] Datt, G., Ray, R. & Teh, C. (2022), "Progressivity, and redistributive effects of income taxes: evidence from India. Empir Econ 63, 141–178. https://doi.org/10.1007/s00181-021-02144-x

the adult population. By concentrating income tax collections from amongst a small minority, this very feature contributes to a high level of progressivity of income taxes. The tax progressivity measure increased from 0.46 in FY 2011–12 to 0.51 in FY 2014–15, declined to 0.49 by FY 2016–17, and rose again to 0.52 in FY 2017–18.[119]

2.73 During the pandemic, the PMGKY, which provided cash, in-kind transfers, insurance, livelihood support, credit, and social assistance, has been instrumental in preventing large-scale distress. This is well substantiated in a 2022 study by KPMG for the German institution KfW, which estimated a 75 per cent reduction in the probability of consumption cutting by migrants, along with a 67 per cent reduction in the probability of borrowing, been made less indispensable through universal access to PMGKY.[120]

Figure II.7: Government Expenditure on Public Goods by Region, 1980-2019 (% of Net National Income)



Source: Gethin, A. (2023). World Inequality Lab, Working Paper
Note: Population-weighted average across all countries in each group.

2.74 In a recent study, Amory Gethin (2023)[121] demonstrates the progressivity of public goods and their moderating impact on inequality globally, using data from 1980 to 2019. Moreover, the role of economic growth is also underlined as redistribution in the form of public goods correlates strongly with economic development: low-income countries spend less on public goods than high-income countries and in ways that are less progressive. The study also analyses the contribution of government redistribution in its various forms, such as cash and in-kind transfers and public goods such as education, in shaping global income disparities since the 1980s and finds that such redistribution has led to 20 per cent reduction in global poverty.

[119] Ibid. The paper calculates tax progressivity as the area between the Lorenz curve of pre-tax income, and the concentration curve of income taxes, essentially capturing the relationship between the average tax rate and the level of pre-tax income. A tax system is considered progressive (regressive) if the average tax rate increases (decreases) with pre-tax income.
[120] KPMG (2021), "Effectiveness & Adequacy of Cash Transfers under PMGKY for Urban Poor & Migrants: Performance, Challenges & Opportunities", Interim Report
[121] Amory G. (2023), "Revisiting Global Poverty Reduction: Public Goods and the World Distribution of Income, 1980-2022", World Inequality Lab, Working Paper, September.

Further, real spending on public goods per capita, as a percentage of national income, has increased in China and India since the mid-Nineties, with the most pronounced and impressive rise in the case of India (Figure II.7). The chart shows that India has the highest share of Government Expenditure on Public Goods per capita, compared to other regions shown in the chart. Importantly, the jump is pronounced since 2014. In the case of India, expenditure on public goods has led to the redistribution of about 6 per cent of the national income to the bottom 50 per cent.

Conclusion

2.75 The essay presents a broad overview of the theories on economic inequality and long-term empirical evidence on their applicability. Kuznets' inverted U curve between growth and inequality has found varying levels of support in data, sensitive to the time period and region studied. Relatedly, the oft-quoted example of the East Asian economies showcasing "growth with equity" has been disproved when considered over a longer time period. Data from the past two centuries shows that global income inequality has been mostly large but has witnessed a slight dip in the past decade. However, COVID-19 has reversed some of the gains made in global equity in recent decades. In the Indian context, the decline in inequality of consumption in the decade before the LPG reforms of 1991 can be attributed to regulatory distortions and state interference. Similarly, the rise in inequality after the 1991 reforms can be said to be an outcome of market incentives for entrepreneurship and innovation. The impact of COVID-19 on inequality has been transitory, with the public distribution system and rise in food subsidy substantially curbing a rise in distress levels.

2.76 While inequality is a relative and vexed issue, absolute poverty is a more direct and pressing one. For a developing country like India, where the growth potential is high, and the scope for poverty reduction is also significant, being the fastest-growing major economy is an achievement as much as the need of the hour. This is reinforced when one glances through India's economic history. The year 1991-92 marked a structural break when the rate of poverty reduction was accelerated, and despite rising inequality, the responsiveness of poverty to growth increased, i.e., faster growth has also been more pro-poor. For the average aspirational Indian, progress at the grassroots, like 13.5 crore people moving out of multidimensional poverty between 2015-16 and 2019-21, matters much more than the number of billionaires in the country.

2.77 That said, bad inequalities, such as unequal access to education and health, directly reduce the potential for growth, besides being unfair to the individual. These form one of the most entrenched problems of development whose mitigation lies in a strategic long-term effort. Towards this end, several efforts are underway, a steadfast commitment to which will nurture the human capital in the country, making it the strongest pillar of India@100.

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03 CHAPTER

RIDING A NEW WAVE OF CHANGE – INDIA'S EVOLVING EXPORT BASKET

India's foreign trade has boomed on the back of reforms that happened over the past few decades. This is not only seen in India's rising share in world exports but also in the share of India's total trade (sum of exports and imports) in GDP, increasing from around 15 per cent in the early 1990s to almost 50 per cent in 2022. Consequently, India has enhanced its stature as a trusted partner in the global trading system.

India's trade basket is sensitive to changes in world GDP and relative prices. Trade elasticities estimated for India's exports during 1991-2022 show that for a percentage increase in world GDP, India's exports have grown by 4.92 per cent. They also show that for a percentage increase in relative prices, exports have declined by 1.15 per cent.

This paper investigates the change in these elasticities since a structural break in 2008. Trade elasticities have become weaker post-2008, which in turn implies that India's exports have become relatively less determined by world income and prices. In addition, the paper explores the possible reasons behind the declining elasticities, which include, structural change in India's export basket, India's increasing participation in manufacturing global value chains and a strong performance in the services value chain.

Introduction

3.1 India's trade landscape is fast evolving. The first wave of change in the country's trade basket happened when India embarked on the path to globalisation in the early 1990s. Under the export-import (EXIM) policy of 1992-97, India undertook a series of reforms to create an environment conducive to trade. The new trade policy reaffirmed India's commitment to free trade as all import licensing lists were eliminated and a 'negative' list was established. By April 2002, all the remaining quantitative restrictions were also removed.[122] Consequently, trade growth accelerated since the early 2000s.

3.2 After a relative slowdown in exports in the years after the recession of 2008, India has begun to exhibit robust growth once again. This new wave of change has been enabled through a targeted approach to reforming the export sector with the help of initiatives such as pre-arrival data processing, e-Sanchit, and Single Window Interface for Facilitation of Trade (SWIFT). Exporters today find it easier to facilitate their trade compared to a decade ago - this is evident from India's

[122] Rangarajan C. and Mishra Prachi (2013), "India's External Sector: Do we need to worry?", Economic and Political Weekly, Vol 48 (7), pp. 52-59, February 16.

performance in the UN Global Survey on Digital and Sustainable Trade Facilitation.[123] From a trade facilitation score of 63 per cent in 2015, India has now achieved 93.5 per cent in 2023.[124] Further, the Foreign Trade Policy (FTP), 2023 embodies the spirit of trade reform through four key pillars, namely, move from incentive to remission; export promotion, ease of doing business, and a focus on emerging areas like e-commerce and dual-use high-end technology. Unlike the previous FTPs, FTP 2023 is nimble as it adopts a dynamic approach to the requirements of the trade environment. In addition to trade facilitation, a clustered approach to developing export hubs is being pursued. Schemes such as the Make in India, production-linked incentive (PLI) scheme, and the 'One District One Product' scheme (ODOP) fall under this approach.[125]

3.3 Even as the trade policy paradigm is shifting, the global trade space is being challenged by supply chain pressures, declining global demand, and changing patterns of globalisation. Considering these changes, this paper is a research enquiry into the long-run impact of global demand and price fluctuations on India's export basket.

3.4 Literature shows that any country's export demand can be explained by two variables – an income variable and a price variable (Houtakker and Maggee (1969)[126], Orcutt (1950)[127], Imbs (2010)[128], IMF (2015)[129]). Much like the regular demand equation, which is a function of price and income, the export demand function can be constructed similarly. After constructing and running the export demand function, this paper identifies structural shifts in India's exports and examines the determinants of export demand prior to and after the structural shift. This analysis would enable an understanding of whether India's export basket has become immune to global fluctuations in trade, given its utility in the context of the heightened uncertainty manifested in terms of declining growth in world trade in recent years.

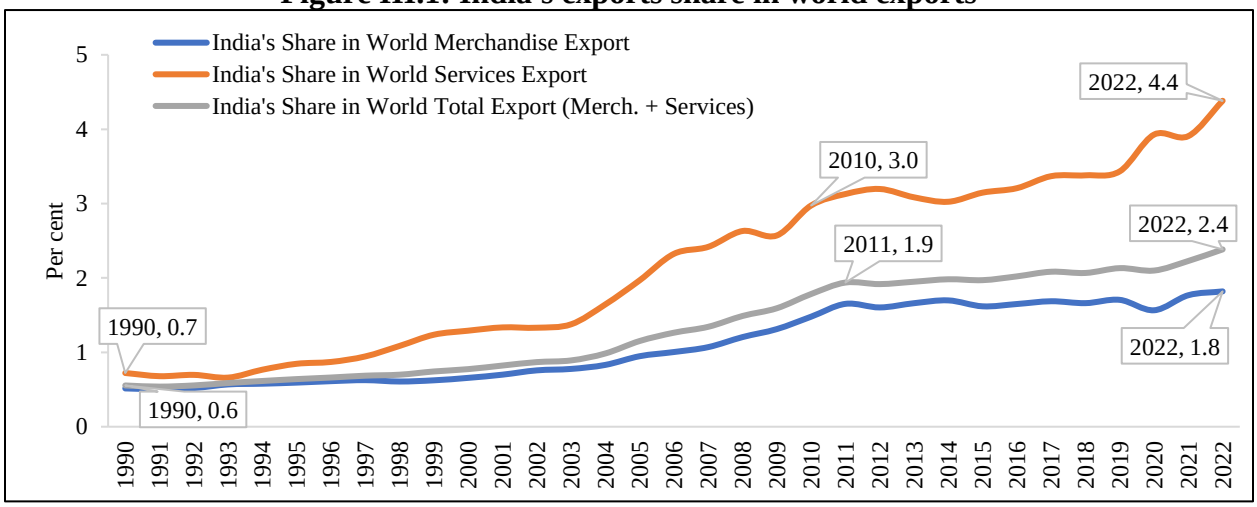
Trend in India's exports

3.5 India's share in world merchandise and services exports has been growing steadily since 1990, mainly driven by services exports (Figure III.1).

[123] The UN Global Survey on Digital and Sustainable Trade Facilitation ranks more than 160 countries on 60 measures related to the WTO's Trade Facilitation Agreement: paperless trade and the UN treaty on cross-border paperless trade in Asia and the Pacific (CPTA).
[124] https://www.untfsurvey.org/economy?id=IND
[125] The PLI targets developing high-value goods exports and a deeper integration with global value chains. The ODOP scheme focuses on developing district clusters with expertise in sectors such as textiles, agriculture, and food processing.
[126] Houthakker, H. S., & Magee, S. P. (1969). Income and price elasticities in world trade. The review of Economics and Statistics, 111-125.
[127] Orcutt, G. H. (1950). Measurement of price elasticities in international trade. The Review of Economics and Statistics, 32(2), 117-132
[128] Imbs, J., & Mejean, I. (2010). Trade elasticities: a final report for the European Commission (No. 432). Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.
[129] IMF Working Paper WP/15/252 "Global Value Chains and the Exchange Rate Elasticity of Exports", 2015

3.6 India's exports have been growing faster than the rate of growth of world exports in contrast to the pre-reform period. Further, the export growth during the post-reform period, by and large, has been broad-based. In particular, the competitiveness effect appears to be a major positive source of growth in the case of service exports.[130]

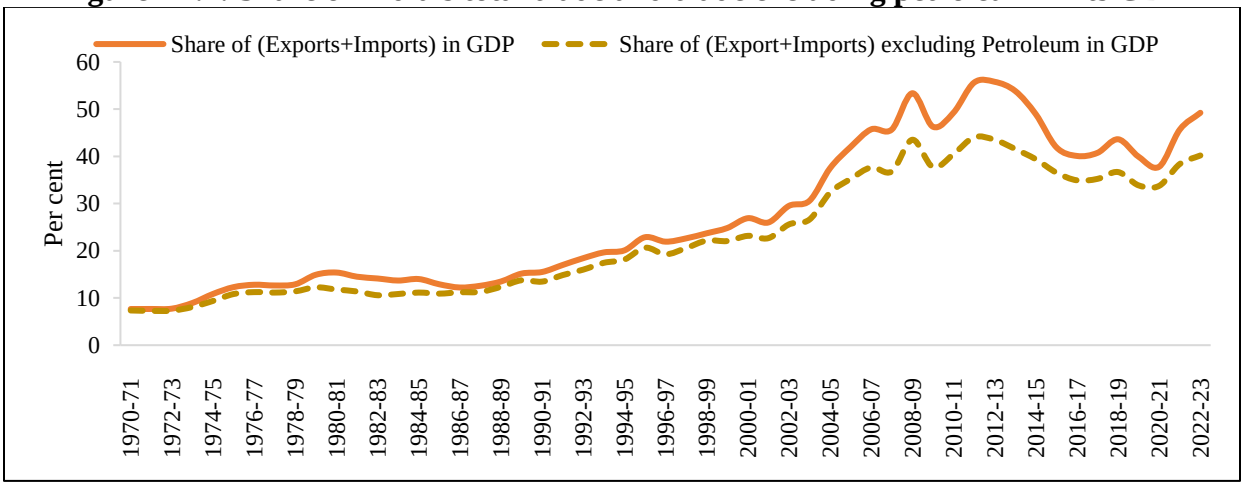
Figure III.1: India's exports share in world exports



Source: World Bank and World Trade Organisation (WTO)

3.7 Given the fact that petroleum products account for more than 20 per cent of India's total imports of goods and services and more than 10 per cent of total exports of goods and services, it is instructive to look at the share of non-oil trade in India's GDP. Figure III.2 below captures this trend, which, in general, has shown an upward trajectory.

Figure III.2: Share of India's total trade and trade excluding petroleum in its GDP



Source: Reserve Bank of India, RBI
Data in Rupees crores is plotted. GDP in current prices used

3.8 The recent years have shown a surge in India's exports. They doubled between 2020 and 2022, touching USD 770 billion amidst rising supply chain disruptions across the world. There were several tailwinds in favour of this upsurge, such as a diversion of trade from other countries in favour of Indian products[131], a continued increase in global commodity prices,[132] and a strong rebound in global trade[133].

3.9 A comparison of India's current trade basket to the early 1990s reveals that India added 628 new products to its export basket by 2022[134]. This is illustrated in the figure below (Figure III.3), which shows the emergence of new products in India's export basket. The two axes show markets penetrated and the trade value of the products in India's export basket. Nearly one-third of these new products (orange dots) consist of high-value engineering goods, petroleum products, and chemicals.

3.10 In the three decades between 1994 and 2022, India has not just carved out new markets but has become the market leader in some of the new product categories. For instance, India is a top exporter of shipping vessels (with nearly 33 per cent market share). Similarly, it is a leading exporter of iron and steel alloys – a market that was unexplored before 1994. The growth of the new product basket outpaces the growth of surviving products. Some of the highest growth rates were registered by products such as helicopters, arms and ammunition and electrical machinery.

3.11 Over the years, there has been a shift in the composition of export baskets from labour-intensive products (e.g., textiles) to capital-and skill-intensive ones (e.g., engineering goods and jewellery).[135] This change is also confirmed by India's performance in the Economic Complexity Index (ECI).

[131] https://www.wsj.com/world/india-china-factory-manufacturing-24a4e3fe

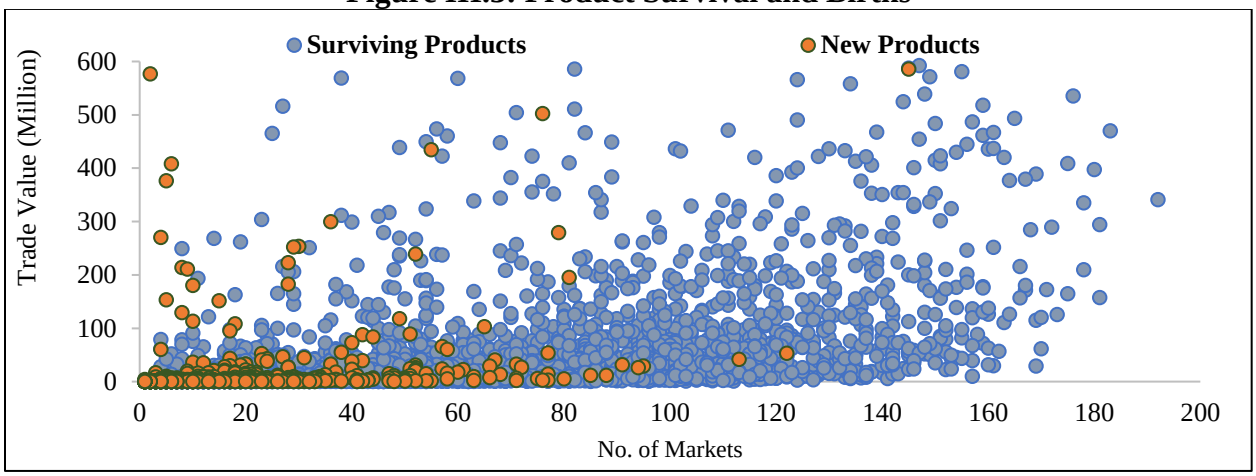
[132] https://www.eximbankindia.in/exports-forecast-of-india and https://www.bloomberg.com/news/articles/2022-02-09/india-wheat-exports-set-for-record-with-rare-surge-in-shipments

[133]https://www.wto.org/english/news_e/pres21_e/pr889_e.htm#:~:text=World%20merchandise%20trade%20volume%20is,reflecting%202020's%20drop%20and%20recovery

[134] A comparison of India's current trade basket to that of 30 years ago in 1994 at the 6-digit product level using World Integrated Trade Solution (WITS) data reveals that India added 628 new products to its export basket by 2022, in addition to the 3800 products that existed since 1994.

[135] "Competitiveness Roadmap for India @100", EAC-PM (2022)

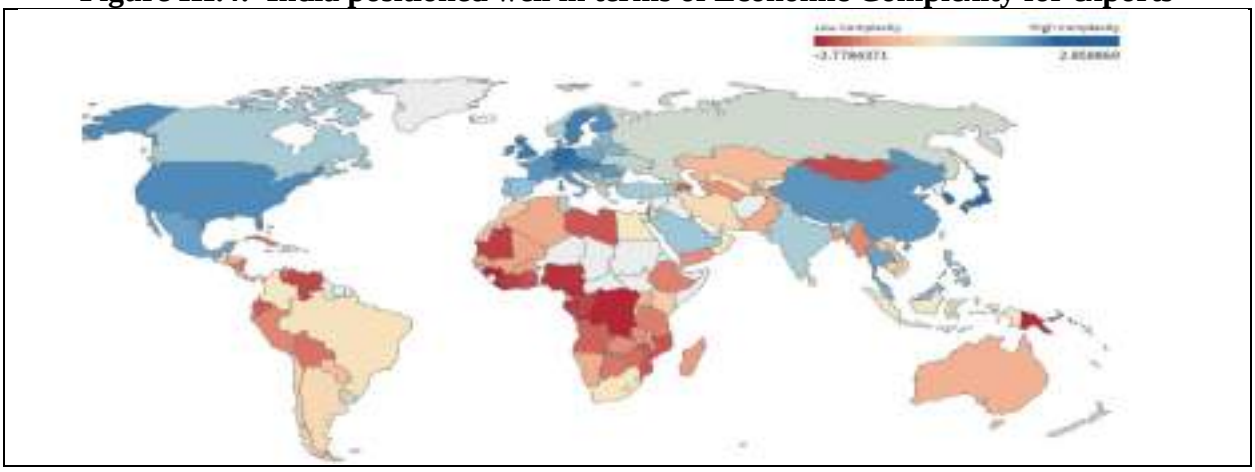
Figure III.3: Product Survival and Births



Source: World Integrated Trade Solution (WITS)

3.12 The complexity of exports, as measured by the Economic Complexity Index (ECI), shows that India's ranking has improved by 10 positions over the course of a decade (2011 to 2021)[136]. This indicates a rise in sophistication and specialised capabilities being increasingly used in exports. A geo map showing economic complexity for exports in 2021 is presented below in Figure III.4.

Figure III.4: India positioned well in terms of Economic Complexity for exports



Source: Atlas of Economic Complexity (2021)

3.13 The competitiveness of complex product exports has also improved with time. Complex product categories such as chemicals, machinery, transportation, electrical, and fuels have shown

[136] https://atlas.cid.harvard.edu/countries/104 Harvard's Atlas of Economic Complexity ranks the 'economic complexity' of exports on the basis of a country's industrial capabilities and knowhow. High complexity countries are home to a range of sophisticated, specialised capabilities and are therefore able to produce a highly diversified set of complex products.

an improvement in their revealed comparative advantage[137] over the past decade. Concomitantly, the share of these export categories has increased from 37 per cent a decade ago (in 2012) to 47 per cent in 2022.

3.14 In general, over the past decade (2012-2022), India's revealed comparative advantage (RCA) index of exports improved for fuels, chemicals, transportation, machinery, electrical, wood, plastic, and metals, while declining for textiles, footwear, clothing, hides and skin, stones, glass and minerals.

3.15 Growing traction in new markets, particularly in developing countries, has also helped India increase its share in world exports. This change in the destination pattern of India's exports is in line with growing income levels in developing countries. The literature also notes the trend of India's export destinations shifting from developed to developing economies.[138] Most recent data indicate that China, Bangladesh, and Indonesia figured among the top ten export destinations for India in 2022-23.

3.16 The above-discussed indicators imply that India's exports are changing structurally, and this is happening in the background of moderation in global demand, which, as per a number of forecasts, is likely to prevail in the near future. Therefore, it becomes crucial to enquire whether India's trade basket is resilient to these external shocks.

Factors influencing exports demand

World Income

3.17 While constructing an export demand function for a country, the Global GDP can be considered as an 'income' variable. Figure III.5 shows growth in global GDP and India's exports moving in close correlation with one another. This was also apparent when India's exports traced the trajectory of global economic recovery during the recent pandemic years. When global real GDP growth, for example, decelerated to (-) 3 per cent in 2020, India's exports fell by 9 per cent. Global growth subsequently recovered by 6 per cent in 2021, resulting in India's exports growing by 21 per cent.

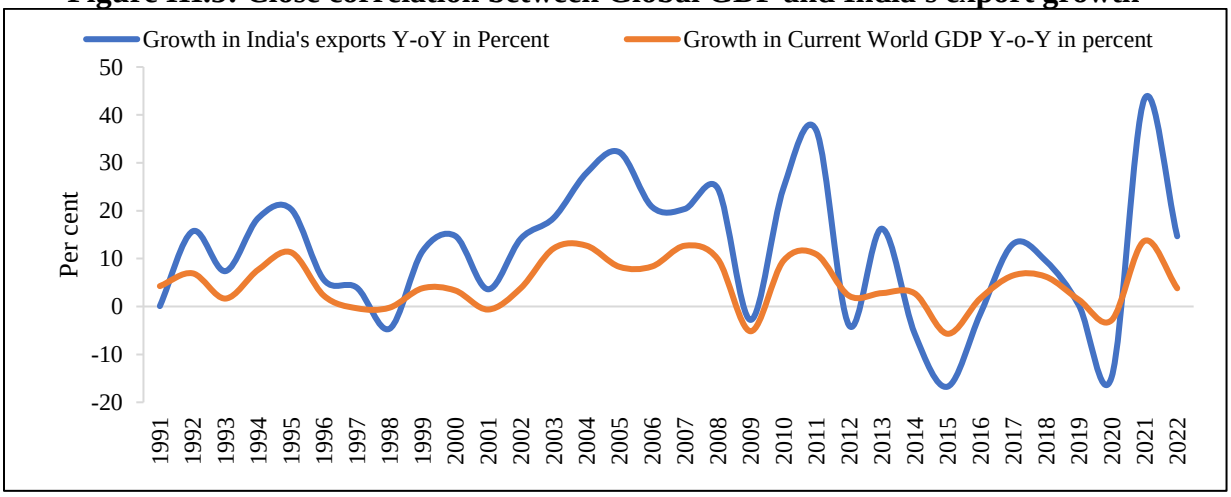
Exchange rate

[137] The RCA index of country I for product j is measured by the product's share in the country's exports in relation to its share in world trade:
RCAij = (xij/Xit) / (xwj/Xwt)
Where xij and xwj are the values of country i's exports of product j and world exports of product j and where Xit and Xwt refer to the country's total exports and world total exports. A value of less than unity implies that the country has a revealed comparative disadvantage in the product. Similarly, if the index exceeds unity, the country is said to have a revealed comparative advantage in the product.
(https://wits.worldbank.org/wits/wits/witshelp/Content/Utilities/e1.trade_indicators.htm)
[138] Rangarajan C. and Mishra Prachi (2013), "India's External Sector: Do we need to worry?", Economic and Political Weekly, Vol 48 (7), pp. 52-59, February 16.

3.18 The exchange rate acts as a price for the goods exported. The real effective exchange rate (REER) looks at the inflation-adjusted movement of exchange rates between India and its major trading partners. While the REER determines the competitiveness of our exports, the degree of its impact is determined by the import content of our exports. As India progressively integrates with global value chains (GVCs), the import content of our exports is also expected to rise. For instance, while the import content of gross exports was 14.6 per cent in 2000, it rose to 17.8 per cent in 2020.[139]

3.19 Considering the increasing global content in our exports, literature uses other measures of export price competitiveness such as the Consumer Price Index (CPI), unit value indices and GDP deflator[140]. These price ratios also show a higher degree of variability than the REER, making them more suited for econometric analysis. [141]

Figure III.5: Close correlation between Global GDP and India's export growth



Source: World Bank and World Trade Organisation (WTO)

Other factors

3.20 In addition to the above, over the short term, supply-side constraints can also play a binding role in export performance. The role played by supply-side constraints has been shown for industry-level elasticities in Raissi and Tulin (2015).[142] However, in general, the literature estimates long-run trade elasticities without controlling for supply-side variables. This is because, in the long run, costs emanating from the supply side would be factored in by the competitiveness of our exports – which is shown by the inflation-adjusted exchange rate.

[139] https://data.oecd.org/trade/import-content-of-exports.htm
[140] UNCTAD. (2013). Impact of the global slowdown on India's exports and employment
[141] Rangarajan, C., & Kannan, R. (2017). Determinants of India's exports. *Journal of Quantitative Economics, 15*, 629-646.
[142] Raissi, M., & Tulin, V. (2018). Price and income elasticity of Indian exports—The role of supply-side bottlenecks. The Quarterly Review of Economics and Finance, 68, 39-45.

Literature review

3.21 Literature captures export demand as a function of income and prices. Exchange rate and world demand, in various forms, have been used as a proxy for income and prices in the literature. The "export elasticities" are then estimated for measuring the sensitivity of India's exports to income and prices.

3.22 The most recent estimates of export elasticity for India are provided by Chinoy and Jain (2019).[143] Using quarterly data between 2004 and 2017, they suggest that (a) both global growth and exchange rates are important determinants of India's export dynamics; (b) these elasticities have attenuated in recent years; and (c) there is significant heterogeneity of elasticities across sectors; however, all sectors show a unanimous decline in price and income elasticities over their time frame. The authors attribute the decline in elasticities to de-globalization and India's entry into global value chains. However, it is pertinent to note that while de-globalisation has begun to make its dent through an increase in protectionism worldwide, this does not necessarily bear a direct impact on India's trade. This is because de-globalisation trends tend to be highly heterogeneous across countries (while some countries lose their markets, others gain as a result)[144].

3.23 Rangarajan and Kannan (2019)[145] estimate India's export demand from 1991 to 2013. They point out that the two key variables that explain India's export demand are REER and world exports. Of these two, as the policymakers can partially influence REER, which stands for the price competitiveness of Indian exports, they are best advised to reduce costs by improving the productivity of traded goods instead of pursuing an aggressive policy of undervaluation.

3.24 Raissi and Tulin (2015)[146] undertake a cross-industry analysis whereby they estimate both income and price elasticities using disaggregated export volume data for 45 Indian industries over the period 1990-2013, as well as industry-specific international relative prices. The results indicate that Indian exports are sensitive to international relative price competitiveness, world demand, and energy shortages. They estimate statistically and economically significant income elasticity of exports of 1.3 and price elasticity of (-)0.9.

3.25 UNCTAD (2013) studies the export elasticity for India for a longer period between 1970 and 2008. The study notes that India's income elasticity is high in sectors such as petroleum products, ores, gems, chemicals, and engineering goods. The study finds that our export basket is

[143] Chinoy, S. Z., & Jain, T. (2019). What drives India's exports and what explains the recent slowdown? New evidence and policy implications. In India policy forum (Vol. 15, No. 1, pp. 217-256). National Council of Applied Economic Research.
[144] Goldberg, P. K., & Reed, T. (2023). *Is the Global Economy Deglobalizing? And if so, why? And what is next?* (No. w31115). National Bureau of Economic Research.
[145] Rangarajan, C., & Kannan, R. (2017). Determinants of India's exports. *Journal of Quantitative Economics, 15*, 629-646.
[146] Raissi, M., & Tulin, V. (2018). Price and income elasticity of Indian exports—The role of supply-side bottlenecks. The Quarterly Review of Economics and Finance, 68, 39-45.

particularly sensitive to changes in demand from the United States compared to the rest of our trade partners. Further, it finds that India's exports are price-sensitive with respect to the ASEAN 5, indicating that our trade with the ASEAN 5 involves products that have close substitutes.[147]

3.26 Veeramani (2008) studies export elasticities for India's exports between 1960 and 2007. The study notes the attenuated impact of exchange rate depreciation on India's exports over time. It draws the conclusion that export promotion should not be the sole criterion for the RBI to intervene in foreign exchange markets to smooth out fluctuations.[148]

3.27 The present study builds on the existing understanding of the determinants of export demand in the literature and seeks to utilise the most recent available data to provide an updated picture of India's export demand.

Data and methodology of the study

Model specification

3.28 Following literature that goes back to Houthakker and Maggee (1969)[149], Orcutt (1950)[150] and Imbs (2010)[151], the basic specification for estimating export elasticity is as follows:

$$\ln X_t = \beta_0 + \beta_1 \ln \frac{PX_t}{PXW_t} + \beta_2 \ln YW_t + v_t \qquad (1)$$

where X_t denotes India's total real exports in year t, PX_t is an index of export prices, PXW_t is a world index of export prices and YW_t is real GDP for the importing countries. The parameters of interest here are β_1 and β_2 which denote the price elasticity and income elasticity of exports, respectively.[152]

3.29 The data for real exports X_t is taken from the World Bank database. [153] The price variable $\frac{PX_t}{PXW_t}$, is proxied using a simple fraction – India's CPI/ World CPI as proposed by Rangarajan and

[147] Mashayekhi, M. (2013). Impact of the global slowdown on India's exports and employment. In United Nations Conference on Trade and Development.
ASEAN 5 countries are Indonesia, Malaysia, the Philippines, Singapore, and Thailand
[148] Veeramani, C. (2008). Impact of exchange rate appreciation on India's exports. Economic and Political Weekly, 10-14.
[149] Houthakker, H. S., & Magee, S. P. (1969). Income and price elasticities in world trade. The review of Economics and Statistics, 111-125.
[150] Orcutt, G. H. (1950). Measurement of price elasticities in international trade. The Review of Economics and Statistics, 32(2), 117-132
[151] The specifications arise directly from a linearized version of a one-good CES demand system.
Imbs, J., & Mejean, I. (2010). Trade elasticities: a final report for the European Commission (No. 432). Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.
[152] In line with the literature, supply-side factors like the G-sec yields were added as control, however, it was not significant and therefore dropped.
[153] The World Bank provides real national data in constant 2015 prices, expressed in US dollars.

Kannan (2017) as a proxy to measure the price effect on exports. Data on India's CPI and World CPI is sourced from the OECD, with the base year set to 2015 prices. Since CPI is representative of both goods and services prices, it is suitable for studying the price impact on real exports, inclusive of both the merchandise and services exports).

3.30 Identification of trade elasticities is complicated by the potential endogeneity of prices of traded goods to their quantities.[154] To address this issue, this paper follows Chinoy and Jain (2019) by using dynamic OLS (DOLS), which is an improvement over the regular ordinary least squares (OLS). Dynamic OLS accounts for endogeneity and small sample bias by the inclusion of leads and lags of the first differences of regressors that are cointegrated and non-stationary (Stock and Watson, 1993).[155]

3.31 Global demand is proxied by the income variable $\ln YW_t$, by using data on real GDP from the World Bank. The period under study is CY1991 to CY2022. This period shows rich exogenous variation in global demand as well as exchange rates as India opened up its economy by removing artificial price and quantity controls. It serves as a good reference period to study the impact of global developments on India's exports.

Model findings and interpretation

3.32 DOLS estimates for equation (1) above yield income elasticity of 4.92 and the price elasticity of (-) 1.15 for the period under study. This means that a percentage upward change in world GDP led to a 4.92 per cent increase in India's exports. Similarly, a percentage increase in relative prices led to a 1.15 per cent decline in exports. To add an extra layer of robustness, the present study uses the RBI data on REER for six of India's top trade partners.[156] The results show a similar trend for the two elasticities; however, the REER price elasticity coefficient is not significant at the 5 per cent level. The lack of significance could be due to low variability in REER, which in turn results in a high variance of the estimated coefficient and a widely spread sampling distribution. For context, the coefficient of variation (CV), which measures variability, is 13.8 per cent for REER, whereas it is 38 per cent for CPI(India)/CPI(World).

3.33 Following Chinoy and Jain (2019), supply-side constraints are proxied using real yields on government securities. While the effect of higher cost of capital on real exports is negative, it is econometrically insignificant (For further details, refer to Annexure)

[154] Imbs, J., & Mejean, I. (2010). Trade elasticities: a final report for the European Commission (No. 432). Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

[155] Stock, James and Watson, Mark W, (1993), A simple estimator of cointegrating vectors in higher order integrated systems, Econometrica, 61(4) :783-820

[156] REER is the weighted average of NEER adjusted by the ratio of domestic to foreign prices. CPI-combined is used to measure prices for India and its foreign partners. The new six-currency indices represent the US, the Eurozone (comprising 19 countries), UK, Japan, China, and Hong Kong SAR (the Hong Kong currency is tied to the US dollar).

Table III.1: Dynamic OLS estimates of log real exports during 1991-2022

	Regression 1	Regression 2
Regressors	**Coefficient**	**Coefficient**
Log Real World GDP ($\ln YW_t$)	4.92*	3.8*
Log CPI ratio ($ln\frac{PX_t}{PXW_t}$)	-1.15*	
Log REER ($ln\frac{PX_t}{PXW_t}$)		-0.87

Note: - * indicates statistical significance at 1 per cent.

Is the relationship between the variables robust?

3.34 To check for robustness, the Vector Error Correction Model (VECM) model is used. The results show that the long-run relationship between real exports, real World GDP and CPI ratio agrees with the dynamic OLS model presented in the section above.

Table III.2: VECM estimates of log real exports during 1991-2022

Regressors	Coefficient
Log Real World GDP ($ln YW_t$)	4.63*
Log CPI ratio ($ln\frac{PX_t}{PXW_t}$)	-0.92*

Note: - * indicates statistical significance at 1 per cent.

3.35 Different proxies for the independent variables shown in equation (1) are also used. In place of Real-World GDP, Real exports of India's top trading partners[157] are used. Similarly, in addition to the RBI-based REER, REER which is calculated by the Bank for International Settlements (BIS) is used. As US is our largest importer, a US-specific REER[158] is also used. The new set of data yields significant results in line with the baseline model. An exhaustive list of the new variables used and their findings have been presented in the Annexure.

Structural break

3.36 An episodic structural shock can alter the relationship between the variables studied. To detect the presence of structural breaks in real exports, the Bai-Perron test is performed. The results of the Bai-Perron test indicate a structural break in 2008. This is also confirmed by the Chow test and by visual inspection of the data studied. The break in 2008 corroborates the global recession, which cast a significant dent in global trade, incomes and exchange rates.

Elasticity variation in the presence of a structural break

3.37 Before proceeding to interpret the results, it is important to recall that the focus of the research here is to ascertain whether India's export basket has become more resilient to changes

[157] Top trading partners include all nations whose demand make up at least 1 percent of India's exports in 2021.
[158] Calculated using INR-USD nominal exchange rate and the CPI indices of the respective countries.

in world income and prices over time. As previous literature has shown[159], the magnitude of the estimates is sensitive to the data and structure of the model used; therefore, the objective of the current exploration is on how the elasticities have changed over time and not just measure the magnitude of the elasticity estimates.

3.38 The findings of the model show a decline in price and income elasticities over time. Estimates in Table III.3 show that income elasticity under regression 1 registered a sharp decline from 5.67 to 3.44. The price elasticity estimates show a decline from (-)2.7 for 1991-2008 and (-)0.40 for the period after the recession.

3.39 To check robustness, REER is used as a price variable in regression 2. Similar to regression 1, income and price elasticity exhibit a steep decline for the period after the structural break.

Table III.3: Dynamic OLS estimates of log real exports during 1991-2022 with a structural break

	Regression 1		Regression 2	
Regressors	**1991-2008**	**2009-2022**	**1991-2008**	**2009-2022**
Log Real World GDP ($\ln YW_t$)	5.67*	3.44*	4.02*	1.32*
Log CPI ratio ($ln\frac{PX_t}{PXW_t}$)	(-)2.7*	(-)0.40*		
Log REER($ln\frac{PX_t}{PXW_t}$)			(-)0.91*	(-)0.48

Note: - * indicates statistical significance at 1 per cent.

Interpreting the results – what is driving the decline in elasticities?

3.40 This section attempts to explore the possible reasons behind the decline in export elasticities over the timeframe studied.

3.41 **Structural change in exports basket** – In order to understand the elasticities in a better way, elasticities are calculated specifically for 3 new-age sectors, viz. organic chemicals, pharmaceuticals, and electronic goods, and 2 traditional sectors, viz. textiles and gems, using DGCI&S data (for which comparable data is available from 2000 to 2018). As Table III.4 shows, the price and income elasticities are higher for new-age goods exports than traditional exports such as textiles and gems. This is indicative of a high degree of competition in the new-age sectors.

Table III.4: Dynamic OLS estimates for sectoral log real exports during 2000-2018

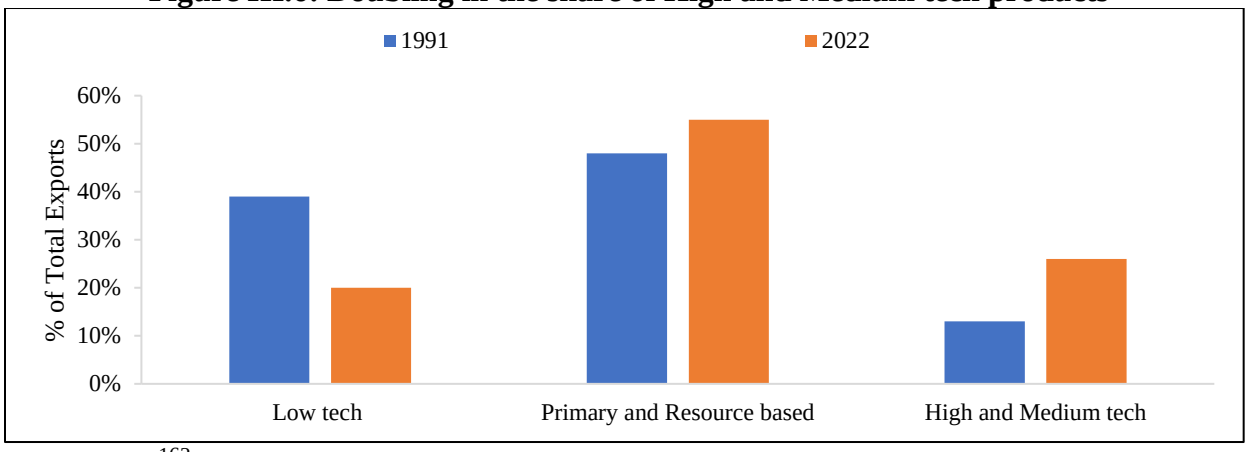
Regressors	**Organic chemicals**	**Pharmaceuticals**	**Electronic goods**	**Textiles#**	**Gems**
Log Real World GDP	4.13*	5.44*	5.15*	2.43*	0.90*
Log CPI ratio	-1.15*	-.98*	-1.30*	-0.15	-0.52*

Note: - * indicates statistical significance at 1 per cent.
#Made-up articles of textile materials

[159] Keil, S. (2023). The challenging estimation of trade elasticities: Tackling the inconclusive Eurozone evidence. The World Economy, 46(5), 1235-1263.

3.42 Regardless of the varying elasticities across sectors, the vulnerability of all sectors to global demand and prices has reduced with time. In this context, it is useful to refer to the results of Chinoy and Jain (2019), who use quarterly data at a sectoral level to arrive at the conclusion that sectoral elasticities for India's new-age exports such as pharmaceutical goods and engineering goods have declined over time.[160] They contrast the period 2004 to 2011 with 2011 to 2017 to arrive at this conclusion. One possible reason for a decline in price elasticities for new-age goods could be an increase in the technological intensity in India's export basket. It could also be that within sectors, the mix of products is becoming more technologically intensive (Figure III.6). Literature suggests that relatively high-tech products tend to have lower price elasticities.[161]

Figure III.6: Doubling in the share of High and Medium tech products



Source: WITS[162]

3.43 The decline in price elasticities for new-age exports could also be because of their increasing integration into the global value chains, as explained below.

3.44 **Increased participation in manufacturing Global Value Chains (GVCs)** – Empirical evidence shows that the price elasticity of exports declines as countries participate further in the GVCs. This is because as countries become more integrated with the global production process, currency depreciation only improves the price competitiveness of a fraction of the goods exported.[163]

[160] Chinoy, S. Z., & Jain, T. (2019). What drives India's exports and what explains the recent slowdown? New evidence and policy implications. In India policy forum (Vol. 15, No. 1, pp. 217-256). National Council of Applied Economic Research.

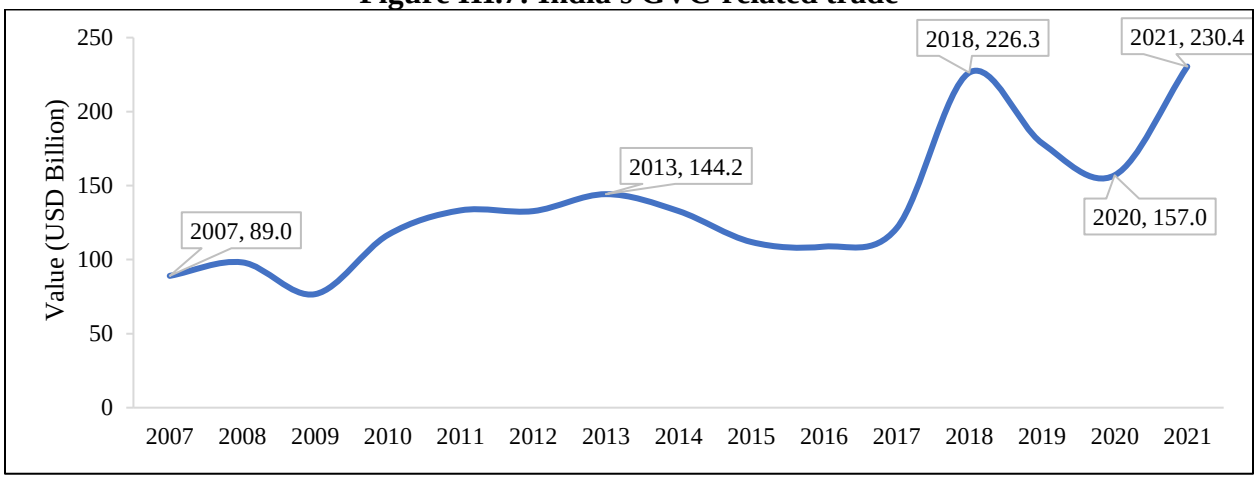
[161] Thorbecke, W., & Salike, N. (2020). Export sophistication and trade elasticities. Journal of Asian Economic Integration, 2(1), 7-26. (https://journals.sagepub.com/doi/pdf/10.1177/2631684620910276)

[162] As per the IMF, (i) low-technology manufactures tend to have stable, well-diffused technologies, which are primarily embodied in capital equipment. (ii) Medium-technology products comprise the bulk of skill- and scale-intensive capital goods and intermediate products. (iii) High-technology products have advanced and fast-changing technologies, with high R&D investments and prime emphasis on product design. (iv) Resource-based products are relatively more processed than primary products and in terms of technological intensity kept on a scale lower than low-tech products.

[163] IMF Working Paper WP/15/252 "Global Value Chains and the Exchange Rate Elasticity of Exports", 2015

3.45 While India's GVC participation has been lower than the average shown by emerging economies, its GVC exports have shown steady growth since the early 2000s[164]. Moreover, as a 2021 report by the Asian Infrastructure Investment Bank shows, the sectoral composition of India's GVC exports has shown a marked change between the 2000s and 2019.[165] In the 2000s, low- and high-technology manufacturing and business services dominated GVC exports in nearly equal measure. By 2019, high-technology manufacturing accounted for more than half of GVC exports, with high-technology exports growing at an average annual rate of 15.2 per cent over the period.

Figure III.7: India's GVC-related trade

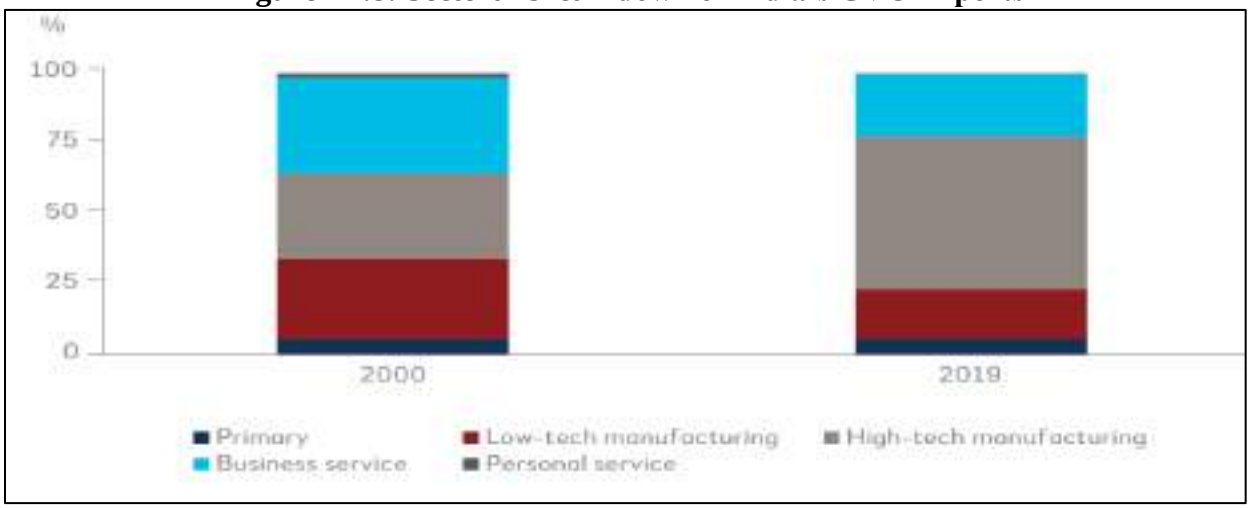


Source – WITS database and Asian Development Bank (ADB)
Note: Data is unavailable for 2001 to 2006

3.46 **Moving up in the services value chain** – India is deeply integrated into the value chains of the global software industry.[166] While the early 2000s was a period of BPOs mushrooming to provide cost-cutting back-end IT services, India now looks beyond just cost-cutting. Data from the ADB shows that India has gone from providing back-end services in law, IT, and management in 2010 to providing upstream, high-value-added services in these areas by 2020. This growth is reflected in the services BoP, with 'Other business services' being the second largest contributor (at 24.7 per cent) after IT services (at 45.1 per cent) in 2022-23.[167]

[164] GVC exports as a percentage of total exports was 34.6 per cent for India in 2021. This is below the average GVC export share of emerging economies (consisting of Malaysia, Indonesia, Philippines, Thailand, Viet Nam, China, India, Brazil, Pakistan and Mexico) which was 40.6 percent in 2021 (Calculated using ADB data, available in WITS).
[165] https://www.aiib.org/en/news-events/asian-infrastructure-finance/_common/pdf/AIIB-Asian-Infrastructure-Finance-2021.pdf
[166] https://www.wto.org/english/res_e/booksp_e/00_gvc_dev_report_2021_e.pdf
[167] India's Overall Balance of Payments, RBI

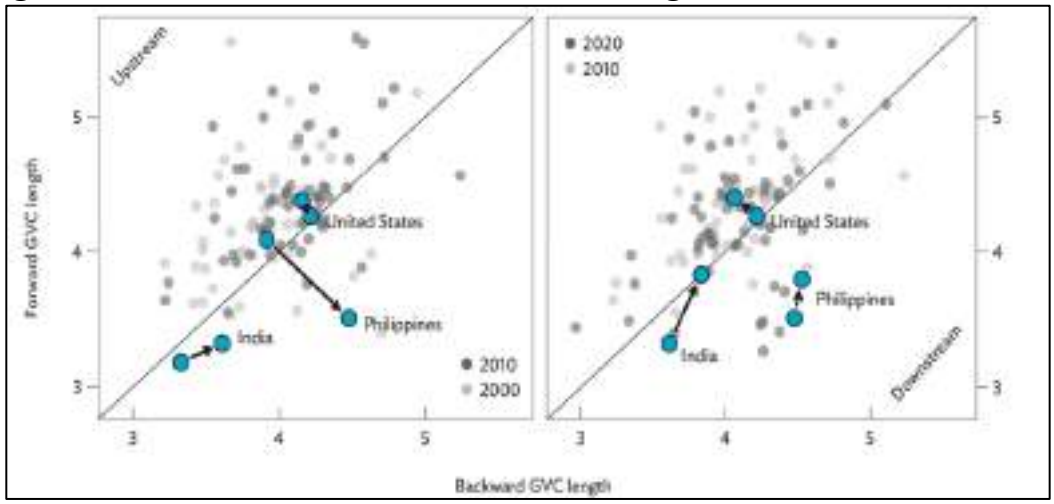
Figure III.8: Sectoral break-down of India's GVC Exports



Source: Asian Infrastructure Investment Bank Report, 2021

3.47 The chart below shows the upstream movement in India's services GVC production between the years 2000, 2010 and 2020. This upstream movement in the services value chain is reflective of an increase in Global Capability Centres (GCCs). GCCs are offshore units of MNCs providing bespoke services in operation, product development and innovation. According to the NASSCOM, India's GCC market for FY-23 reached USD 46 billion. India hosts over 1580 GCCs, and it continues to be a destination of choice for global GCC operations[168].

Figure III.9: Global Value Chain Production Length for 'Other Business Activities'



Source: Global Value Chain Development Report, 2021

3.48 As the figure shows, India now possesses capabilities at the front as well as the back end of the services value chain. This has led to a higher market power, which could explain the lower price elasticity of exports. Further, India's dominance on a wide range of service activities ensures

[168] https://community.nasscom.in/communities/global-capability-centers/vertical-wise-indian-gccs-overview-h1-cy2023#:~:text=India%20continues%20to%20be%20the,USD%2046%20bn%20in%20FY2023.

that there is demand during downswings (for example, in the form of cost-cutting services such as BPOs) and during upswings (for example, in the form of high value-added services provided by GCCs). In general, the literature suggests that services trade is more resilient to crisis given its demand is less cyclical, less dependent on external finance and relatively less prone to protectionist measures (Borchert and Mattoo 2010).[169] This can in turn, result in a declining income elasticity for exports.

Conclusion and policy implications

3.49 This study shows that India's export growth story can be explained by the structural transformation observed in both the exports of goods and services sectors. As the results presented above highlight, there has been a decrease in the income elasticity of exports to 3.44 (for the period 2009-2022) from 5.67 (for the period 1991-2008). The price elasticity of exports shows a more drastic decline from (-) 2.7 to (-) 0.4 over this time frame. The fall in income elasticity of exports means that India's exports are becoming less vulnerable to changes in world demand and to changes in relative prices. A decline in elasticities is favourable in the presence of downside risks (such as a decline in global demand and an appreciation of exchange rates). However, it may not be beneficial during boom periods and would result in exports rising by a lower proportion in response to a rise in global demand or a depreciation of the exchange rate. In this context, what is more important is to hedge against downside risks emerging from less favourable growth in world demand and relative prices.[170]

3.50 The change in export elasticities could also be explained by a growing share of services exports, which for instance, have grown by 28 per cent above pre-pandemic levels and are found to be relatively immune to global income fluctuations (relative to merchandise trade). Not only are IT services an area of comparative advantage, but these exports remained strong despite the global supply disruptions witnessed during the pandemic.[171]

3.51 A disaggregated analysis for certain sectors of exports for which data are available at the sectoral level also points to differences in elasticities based on the nature of the sector. It shows that there has been a progressive rise in the export of high-value goods and an increase in

[169] Ingo Borchert & Aaditya Mattoo, 2009. "The crisis-resilience of services trade," The Service Industries Journal, Taylor & Francis Journals, vol. 30(13), pages 2115-2136, August.
[170] In case of upsides in terms of an increase in global income or a decrease in real effective exchange rates, the declining elasticities would result in a proportionately lower increase in export demand.
[171] Among the services exports, an important component is the software services exports, which is seen to be largely resilient to the uncertain global macroeconomic environment. Even if economic growth across the globe is faltering, software services exports, which constitute around 45 per cent of total services exports, are holding the flag and showing growth. To cite a few figures here, the correlation between the growth in exports of software services and GDP for the US and Canada (which account for about 60 per cent of our total software exports) over the period 2012-14 to 2019-20 was only 0.05. FY21 was an aberration year due to the pandemic. In FY22, software exports have again picked up, showing an annual growth of 16 per cent while the GDP of the US plus Canada grew at 11.4 per cent.

manufacturing GVC participation. Such a shift has come in handy amidst the evolving global trade scene. This shift has been catalysed by an ecosystem created through a series of comprehensive measures undertaken both in the manufacturing as well as foreign trade space by the government. India's export targets have become achievable due to schemes such as PLI, Make in India, and the new-age Free Trade Agreements, along with fundamental drivers of exports like price competitiveness, access to markets and development of markets for niche products.

Annexure

Stationarity tests: Both Phillips Perron and Engel-Granger tests confirm that key variables are integrated of order (1). The results for the two tests are presented below: -

Variables	Engel Granger at levels	Phillips Perron at levels
Real Exports	-1	-2.2
Real World GDP	-1.9	-10.3
CPI ratio	-1.9	-3.5
REER	-2.6	-13.2

(Note: Null hypothesis: variables are not stationary)

Breakpoint unit root tests (which are performed in the presence of structural breaks) confirm that the variables are integrated of order (1).

Johanssen test for cointegration

The three variables are cointegrated, indicating that the presence of a long-run relationship between Real exports, Real World GDP, and CPI ratio exists.

Cointegrating rank (r)	Trace Statistics
$r = 0$	39.4*
$r \leq 1$	16.2*
$r \leq 2$	1.6

* Denotes the rejection of the null hypothesis of cointegrating rank r at the 5% significance level

The three variables are cointegrated, indicating that the presence of a long-run relationship between Real exports, Real World GDP and REER exists.

Cointegrating rank (r)	Trace Statistics
$r = 0$	48.7*
$r \leq 1$	21.4*
$r \leq 2$	6

* Denotes the rejection of the null hypothesis of cointegrating rank r at the 5% significance level

Robustness checks using different proxies for income and price variables

Dependent variable: Real exports of goods and services

	Baseline	Robustness check				
Cointegration regressors		1	2	3	4	5
ln (CPI ratio)	-1.15*				-0.22*	-1.22*
ln (Global real GDP)	4.92*	3.8*	3.89*	3.11*		4.06*
ln (REER)		-.87*				

ln (Real world exports)					2.24*	
ln (REER_BIS)			-2.7			
ln (REER_US)				-0.73*		
Deterministic regressors						
Real G-Sec Yields						-0.06

*** denotes significance at the 1% level

Structural break tests

Chow test in 2008 using the equation number (1)

Statistics	Value
F-statistic	21.6**
Log Likelihood ratio	40**
Wald statistic	64.9**

* Denotes the rejection of the null hypothesis of no break at 2008 at the 1% significance level

The Bai Perron test, which endogenously determines a structural break for real exports, shows the following result

Statistics	Value
F-statistic	122.24**
Break-point detected by Bai-Perron	2008
Wald statistic	64.9**

* Denotes the rejection of the null of no endogenously determined breaks at the 5% significance level

Tests for Sectoral Elasticities

Stationarity tests: Both Phillips Perron and Engel-Granger tests confirm that GDP and trade balance are integrated of order (1). The results for the two tests are presented below: -

Variables	Engel Granger at levels	Phillips Perron at levels
Organic Chemicals	-1.8	-6.6
Pharmaceuticals	-1.2	-6.3
Electronic Goods	-1.7	-13.6
Textiles	-1.3	-1.9
Gems	-1.7	-6

Johanssen test for cointegration

Each of the sectoral real exports is cointegrated with real GDP and CPI ratio at rank 2, indicating that the presence of a long-run relationship between Real sectoral exports, Real World GDP, and CPI ratio exist.

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04 CHAPTER

FINANCING CLIMATE ACTION: ISSUES, CONCERNS AND POSSIBLE ACTIONS

Climate change is one of the biggest market failures. The existing multilateral climate agreements mandate a global response based on equity and the principles of common but differentiated responsibilities and respective capabilities. The data from biennial transparency reports show that the developed countries have fallen short of their own emission reduction commitments, and the finance flows from developed countries to support climate action of developing countries have been rather insignificant. The unilateral and other measures proposed by prominent advanced economies are not only protectionist in nature, but they are also liable to be inefficient and ineffective in addressing climate change. The essay discusses these issues in detail, while also deliberating India's approach to tackling climate change.

Introduction

4.1 Carbon is one of the most abundant elements in the world. Almost all economic activities lead to the emission[172] of carbon into the atmosphere. Rapid industrial growth - an outcome of the Industrial Revolution and its transmission to other economies - has led to the fast accumulation of carbon and other greenhouse gases in the atmosphere, resulting in long-term increases in temperature levels and changes in other weather patterns or climate change. With carbon emissions having a substantially long life of several 100 years, it is a problem that cannot be wished away.

4.2 Economists recognise climate change to cause market failure.[173] While developed countries are responsible for about four-fifths[174] of the carbon stock in the atmosphere, the impact of this accumulation is inequitable, with developing countries bearing the brunt of this negative externality on their lives and livelihoods due to their higher vulnerability. The inability of economic agents to factor in this externality into the production and consumption behaviour affects decision-making. The historical responsibility forms the rationale for scaling up climate action by the developed countries and for the onus on them to provide resources as grants and on the concessional basis to developing countries for climate action. This forms the basis of the principles of 'Equity' and ''Common But Differentiated Responsibilities and Respective Capabilities' (CBDR-RC) in the light of country circumstances in the UNFCCC and its Paris Agreement (Multilateral Climate Agreement).

[172] Carbon emissions or emissions refer to carbon dioxide equivalent emissions of all Greenhouse Gases.
[173] Nicholas Stern (2008). The Economics of Climate Change. American Economic Review, volume 98, number 2, pages 1–37.
[174] https://www.cgdev.org/media/who-caused-climate-change-historically

4.3 While recognising the need for a global response to climate change, the multilateral climate agreements have accepted that peaking of emissions will take longer for developing country Parties and that the measures taken to address it may also have an impact that must be accounted for. The macroeconomic effects of climate action need an urgent assessment as the world gears up for fast-tracked action[175]. The provision and mobilisation of financial resources to developing countries, enhancing their capacity to take effective climate change action and facilitating access to technology are the critical elements for effective action and climate-resilient development duly recognised by the agreements.

4.4 The Needs Determination Report (NDR) of the UNFCCC estimates that resources amounting to USD 5.8 trillion to USD 11.5 trillion are required till 2030 to meet the targets set by developing countries[176]. The range reflects three different sources of information: the information in the nationally determined contribution of countries, the national communication made to the UNFCCC, and the Biennial Update Report. The actual flow has been meagre and debatable, with one source of estimate indicating a global finance flow to the developing countries of only about USD 89.6 billion[177] and USD 83.3 billion in 2021 and 2020, respectively. In a recent report, the OECD mentioned in the preface that, as per preliminary and unverified findings, they may have met USD 100 bn in 2022. The other estimate from the Oxfam Climate Finance Shadow Report of the actual value of the financial support aimed explicitly at climate action is still smaller at USD 21–24.5 billion in 2020[178]. The UNEP Adaptation Gap Report[179] 2022 states that the actual international adaptation finance flows to developing countries are 5-10 times below the estimated needs of about USD 215 billion to USD 387 billion and mentions that this gap is widening. Developed countries have, however, rerouted the climate action debate solely in favour of domestic measures such as carbon pricing and modification in the policy and regulatory framework as the most significant solution to generating resources for climate action. A collective global response to climate change based on the principles of equity and common but differentiated responsibility is sought to be changed radically, with measures such as the Carbon Border Adjustment Mechanism (CBAM) and the Inflation Reduction Act (IRA), purportedly aimed at emissions reduction, intensifying protectionism in developed countries.

4.5 This essay provides a historical perspective on the evolution of the climate-related international institutional framework, briefly discusses the performance of the developed countries in meeting their climate commitments and ambitions, and focuses on the approach adopted by India in financing its ambitious climate actions and the developments in the regulatory framework. The paper also deliberates on the recent market and non-market measures by developed countries

[175] Pisani-Ferry25, J. 4 The missing macroeconomics of climate action. POST-COVID-19 RECOVERY, 63.

[176] 54307_2 - UNFCCC First NDR summary - V6.pdf

[177] OECD (2023), Climate Finance Provided and Mobilised by Developed Countries in 2013-2021: Aggregate Trends and Opportunities for Scaling Up Adaptation and Mobilised Private Finance, Climate Finance and the USD 100 Billion Goal, OECD Publishing, Paris.

[178] Oxfam. 2023. Climate Finance Shadow Report 2023: Assessing the delivery of the $100 billion commitment (summary) (openrepository.com)

[179] Adaptation Gap Report 2023 | UNEP - UN Environment Programme

and their possible consequences. It ends with policy suggestions for facilitating a smoother global transition to low-carbon pathways.

Historical Perspective and the Carbon Budget

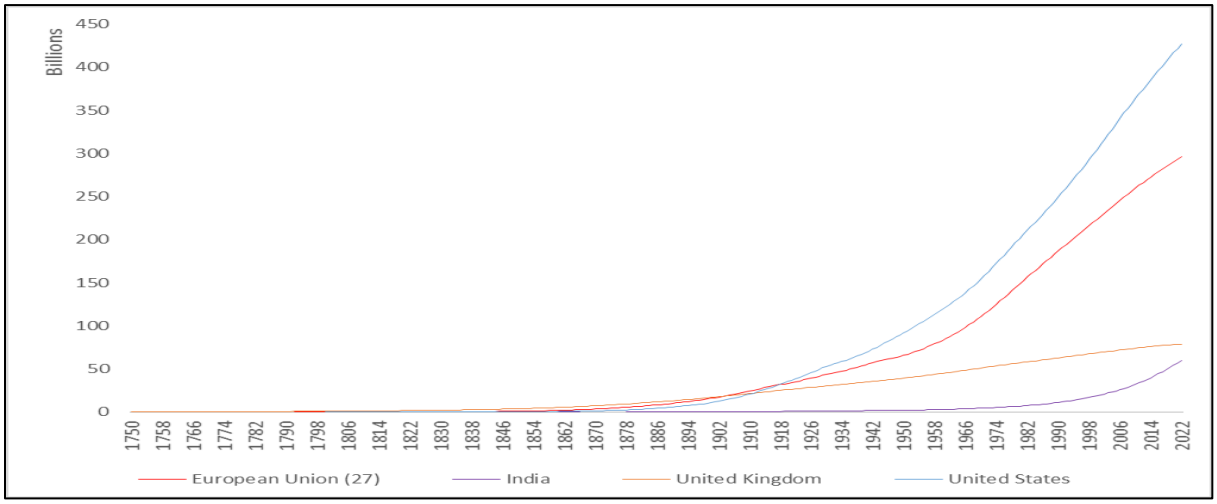
4.6 The Stockholm Declaration, 1972, called the United Nations Conference on the Human Environment, was the first attempt to take stock of the human impact on the environment and reach a common outlook[180]. This, along with other initiatives such as the Brundtland Report titled 'Our Common Future', was the precursor to the Rio Conference that led to the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) [181] (the Convention) in 1992. The Convention laid down fundamental principles to guide countries' engagements and sought commitments on action, laying down the game's rules. The differentiator from the Stockholm Conference was the consensus on the nature of action - collective and precautionary but based on Equity and in the context of CBDR-RC, calling the developed countries (mainly responsible for the carbon stock in the atmosphere) to shoulder much of the responsibility including providing the resources and technology to facilitate action by the developing countries. The right to promote sustainable development was duly recognised as a principle, as was the need to withhold from arbitrary or unjustifiable discrimination leading to disguised restrictions on international trade.

4.7 The Kyoto Protocol came into effect in 2005. There was a consensus among the member countries that the developed countries (Annex I countries)[182], primarily responsible for the GHG emissions stock, shall reduce their average emission by 5 per cent (compared to 1990 levels) till 2012. The Annex I countries committed to a further reduction in GHG emissions by at least 18 per cent below 1990 levels in the eight years from 2013 to 2020. The Paris Agreement, however, changed the dynamics substantially in 2015 when the reduction in GHG emissions became a collective but with differentiated responsibility duly recognising that this action would be as per the capabilities of the countries and in the light of their respective national circumstances. In doing so, it acknowledged the different development status of countries.

4.8 The UNFCCC's Paris Agreement, signed in 2015, aimed at strengthening the global response to climate change threats and extended the responsibility to all countries based on a bottom-up approach, a country's Nationally Determined Contributions. However, it continued to recognise that the developed world must take the lead in addressing climate change by undertaking economy-wide absolute emission reduction, also enjoining the developed countries to provide the means of implementation and support for providing necessary financial resources and technology to the developing countries for the implementation of their mitigation and adaptation action.

[180] United Nations Conference on the Human Environment, Stockholm 1972
[181] UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE UNITED NATIONS 1992 FCCC/INFORMAL/84 GE.05-62220 (E) 200705
[182] Kyoto Protocol to the United Nations Framework Convention on Climate Change. | UNFCCC

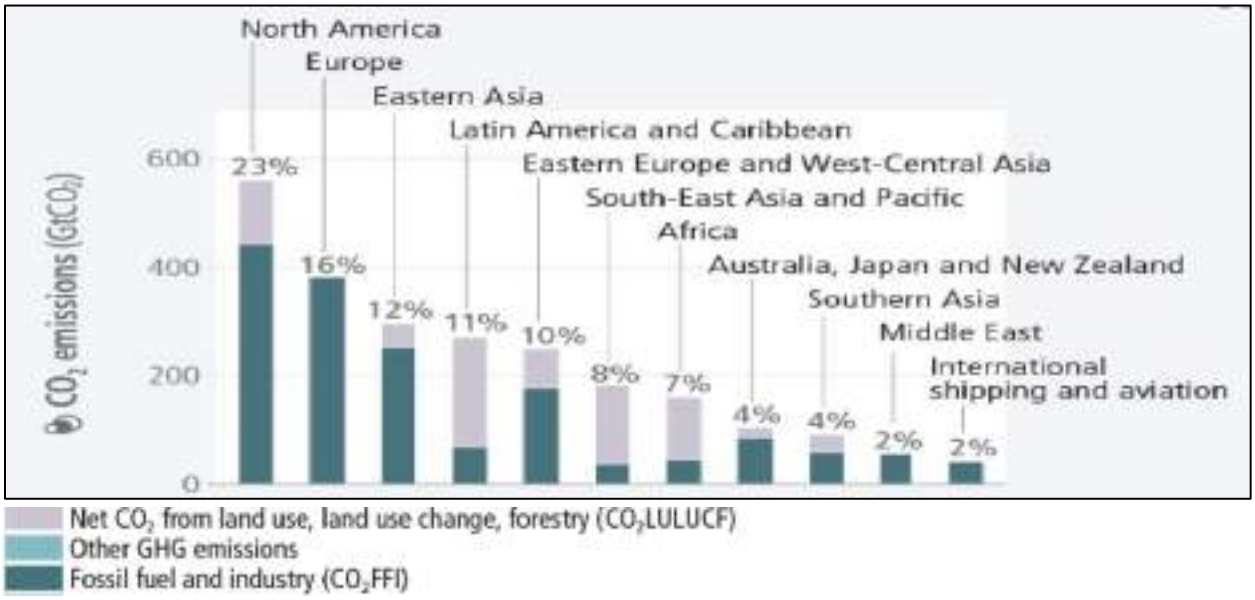
Figure IV.1: Cumulative CO2 emissions (1750-2022 in tonnes)



Source:https://ourworldindata.org/grapher/cumulative-co-emissions

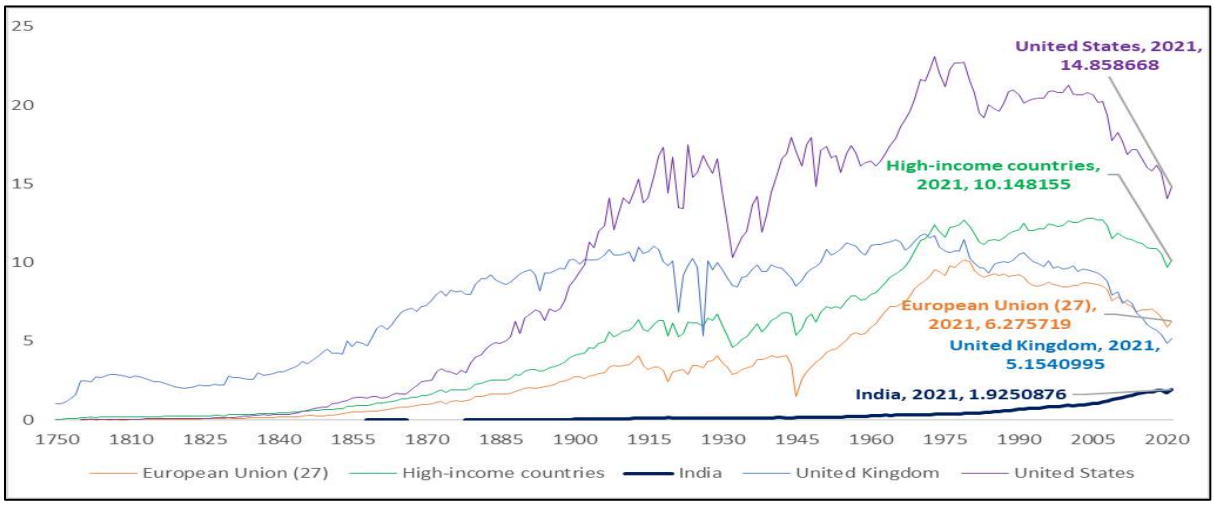
Note: Carbon dioxide (CO_2) emissions from fossil fuels and industry. Land use change is not included.

Figure IV.2: Regional Contribution to Historical Net Anthropogenic CO2 emissions (1850-2019)



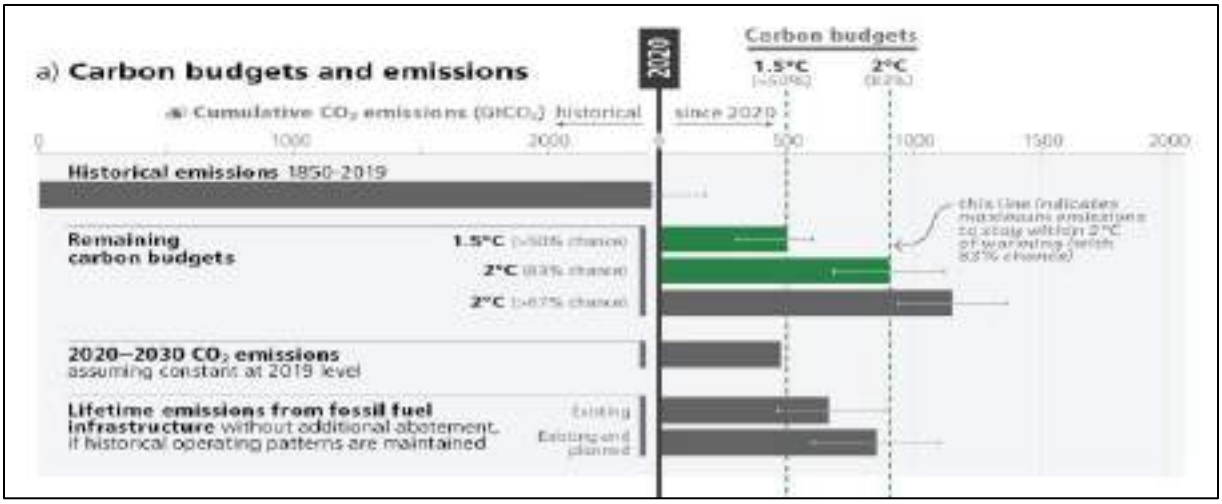
Source: Synthesis Report of the IPCC Sixth Assessment Report (AR6)

Figure IV.3: Per capita CO_2 emissions (1750 - 2021 in tonnes)



Source: https://ourworldindata.org/co2-and-greenhouse-gas-emissions
Note: Carbon dioxide (CO_2) emissions from fossil fuels and industry. Land use change is not included.

Figure IV.4: Carbon Budgets at present



Source: IPCC 6th Assessment Report, 2023

4.9 It is imperative to establish this historical responsibility for the emissions. Carbon or GHG gases, once emitted, stay in the environment for a long time: carbon stays for 300 to 1000 years[183]. Anthropogenic factors have led to emissions intensifying mainly from the eighteenth century with the industrial revolution in the UK, which then spread to the European continent and the US in the subsequent centuries. The IPCC[184], refers to the remaining carbon budget *as the total net amount of carbon dioxide (CO2) that can still be emitted by human activities while limiting global warming to a specified level (e.g., 1.5°C or 2°C above pre-industrial levels)*. The total carbon budget is the

[183] NASA:https://climate.nasa.gov/news/2915/the-atmosphere-getting-a-handle-on-carbon-dioxide/#:~:text=Once per cent20it's per cent20added per cent20to per cent20the,timescale per cent20of per cent20many per cent20human per cent20lives
[184] IPCC, 2021: https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

sum of the remaining and past carbon emissions. Human activities released about 2560 billion tonnes of CO2 into the atmosphere between 1750 and 2019. The term remaining carbon budget describes the total net amount of CO2 that human activities can still release into the atmosphere while keeping global warming to a specified level, like 1.5°C or 2°C relative to pre-industrial temperatures. According to the IPCC (2021)[185] (figure 3). The best estimate of the remaining carbon budget (RCB), starting from January 1, 2020, for limiting global warming to 1.5°C with a 50 per cent likelihood, is 500 GtCO2 (gigatons of CO2). For 2°C with a 67 per cent likelihood, it is estimated at 1150 GtCO2.

4.10 Developed countries are predominant emitters in terms of historical cumulative emissions (Figure IV.1) and in per capita terms (Figure IV.2). In 2021, India's per capita CO2 emissions were only 1.92 tonnes, while high-income countries emit around five times what India emits (Figure IV.2). With evidence[186] that the average global temperature on Earth has already increased by at least 1.1°Celsius above pre-industrial levels, equitable allocation of the remaining carbon budget allowing fair share to developing countries based on their population is vital to allow for country-determined strategies to address climate change while not leaving anyone behind.

4.11 Another aspect to note is that the developed countries reached their peak carbon emissions several decades ago – the EU in the 1970s and the US in the early 2000s (figure 2) while developing countries like India are yet to achieve their peak emissions. The former seek to become net zero by 2050, giving themselves sufficiently long time to reduce the emissions. On the other hand, the pressure on the developing countries is to follow suit in a shorter period, even before they reach peak emissions. This has implications for their economic development trajectories. A flatter peak will imply a complete overhaul of the production process well in advance in the development process as compared to the stage at which it was introduced in developed countries. It also has implications on the cost of transition, being hugely dependent on access to finance, technology and critical mineral resources and its impact on the achievement of the other developmental priorities. If these aspects are not addressed appropriately, they are likely to make the adoption of a low-carbon development paradigm impossible. The pace at which the transition is to be designed will be informed by the country's development stage and its capacity to address the issue of which financial resources and technology are inalienable.

Mobilisation of Financial Resources for Climate Action- International and Domestic Climate action and requirement of financial resources

4.12 Climate action includes i) mitigation action, which aims at reducing the carbon emissions flows and/or the carbon stock- a strategy in support of this is also called low carbon development and ii) adaptation action allows adjustment to adverse events- floods, cyclones, droughts or slow onset events such as sea level rise and fosters climate-resilient development. Finance for climate

[185] Ibid.
[186] IPCC and NASA: https://earthobservatory.nasa.gov/world-of-change/global-temperatures

action could originate from several sources - public or private and domestic or international, budgetary or mobilised by the public sector, multilateral development bank, private sector or through market or non-market regulatory measures. Taking cognisance of the historical responsibility, the multilateral climate agreements mandate that finance be provided to the developing countries and that they also lead the mobilisation of the resources.

4.13 UNFCCC mandates developed countries to not only take domestic action (Articles 4.1 and 4.2) to reduce emissions but also provide new and additional financial resources and technology transfer to meet the agreed full costs incurred and the incremental costs by developing countries (Article 4.3). The extent to which developing countries must implement their commitments depends on developed countries providing financial resources and technology (Article 4.7). The Paris Agreement also delineates the responsibilities of developed countries, requiring them to provide financial resources to assist developing country Parties (Article 9.1), including by leading the mobilisation of finance to support country-driven strategies and the priorities and needs of the developing countries (Article 9.3) to achieve a balance between adaptation and mitigation (Article 9.4) while considering the need for public and grant-based resources for adaptation. It was only in Cancun in 2010[187] that developed countries committed to mobilising USD 100 billion per year by 2020 in the context of meaningful mitigation actions and transparency of implementation to address the needs of developing countries, in line with the Copenhagen Accord[188]. COP 21 decided that developed countries should continue their existing collective mobilisation goal of USD 100 billion per year through till 2025 and that prior to 2025, a New Collective Quantified Goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries, would be set.

4.14 There are several estimates of the financial resources required. It is estimated that USD 4 trillion per year needs to be invested in renewable energy up until 2030 to be able to reach the goal of net zero emissions by 2050[189], and investment of at least USD 4–6 trillion[190] per year will be required for a global transformation to a low-carbon economy. The OECD estimates that USD 6.9 trillion annually is required up to 2030 to meet global climate and development objectives[191]. The Standing Committee of Finance of the UNFCCC estimates that USD 5.8 trillion to USD 11.5 trillion are required by 2030 to meet the targets set by developing countries[192]. Further, it is estimated that adaptation could require yearly investments of USD 215-387 billion annually by 2030[193].

[187] COP 16 (Decision 1/CP.16)
[188] UNITED NATIONS Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009
[189] World Energy Outlook 2022, International Energy Agency
[190] United Nations Environment Programme. 2022. Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies. Nairobi: United Nations Environment Programme
[191] OECD/The World Bank/UN Environment (2018), Financing Climate Futures: Rethinking Infrastructure, OECD Publishing, Paris
[192] UNFCCC, S. (2021) First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement.
[193] AGR23_ESEN.pdf (unep.org)

4.15 Researchers have estimated the heavy burden that the costs of climate policy would impose. These may range between 3.8-5.6 per cent of GDP in 2100 assuming least-cost implementation and between 2.8-3.2 per cent of GDP assuming constant vulnerability. The uncertainty about the benefits being significantly larger than the uncertainty about the costs and the fiscal challenge that Paris Agreement targets may pose has also been discussed. (Tol, 2023a)[194] and (Tol, 2023b)[195]

4.16 The flow of finance witnessed so far differs from the commitments under the Paris Agreement. The global climate finance flows for 2020[196], as per the 5th Biennial Assessment[197] report, stood at USD 803 billion, 12 per cent higher than 2018[198]. This corpus covers a wide variety of sources, destinations and types of financing only to show great disbalances. Most of the funds were allocated to mitigation activities like sustainable transport, energy, etc., and the adaptation sector received only a fraction – just USD 49 billion. Public sector flows from developed to developing countries were only USD 40.1 billion annually. From the developing countries' perspective, approximately 71 to 76 per cent of public climate finance flows to developing countries were through loans. In comparison, grants comprised 23 to 26 per cent annually in 2016–2020.

4.17 OECD estimated that the flow of finance from developed to developing countries for climate action was USD 89.6 billion (2021) and USD 83.3 billion (2020)[199] to developing and emerging economies. Of this, USD 73.3 billion in 2021 (USD 68.3 billion for 2020) came from the public sector, two-thirds of which was in the form of loans. On the other hand, Oxfam[200] estimates that the "true value" of climate finance provided to developing countries was between USD 21-24.5 billion (2020), far below the OECD's estimate of USD 83.3 billion for 2020.

4.18 Further, the performance of the developed countries in achieving their climate actions has also not been encouraging. A recent CEEW report[201] highlights how developed countries may not be able to fulfil their Net-Zero commitments. The assessment is based on the information given by these countries in their biennial transparency reports. Developed countries are expected to fall short of their carbon emission reduction targets for 2030 by a significant margin of 38 per cent. USA aimed for a 50 per cent reduction in emissions by 2030, but based on its submissions under UNFCCC transparency arrangements, it may only be able to achieve 22 per cent; Russia targeted

[194] Tol, R. S. (2023a). Costs and benefits of the Paris climate targets. Climate Change Economics, 14(04), 2340003
[195] Tol, Richard SJ (2023b). The fiscal implications of stringent climate policy. Economic Analysis and Policy 80 (2023): 495-504.
[196] Annual average of 2019 and 2020.
[197] UNFCCC, S. (2022). Standing Committee on Finance Fifth Biennial Assessment and Overview of Climate Finance Flows. Bonn.
[198]UNFCCC, S. (2022). Summary and Recommendations by the Standing Committee on Finance Fifth Biennial Assessment and Overview of Climate Finance Flows. Bonn.
[199] OECD (2023), Climate Finance Provided and Mobilised by Developed Countries in 2013-2021: Aggregate Trends and Opportunities for Scaling Up Adaptation and Mobilised Private Finance, Climate Finance and the USD 100 Billion Goal, OECD Publishing, Paris,
[200] Oxfam. 2023. Climate Finance Shadow Report 2023: Assessing the delivery of the $100 billion commitment (summary) (openrepository.com)
[201] CEEW "Trust and Transparency in Climate Action": https://www.ceew.in/sites/default/files/CEEW-Research-On-Trust-And-Transparency-In-Climate-Action.pdf

70 per cent but may achieve a 48 per cent reduction; The UK and Northern Ireland were targeting 68 per cent reduction, but actual achievement could be a 56 per cent reduction; Canada to achieve 30 per cent vis-à-vis a 40 per cent reduction target and the giant European Union with a target of 55 per cent would only reach 44 per cent. All these countries missing their marks only suggest that the climate journey of developed countries – both in terms of taking responsibility for their historical emissions and in meeting their commitments to the multilateral climate agreement on climate action– fails to reflect climate leadership.

Climate Finance in India

Climate finance requirement for India

4.19 India's Nationally Determined Contribution estimates the overall resource requirement for meeting the NDCs in 2015-30 to be USD 2.5 trillion. By preliminary estimates, USD 206 billion (at 2014-15 prices) is required to implement adaptation actions during the same period.

4.20 The country's participation in the climate discourse has been shaped primarily by a scientific understanding of its domestic vulnerabilities to climate change and its impacts on its environment, economy, and society. Climate policies have been dovetailed with the pursuit of development goals while keeping within its fair share of the global carbon budget. The consistency and steadfastness in the approach to achieve the climate action targets are being recognised. The September 2023 IFC report[202] states that India is on a path to achieving its NDC well before 2030 and is the only G20 nation in line with 2°C warming. The emission intensity has reduced by 33[203] per cent between 2005 and 2019, indicating the decoupling of GDP from GHG emissions. The cumulative electrical power installed capacity from non-fossil fuel-based energy sources is 43 per cent. Further, an additional carbon sink of 1.97 billion tonnes of CO2 equivalent has been created. This compares favourably with the updated NDC targets to be achieved by 2030, which mandates a reduction of emission intensity by 45 per cent and cumulative electric power installed capacity from non-fossil fuel at 50 per cent.

Climate-related finance mobilisation in India

International sources[204]

4.21 India engages with various multilateral institutions to finance its climate action. However, the access to finance from international sources is limited. Only nine projects in India have received a total financing of USD 542.3 million from the Green Climate Fund (GCF). The financing commitment (including co-financing) received from the Global Environment Facility (GEF) Trust Fund amounts to USD 500.49 million with a co-financing ratio of 11.55 and USD 17.36 million with a co-financing ratio of 4.17. Further, a commitment of USD 10.8 million has

[202] https://www.ifc.org/content/dam/ifc/doc/2023/Report-Blended-Finance-for-Climate-Investments-in-India.pdf
[203] India. National Communication (NC). NC 3. | UNFCCC
[204] Ibid.

been received from the Special Climate Change Fund (SCCF), with a co-financing ratio of 10.85. The funding for adaptation-related projects from the Adaptation Fund has been USD 9.86 million since 2014.

Domestic Sources

4.22 In the absence of significant international flows of public and concessional finance, India's climate goals are being funded by their own (i) domestic budgetary resources and (ii) finance mobilisation based on policy and regulatory measures. These are supplemented by market-based finance for green projects.

(i) Domestic budgetary resources[205] and resources provided by dedicated financial institutions

4.23 While mitigation action is essential, adaptation forms a critical component of the resource requirement and a significant priority. As early as 2008, the Government's National Action Plan on Climate Change (NAPCC) outlined a national strategy to enable the country to adapt to climate change and enhance the ecological sustainability of India's development path. Nine National Missions form the core of the National Action Plan, focusing on areas of solar, water, energy efficiency, forests, sustainable habitat, sustainable agriculture, sustaining the Himalayan ecosystem, capacity building, research and development (R&D) and health.

4.24 India's total adaptation-relevant expenditure was 5.60 per cent of the GDP in 2021-2022, growing from a share of 3.7 per cent in 2015-16[206]. These include expenditures incurred by the Government on improving resilience in the economy through implementing the Swachh Bharat Mission, Mahatma Gandhi National Rural Employment Guarantee Act, Pradhan Mantri Awas Yojana, Saubhagya Scheme, etc. The funds released for the National Mission for Green India under NAPCC amount to over INR 450 crores. The National Adaptation Fund for Climate Change (NAFCC) to support adaptation action in, among other things, agriculture, water, forestry, livestock, and restoring ecosystems through 30 projects in 27 States/UTs was initiated in 2015-16. An amount of Rs 541 crores (till March 2022) for the National Adaptation Fund for Climate Change (NAFCC)[207] has been spent.

4.25 The National Green Hydrogen Misson is aimed at reducing the dependence on the import of fossil fuels. The Mission has an initial outlay of ₹19,744 crore[208]. Solar energy contributes to more than 50 per cent[209] of the total RE segment, making it the largest contributor amongst all RE sources (excluding large hydro projects). The total Central Grant approved under the Scheme for 'Development of Solar Parks and Ultra Mega Solar Power Projects' is INR 8100 crores. The

[205] Ibid.
[206] Ibid.
[207] Grants released under NAFCC: Press Information Bureau (pib.gov.in)
[208] National Green Hydrogen Mission | Ministry of New and Renewable Energy | India (mnre.gov.in)
[209] India. National Communication (NC). NC 3. | UNFCCC.

Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan (PM-KUSUM) for the "de-dieselisation" of the farm sector also contributes to reducing the grassroots carbon footprints. In 2019, the Government of India (GoI) announced an aid package of INR 34,035 crores for small-scale solar energy projects in agriculture under the PM-KUSUM scheme. Funds allocation of INR 4,500 crores for the production-linked-incentive (PLI) scheme for manufacturing 'High-Efficiency Solar PV Modules', INR 18,100 crores for 'National Programme on Advanced Chemistry Cell (ACC) Battery Storage', INR 25,938 crore for a PLI scheme for the auto sector to primarily to boost the production of electric vehicles and hydrogen fuel cell vehicles, and INR 10,000 crore for Phase 2 of Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme under the National Electric Mobility Mission are being implemented by the GoI. Switch to clean cooking fuel has been achieved to a near saturation level through Pradhan Mantri Ujjwala Yojana (PMUY) in 2023. Energy savings are encouraged through the Prime Minister's Ujala scheme, the Energy Conservation Building Code (ECBC), Eco Niwas Samhita for buildings, and the star labelling programme for appliances, to name a few. To ensure energy security and address the oligopolistic nature of controls of the extraction and processing of critical minerals for renewable energy systems, GoI amended the Minerals and Mines (Development and Regulation) Act and also joined the Mineral Security Partnership involving 13 other countries to bolster critical minerals supply chains.

4.26 A dedicated financial institution, the Indian Renewable Energy Development Agency (IREDA), provides concessional financing to the Renewable Energy sector. It has financed the wind sector to the tune of INR 26,137 crores and provided INR 25,493 crores of finance to the solar energy sector between FY 2015-16 and FY 2019-20 alone. Development banks such as The National Bank for Agriculture and Rural Development (NABARD) and the Small Industries Development Bank of India (SIDBI) also support climate action, for instance, through the Rural Infrastructure Development Fund (RIDF).

(ii) Policy and regulatory measures

4.27 India has taken steps to put an implicit price on carbon. The GST Compensation Cess on coal at INR 400 per tonne; Central Excise Duty, Additional Excise Duty, Road and Infrastructure Cess (RIC), and Agriculture Infrastructure Development Cess (AIDC) on petrol and diesel result in an overall high implicit carbon tax. The 2022 amendment to the Energy Conservation Act 2002 has made way for a carbon market - the Carbon Credit Trading Scheme (CCTS) was published in 2023. This scheme will be an extension of the existing carbon market in the form of the Perform-Achieve-Trade (PAT) scheme, which commenced in April 2012. The PAT scheme, so far, has resulted in energy savings of about 24.34 MTOE, translating into avoiding about 105.02 million tonnes of CO2 emissions[210](end of 2022). The reported investment in efficiency measures and

[210] Ibid.

technology upgrades incentivised by the Perform Achieve and Trade (PAT)[211] scheme's cycle 1 in 2012-15 was about INR 26 billion.

4.28 Apart from direct climate action, various policy measures to improve finance flows into green projects have been initiated by the Government. The Securities and Exchange Board of India (SEBI) had earlier introduced the regulatory framework for issuing green debt securities as a mode of sustainable finance. In 2023, SEBI has allowed an issuer under the SEBI (Issue and Listing of Municipal Debt Securities) Regulations, 2015 ('ILMDS Regulations') to issue a green debt security if it falls within the definition of "green debt security" as per Regulation 2(1)(q) of the Non-Convertible Securities (NCS) Regulations. The 'Framework for Sovereign Green Bonds' (2022) also facilitates the creation of depth in the Green Bond Market. RBI's 'Framework for Acceptance of Green Deposits' highlights the potential areas that would get covered under green investments. Priority Sector Lending (PSL) rules, as notified by RBI, include mitigation projects such as those in renewable energy (e.g., bank loans up to a limit of ₹30 crore to borrowers for purposes like solar-based power generators, biomass-based power generators, windmills, micro-hydel plants and for non-conventional energy based public utilities, viz., street lighting systems and remote village electrification etc., are eligible for Priority Sector classification).

(iii) Additional funds for green projects through mobilisation from the market

4.29 Sovereign Green Bonds amounting to INR.16,000 crores for mobilising resources for green public infrastructure projects were issued by RBI in 2023. The proceeds of these bonds were allocated to hydrogen, solar, and wind energy and energy efficiency projects (Table IV.1). In addition, green debt securities amounting to a total of Rs 4539 crore have been issued by various companies as of 31.10.2023. Some major players in green debt securities markets are Indian Renewable Energy Development Agency Limited, L&T Infrastructure Finance Company Ltd and Avaada Solarise Energy Private Limited.

Table IV.1: Schemes/projects for financing through Sovereign Green Bonds

Heads	**Revised Estimate 2022-23 (₹ Crore)**	**Budget Estimate 2023-24 (₹ Crore)**
National Mission for Green India	188	169
Metro Projects (equity investment)	3202.56	3609
Solar Energy (*KUSUM* scheme)	1325	1996.46
National Green Hydrogen Mission	0.01	297
Solar Energy (Solar Power (Grid))	2800	4000
Wind-Energy (Wind Power (Grid))	1413	1214
Production of energy-efficient three-phase electric locos	8541	9929

[211] PAT is a regulatory instrument to reduce Specific Energy Consumption in energy-intensive industries.

Dum Dum airport New Garia via Rajerhat construction of Metro railway New Garia (Kavi Subhas) Bman Bandar	904	1200
Joka Binoy Badal Denesh Bagh via Majerhat construction of Metro railway	794	1350
Grand Total	**19167.57**	**23764.46**

Source: Government of India Expenditure Profile 2023-24

(iv) Financial Regulations for Enabling Climate Finance

4.30 The Ministry of Corporate Affairs "Voluntary Guidelines on Corporate Social Responsibility in 2009" was the first attempt to mainstream business responsibility. These guidelines were revised in 2011 and then again in 2019, formulating the National Guidelines on Responsible Business Conduct (NGRBC), taking into account national and international developments in the arena of sustainable business and aligning with the UN Sustainable Development Goals (SDGs), Paris Agreement on Climate change, the Companies Act 2013, and SEBI's Annual Business Responsibility Reports (ABRRs).

4.31 SEBI made ESG-related disclosures mandatory for the top 100 listed entities (by market capitalisation) in 2012; the covered entities were extended to 500 and then to 1000 entities. In keeping with the 'National Guidelines on Responsible Business Conduct', financial disclosures and reporting of non-financial data, including information on sustainability impacts by top 1000 listed companies (by market capitalisation) in India, have been mandated by SEBI through Business Responsibility and Sustainability Reporting (BRSR) from 2022-23. BRSR is more granular than the earlier formats and uses quantifiable metrics to seek information on footprints relating to GHG emissions, water, energy, circularity, etc. In July 2023, the Board introduced the BRSR core for ESG disclosures for value chains for 150 top-listed companies. These are proposed to be extended over time to cover 1000 top-listed entities in a phased manner by 2026-27. The value chain shall encompass a listed entity's top upstream and downstream partners, cumulatively comprising 75 per cent of its purchases/sales (by value), respectively. The BRSR Core is a sub-set of the BRSR, consisting of a set of Key Performance Indicators (KPIs)/metrics under nine ESG attributes.

Need for Greater Role of International Public Sector and MDBs

4.32 The developing countries' requirement for financial resources to meet climate action is already running into trillions of dollars. This quantum cannot come wholly from within these economies, even as they have to play a more substantive role given sovereignty and macroeconomic stability considerations. Therein lies the challenge and paradox that developing countries face. In the case of India, as discussed above, considerable domestic measures are being taken to meet the NDC commitment and the vision of net zero by 2070. Given that resources must

also be made available for other developmental priorities, the budgetary space for climate-related schemes is limited.

4.33 Nonetheless, the quality of finance flows from the International Public Sector and MDBs is equally essential. It must reflect the long-term nature of such projects, the role of the public sector grants, and the latter's role in addressing the risk-return profile of projects to catalyse private finance is pivotal. Recently, many countries, including India, have turned to the bond market to raise private investors' finance through the issue of Sovereign Green bonds - the proceeds of which are used for government green projects. Despite these efforts, the current scale that can be raised from domestic sources of finance - public or private - remains inadequate. The role of international support and MDBs is therefore vital in scaling up climate finance.

4.34 Given the associated high risks of climate action projects, international private investors have little incentive to invest voluntarily. They need to be incentivised to provide finance**.** This is where the public sector from the developed countries, which are better equipped with resources, has a catalytic role. Developed countries could support the de-risking of climate action in developing countries to attract private investors, provide the essential grant component, seek equity participation and give guarantees to crowds in international private finance.

4.35 In all this, the quality of finance is critical to improve the absorptive capacities of developing countries and to avoid worsening the existing debt vulnerabilities in low-income countries. Only when resources are provided at near to zero costs - or at high concession and over longer maturity - would developing countries be better placed to take effective climate action without worrying about the costs of capital, capital flight, or debt unsustainability.

4.36 Mobilisation of finance to reach an adequate level to meet the requirements calls for the various stakeholders - governments, MDBs, and the private sector - to explore and expand innovative financial instruments. These include the blended finance mechanisms through which the public sector can stimulate private investments in climate projects. For example, by agreeing to bear the first loss in a project through first-loss capital and provisioning for risk insurance and credit enhancement guarantees, MDBs or other public sector fund providers can de-risk the project for private investors. Similarly, the public sector can participate through grants, equity investments, and guarantees by issuing outcome-linked or result-based bonds or purchasing green bonds for developing countries' climate-related projects. Creating special purpose structures like multi-tiered equity funds and syndicated loan facilities and facilitating securitisation for climate finance could be innovative ways for finance mobilisation[212]. For instance, a Collective Investment Vehicle - multi-tiered equity funds with a waterfall equity structure - would allow MDBs to multiply the investment amount by attracting private investors for projects. Given their credibility and convening power, the MDBs can effectively mobilise and manage grants, trust funds,

[212] India's Presidency paper for G20 on Mechanisms for mobilisation of timely and adequate resources for climate finance with contributions from Indian Institute of Management, Ahmedabad and CEEW.

philanthropic capital and even institutional investors like pension funds. These institutions could also explore cheaper guarantees for purely climate risks.

4.37 A Global Clean Investment Risk Mitigation Mechanism that would pool risks across projects and geographies could be funded through international public money and could be another innovative mechanism for climate finance mobilisation[213].

4.38 Hence, a significant funding envelope at Multilateral Development Banks is indispensable. Augmenting public sector resources with multilateral development banks deserves serious consideration. The MDBs, with their expertise and capacities, can efficiently allocate resources without compromising on their financing of other developmental priorities. There is a need to scale up funding of MDBs by way of general capital increases and the implementation of capital adequacy reforms.

Policy Issues in Climate Action and its Financing

(i) Carbon Price as a Mitigation Measure

4.39 With resource flow from developed to developing countries being rather insignificant, carbon pricing is being pushed as the most effective way to mobilise the resources required by developing countries. It is argued that carbon pricing- either a tax or through a carbon market-is the best solution to market failure as carbon emission gets included in the investment and consumption decisions.

4.40 The IMF has suggested Carbon pricing from the floor of USD 25 to the upper limit of USD 75 per tonne of carbon equivalent to deepen climate mitigation actions. Several private fora are also advocating this approach. For instance, an alliance of the private financial sector[214] calls for a steady policy approach of mitigation by governments as a precondition for boosting climate investments by the private sector. The present-day climate enthusiasts call for aggressive climate policies that make fast cuts in emissions across the countries, overlooking the CBDR-RC, and assert that the existing policies fall short of what should be done by 2030[215]. Broadly, both the pricing methods of carbon tax and market-based measures have severe macroeconomic implications.

4.41 While a carbon tax may internalise the unaccounted social costs of emissions and incentivise emission abatement by increasing the effective cost of emissions, in practice, it might not limit emissions. Polluters may continue producing higher emissions after paying the required carbon tax. This may especially be true for hard-to-abate sectors. Besides, the rationale that pricing

[213]Suggested by the Center for Energy and Water for India's Presidency paper
[214] Call to Action | Glasgow Financial Alliance for Net Zero (gfanzero.com)
[215] Black, M. S., Parry, I., Roaf, M. J., & Zhunussova, K. (2021). Not yet on track to net zero: The urgent need for greater ambition and policy action to achieve Paris temperature goals. International Monetary Fund. and Black, S., Chateau, J., Jaumotte, F., Parry, I. W., Schwerhoff, G., Thube, S. D., & Zhunussova, K. (2022). Getting on Track to Net Zero: Accelerating a Global Just Transition in This Decade. Staff Climate Notes, 2022(010).International Monetary Fund

carbon is an effective solution hinges on the fact that alternative technologies are available and that the pathway can change seamlessly. However, this assumption is flawed as access to new technologies is challenging for developing countries, and modifications in pathways lead to stranded assets and social costs in terms of labour displacement. Further, in the absence of critical technologies for battery storage, thermal energy is still required as the base load, otherwise there could be severe developmental impacts.

4.42 Carbon taxes may also lead to inflationary pressure, disincentivise production, and lead to labour market frictions[216], leading to high transaction costs. Such impacts of carbon taxes must be addressed, especially as the impact may be different across stakeholders (and not necessarily just). This is corroborated by several studies (OECD[217] and IMF[218]) conducted to understand people's responses to carbon tax vis-à-vis policy interventions such as incentivising direct green investments. They bring out the reluctance of respondents to accept high energy prices due to tax, even in developed countries.

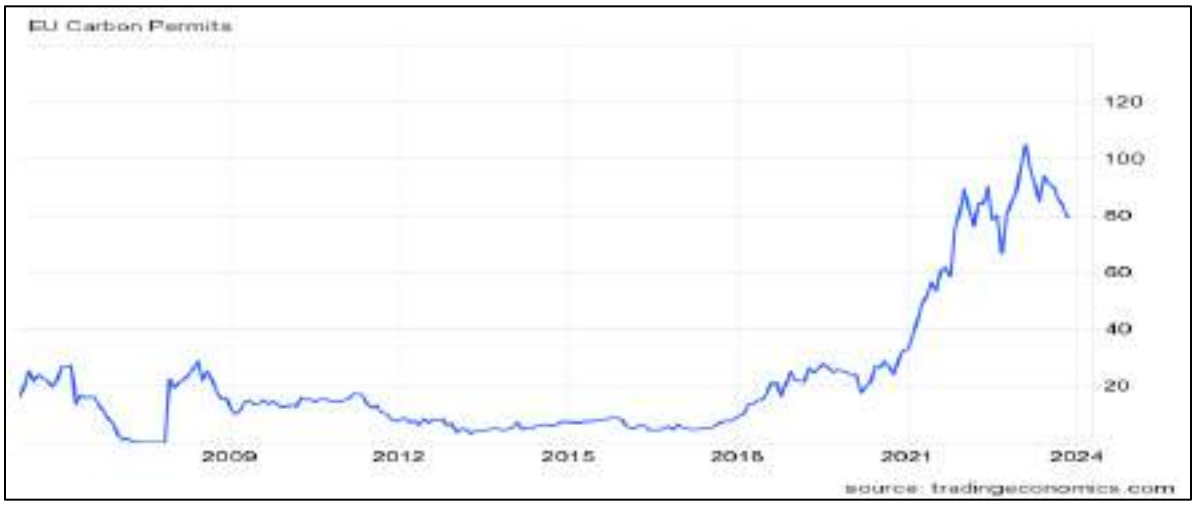
4.43 Increase in income inequality due to carbon tax could result in lower demand, lower tax collections, higher fiscal burdens and lower overall economic growth. Policies that ensure revenue recycling and social equity still result in income inequality, unemployment and a higher public deficit (D'Alessandro et al., 2020)[219] (Christofoletti & Pereda, 2021)[220].

4.44 Carbon markets can either be compliance markets or voluntary. The EU's Emission Trading Scheme (ETS) is a compliance market, and voluntary carbon markets operate out of the voluntary interests of entities or individuals. The market-based measures are also not devoid of limitations in reducing emissions. A review of the ex-post impacts of carbon markets on emission reductions (Green, 2021)[221] suggests aggregate reductions in emissions lie in the range of 0 per cent and 2 per cent per year. Experiences from the EU's trading scheme, which started in 2005, suggest that such markets take a substantial period to mature. The price of the carbon unit traded in EU-ETS has shown significant variation over time (Figure 4). For most of its initial period, the excess allowances given by the EU to its hard-to-abate sectors to allow them to emit led to a price crash to nearly zero in 2007 and then stagnation at around 5-7 euros until 2018. This was mainly because most allowances were given for free during the first two phases (2005-2012), and 43 per cent of them were still given for free during the third phase (2013-2020), contradicting the polluter-

[216] Hanson, G. H. (2023). Local Labor Market Impacts of the Energy Transition: Prospects and Policies (No. w30871). National Bureau of Economic Research. and Dix-Carneiro, R., & Kovak, B. K. (2017). Trade liberalization and regional dynamics. American Economic Review, 107(10), 2908-2946.
[217] Dechezleprêtre, A., et al. (2022), "Fighting climate change: International attitudes toward climate policies", OECD Economics Department Working Papers, No. 1714, OECD Publishing, Paris
[218] Dabla-Norris, E., Helbling, T., Khalid, S., Khan, H., Magistretti, G., Sollaci, A., & Srinivasan, K. (2023). Public Perceptions of Climate Mitigation Policies: Evidence from Cross-Country Surveys. Staff Discussion Notes, 2023(002).
[219] D'Alessandro, S., Cieplinski, A., Distefano, T., & Dittmer, K. (2020). Feasible alternatives to green growth. *Nature Sustainability*, *3*(4), 329-335.
[220] Moz-Christofoletti, M. A., & Pereda, P. C. (2021). Winners and losers: the distributional impacts of a carbon tax in Brazil. *Ecological Economics*, *183*, 106945.
[221] Green, J. F. (2021). Does carbon pricing reduce emissions? A review of ex-post analyses. *Environmental Research Letters*, *16*(4), 043004.

pay principle and generating massive windfall profits for polluters running into billions of euros (Hache, 2021)[222]. Evidence signals the ineffectiveness of carbon markets in emission reduction. The European Union - Emissions Trading Scheme (EU-ETS), often considered a benchmark model for carbon markets, has resulted in a meagre emission reduction of less than 1.5 per cent.[223]

Figure IV.4: Carbon price in EU-ETS



4.45 The EU-ETS serves a purpose quite different from its primary objective. The growth in market activity in the EU-ETS, particularly in derivatives trading, shows that trades are primarily motivated by hedging, portfolio adjustments, profit taking and arbitrage. The financial use of carbon markets is not an unintended consequence but intrinsic to cap-and-trade instruments. Studies show that using carbon prices as a financial instrument has resulted in weak and intermittent price signalling and speculative trading. (Berta et al., 2017[224]; Yuliya et al., 2022[225])

4.46 Last but not to be missed is the poor resource mobilisation through both the carbon tax and the ETS. Government revenues from ETS and carbon taxes in 2023 reached a rather modest sum of USD 100 billion[226], indicating that such measures have not raised revenues large enough to support climate action.

[222] Green Finance Observatory. 2021. A Carbon Markets Odyssey | Policy report on the EU ETS Review
[223] https://unctad.org/system/files/official-document/ditctab2022d6_en.pdf refers to the Green (2021) paper(at footnote 46 above)
[224]Berta, N., Gautherat, E., & Gun, O. (2017). Transactions in the European carbon market: a bubble of compliance in a whirlpool of speculation. *Cambridge Journal of Economics*, *41*(2), 575-593.
[225] Lovcha, Y., Perez-Laborda, A., & Sikora, I. (2022). The determinants of CO2 prices in the EU emission trading system. *Applied Energy*, *305*, 117903.
[226] World Bank. 2023. State and Trends of Carbon Pricing 2023. Washington, DC: World Bank.

(ii) Carbon Border Adjustment Mechanism: Europe's Revenue Model

4.47 The EU has taken a step further by introducing unilateral measures such as the Carbon Border Adjusted Mechanism (CBAM). The stated objective of the mechanism is to prevent carbon leakage by reducing the EU's consumption of high-carbon-embodied products from outside the EU. The mechanism through which this will come into play would result in a complex web of charges leading to differentiated levies across companies and countries. It would require information through the value chain, which EU-approved agencies would audit. All this is expected to result in enhanced transaction costs. It may force the world to move to protectionism, hurting developing countries' competitiveness in sectors like iron and steel. While the measure appears to be incompatible with the existing multilateral trade law and the commitments under the multilateral climate agreements, important economies in the EU, such as Germany, have already returned to using coal for electricity generation.[227] Thus, the CBAM measure appears to be incongruent with their domestic policies.

4.48 While discussing the regressive nature of carbon pricing, Sager (2019)[228] also references how tax incidence depends on the manner in which the collected revenue is used. The CBAM is an example of protecting domestic industries. It may only lead to a shift in the source of emissions as the charges may create a market for the EU companies with global emissions reducing marginally[229], if at all. The only way to make such measures a globally positive-sum game is to redirect the resources generated towards financing climate action, including technological transfer and collaborations in innovation in developing countries, for an appropriate global response to climate change – a mandate of the Paris Agreement. It is expected that CBAM will generate about 1.5 billion Euros (2018 prices) per year as of 2028[230]. CBAM seems to be an exercise for generating revenues for the EU and its member states' own use[231], without significantly impacting carbon emissions. The EU will, in the process, get a reverse resource flow from the developing countries - an antithesis of the Convention and its Paris Agreement.

4.49 The rationale for this measure seems to stem from a disproportionate fear of the impact emissions are likely to have on warming, a singular focus on the consequences of global warming without allowance for human adaptation and the need to maintain economic competitiveness. Given these, the necessity, fairness and effectiveness of CBAM are contestable. As mentioned

[227] https://www.reuters.com/business/energy/germany-approves-bringing-coal-fired-power-plants-back-online-this-winter-2023-10-04/

[228] Sager(2019): "The Global Consumer Incidence of Carbon Pricing: Evidence from Trade", Centre for Climate Change Economics and Policy Working Paper 320/Grantham Research Institute on Climate Change and the Environment Working Paper 352. London: London School of Economics and Political Science.

[229] UNCTAD: A European Union Carbon Border Adjustment Mechanism: Implications for developing countries

[230] Questions and Answers: An adjusted package for the next generation of own resources: https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_3329

[231] Ibid.

above, CBAM might only lead to a diversion in the source of emissions, without any significant reduction in global emissions, while placing developing economies at a disadvantage.

(iii) Protectionism in the Wake of Inflation Reduction Act

4.50 The IRA plans to invest USD 369 billion[232] in Energy Security and Climate Change programs in the US over the next ten years. In a bid to promote the clean energy sector in the US, the IRA directly incentivises the use of low or no-emission products. It does this by providing investment tax credits for renewable energy projects, production tax credits for domestic manufacturing of components for solar and wind energy, inverters, battery components, and critical minerals, tax credits for purchasers of clean vehicles and production of clean fuels., etc[233].

4.51 With respect to electric vehicles, credits worth USD 7,500 (USD 3,750 each for meeting requirements relating to critical minerals and battery components, respectively)[234] are being offered. The vehicle must contain a threshold percentage of critical minerals extracted or processed in the US or in a country with which the United States has a free trade agreement or recycled in North America, and a threshold percentage of battery components be manufactured or assembled in North America. Other requirements for such credits include the final assembly of vehicles in North America.

4.52 The Inflation Reduction Act aims to enhance investments in the US on the back of extremely high subsidies that can shift the comparative advantage in their favour. The incentives are extended to the US's FTA partners to a certain extent but mandate an increase in the value of battery components manufactured in the USA to 100 per cent by 2029, and 80 per cent value of critical minerals in the battery must be extracted or processed in the US by 2027[235].

(iv) Data disclosure requirements: A chicken and egg problem

4.53 The high-income peers have sought reporting of climate-related data by enterprises as a prerequisite for climate finance mobilisation. They also seek cooperation in transition plan disclosures, transition finance, and Environment, Social and Governance (ESG) ratings. The International Sustainability Standards Board's (ISSB) template on climate-related data disclosures seeks detailed information covering governance issues, strategy, climate-related risks and

[232] WHAT THEY ARE SAYING: One Year Anniversary of the Inflation Reduction Act | The White House: https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/17/what-they-are-saying-one-year-anniversary-of-the-inflation-reduction-act/

[233] Clean Energy Tax Provisions in the Inflation Reduction Act: https://www.whitehouse.gov/cleanenergy/clean-energy-tax-provisions/

[234] Clean Energy Tax Provisions in the Inflation Reduction Act: https://www.whitehouse.gov/cleanenergy/clean-energy-tax-provisions/

[235] Treasury Releases Proposed Guidance on New Clean Vehicle Credit to Lower Costs for Consumers, Build U.S. Industrial Base, Strengthen Supply Chains: https://home.treasury.gov/news/press-releases/jy1379

opportunities, the value chain, and information to be submitted on an entity's financial performance and cash flows.

4.54 However, the comparability and consistency across jurisdictions/countries and sectors that such disclosures expect to achieve are in contrast with differences in countries' commitments and circumstances, lacking cognisance of the need for proportionality. It does not align well with the principles of CBDR-RC. The huge transaction costs imposed for large industries and issues that may arise for small and medium-scale enterprises due to the requirement for companies to report Scope-3 emissions also raise concerns. The lack of competence in SMEs across the globe and more prominently in developing countries to report such complicated data would mean that data reporting requirements would be an additional burden in accessing finance if financial institutions adopt a straight-jacket approach towards disclosures and make such reporting on climate-related data mandatory for finance mobilisation.

(v) Energy Transition

4.55 Energy transition - a structural change in the energy systems defining a net-zero emissions pathway - has become the centerpiece of global climate action. However, energy transition will impact the economy across multiple levels, from technology to economic costs to equity issues.

a. **Costs of technology and the limited transition scope**: High costs of green technologies make the transition less attractive for existing efficient industrial complexes that optimise fossil fuel-based energy costs. To enable a shift within these complexes, it is essential to ensure that transition occurs across the supply chain. This requires the availability of affordable "green technological" alternatives. However, the high costs of such green technologies may translate into higher inflation, thus imposing additional burdens on the lower-income groups.
b. **Stranded assets:** A rapid low-carbon energy transition will also contribute to the problem of stranded assets like coal-fired power plants. The shutdown of coal-based thermal power plants presents a cost due to fixed contracts, sunk investments, and income loss for workers who might be unable to find alternate employment.
c. **Considerations of equity:** New employment is generated through renewable energy plants. However, the work created in these sectors might not be able to absorb all the workers presently concentrated in the "polluting" sectors. Further, the skill set required might differ, leading to a need for reskilling and up-skilling enhancing transition cost. Thus, workers with lower skill sets in "polluting sectors" might bear disproportionate costs of the energy transition, leading to increased economic inequality.
d. **Access to critical minerals:** A sustainable energy transition requires essential minerals like lithium, cobalt, silicon, etc., to support the supply chains in renewable energy systems (solar panels, electric vehicles, batteries, wind turbines, etc.)-the demand for which will increase substantially impacting cost[236]. Access will, however, be hindered by the high geographical

[236] Pisani-Ferry, J., & Mahfouz, S. (2023). The Economic Implications of Climate Action.

concentration in extracting and processing critical minerals. Further, extracting and processing these minerals by strip mining also imposes high environmental costs, such as contamination of water bodies and emissions.

4.56 For developing countries that are far away from their peak emissions, energy transition has to be examined for its impact on their energy security needs. Affordable and reliable energy supplies are critical for these countries to maintain growth and assure a minimum dignified standard of living and quality of life to their citizens. Much as we may say that both energy transition and energy security are aligned in the long run, there is a trade-off between the two in the short to medium run, which could mean several years or even decades. Countries need as many degrees of freedom as they can get to pursue energy transition without jeopardising energy security, in line with evolving technologies, national circumstances and needs.

(vi) Poor Access to the Financial Mechanisms of the Multilateral Climate Agreements

4.57 The GCF, established under the UNFCCC, aims to facilitate a paradigm shift toward low-emission and climate-resilient pathways by mobilising funds from various sources for developing countries. The GEF also provides grants and funding to support projects across a spectrum of environmental issues. However, several challenges exist in accessing financial support from these entities. International financial assistance through GEF, GCF and Adaptation Fund takes the route of initial pledges, followed by confirmation of the pledge by the countries, the flow of the finance to these bodies and subsequently, the actual flow to the developing countries for climate-specific projects. It is important to note that pledges are not equal to the confirmation of the pledge or the flow of finance to the mechanisms or the actual flows. A case in point is the GCF, where USD 13.5 billion is the total commitment (defined as the amount allocated to the projects approved by the GCF board) as of 15.12.2023, but the disbursed amount is just USD 4 billion[237] when the total value of the approved projects including co-finance elements is USD 51.9 billion. The high co-financing also implies that GCF only provides limited support.

4.58 According to the national Direct Access Entities (DAE) (accredited institutions that directly access financial resources for projects from GCF or GEF), the road to mobilising funds from these entities is far from smooth. There is a lengthy, inconsistent and often tedious review process, impacting project progress and GCF's acceptance, and even then, only a fraction of the total budget is funded by GCF. Time-consuming reviews, policy alignment issues, and repeated feedback loops hinder approvals for funding. The Direct Access Entities may need a higher rigour to meet the elevated standards set forth by these organisations. For this, streamlined and directed guidance is needed to provide clarity to DAEs. The GCF must set up transparent systems to reduce friction in the flow of funds to developing countries and may consider assisting the DAEs in building capabilities to better prepare for the project proposal process.

[237] https://www.greenclimate.fund/projects/dashboard

Conclusion

4.59 Climate change is a global bad. Since the Rio Summit, not only has there been a poor flow of funds from developed to developing countries, leaving the latter to depend on their domestic resources for climate mitigation and adaptation action, but there has also been an inequitable shift in responsibilities to developing countries. Far from equitable allocation of the remaining carbon budget (RCB) based on per capita, various coercive measures are emerging to get developing countries to bear the unjust burden of emission reduction. Developing countries are expected to immediately and completely shift/transition away from fossil fuel-based energy to renewable and green energy. In this process, it is surprising that developed countries which peaked several decades ago – the EU in the 1970s and the US in the early 2000s –still seek a long leash till 2050. The pressure on the developing countries to up their ambition even at the cost of their other development priorities and predominantly through their domestic mobilisation has turned the CBRC-RC principle on its head.

4.60 India is cognizant of collective responsibility and has taken up ambitious targets through its NDCs and Net-zero 2070 announcement. The extent to which India can contribute to the global response is largely conditional on the availability of the means of implementation - finance, capacity and technology - in a timely, adequate and suitable manner. So far, developing countries like India have consumed their domestic resources to fight or adapt to climate change. It is in the interest of all that the parts of the world that are vulnerable to the ill effects of climate change and those with other developmental priorities are provided with these means of implementation. Further, this resource flow would need to be in addition to what is required for other development priorities. Nevertheless, the development agenda should not be put on the backseat in the wake of climate action, as development and growth would only generate better resources for a more motivated climate action plan.

4.61 Broadly, climate action requires a multi-pronged approach. The primary means of implementation is Finance. Huge financial requirements call for a sustained flow of affordable investments into climate projects at the scale and speed needed to support climate technologies. Carbon pricing may not be an effective way of mobilising finance or even mitigating emissions, as experienced. Rather, ways to scale up blended finance with the aid of the public sector must be explored. Resources generated through measures like CBAM in developed countries will be better utilised if these resources are directed to support climate action in developing countries.

4.62 As far as climate mitigation is concerned, a reasonable approach could be to adopt a sequence of policy measures that include regulations like non-price measures and be complemented with price-based measures. The set of policies should be unique to suit the country's circumstances and take into account political and public acceptability. India’s climate policy spectrum is an example of this. India imposes high implicit carbon taxes on fossil fuels like petrol

and diesel. These were supplemented by a coal cess beginning in 2010, which now stands subsumed in the GST compensation cess. On the other hand, carbon markets have also been established through the Perform Achieve Trade scheme, which is being further extended to set up a domestic national carbon market.

4.63 Further, an array of regulatory measures and incentives for climate action complements the carbon pricing measures. Starting in 2008, the National Action Plan on Climate Change (NAPCC) outlined a national strategy to enable the country to adapt to climate change and enhance the ecological sustainability of India's development path. National Action Plan focuses on solar, water, energy efficiency, forests, sustainable habitat, sustainable agriculture, sustaining Himalayan ecosystem, capacity building and research and development (R&D). The National Adaptation Fund for Climate Change (NAFCC) to support adaptation action was initiated in 2015-16 to support adaptation action. The Green Hydrogen mission has been launched recently to build a production capacity of 5 million metric tonnes per year in India, contributing to a reduction in dependence on import of fossil fuels. Steps are also being taken to ensure the supply of critical minerals for renewable energy systems. India has also consistently acted on various policy measures to improve finance flows into green projects. These include the issue of Sovereign green bonds, 'Framework for Acceptance of Green Deposits', Business Responsibility and Sustainability Reporting requirements, and the Production Linked Incentive (PLI) program to support energy transition.

4.64 Nevertheless, the scope of rigorous climate actions reversing or averting climate change and global warming is limited. With only 1150 GtCO2 of carbon space left to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, the developed countries with better access to finance and technology need to reach net zero before their planned time and turn net negative soon after and well before the middle of the century. By turning net negative in their emissions, these countries would vacate the carbon space for the developing countries, allowing them to pursue a sustainable development pathway. The commitment to 'Net Negative' should be credible and concrete enough to achieve 'Global Net Zero', a positive sum game for all.

4.65 The unilateral measures by developed countries like CBAM and initiatives to impose strict data reporting requirements would hurt the developing countries from all directions - affecting their competitiveness and hindering their growth pathways. Instead, it is only ideal for the developed countries to engage with their developing counterparts in innovation, research and development and use their resources - like the revenues earned from CBAM - to facilitate access to climate technologies in developing countries. Access to critical minerals and sensitivity to the macroeconomic impacts of the energy transition and ambitious climate action by developing countries need to be duly recognised in all discourses relating to addressing climate change. This would be fundamental for achieving the goals set by the UNFCCC and its Paris Agreement. Though developing countries must be climate-conscious and sustainable in their development

pathway, emission reduction cannot be achieved at the cost of economic development. There has to be recognition of trade-offs in the near term. Such a recognition is essential for a sustainable future.

4.66 Climate change requires a global response. Any national or regional response will inevitably be narrowly focused and will miss the wood for the trees. The efficacy of such measures in reducing emissions is questionable in and of itself, for these measures may only shift the source of emissions of these regions/countries from consumption to production.

4.67 In the medium to long run, there is no trade-off, in fact. Economic growth generates domestic resources for investment in climate adaptation and energy transition, including in Research and Development. Reliance on domestic resources is also a matter of macroeconomic and financial sovereignty and stability. Ensuring economic recovery and post-Covid re-acceleration in economic growth in low-income and developing economies is a moral imperative for advanced nations. Debt burdens faced by several nations, and the investment needs to meet non-climate-related sustainable development goals and climate-related goals call for the restoration of economic growth. In that context, the reality that imposing energy transition obligations will lower the prospect of economic recovery cannot be wished away. It has to be squarely faced, accepted and optimal solutions found. The alternative is a collapse in trust between nations and a collapse of mitigation efforts, with far graver consequences for a liveable planet.

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THE G20 INDIAN PRESIDENCY: BUILDING AN INCLUSIVE MULTILATERALISM FOR THE 21ST CENTURY

05
CHAPTER

The Indian G20 Presidency, based on the theme 'Vasudhaiva Kutumbakam – One Earth, One Family, One Future', focused on issues of global relevance, particularly those pertinent to the global south. Efforts were also made to weave in lessons from successful policy experiences of India in the G20 dialogue in 2023. The unanimous adoption of the G20 New Delhi Leaders Declaration (NDLD) by the G20 Leaders marked the successful conclusion of India's Presidency. Consensus was obtained on important issues under the finance as well as the sherpa tracks.

The key finance track issues that were reflected in the NDLD include strengthening the multilateral development banks, managing global debt vulnerabilities, regulating crypto assets, and financing the cities of tomorrow. Taking inspiration from India's successful experience with India Stack, using digital public infrastructure (DPI) for financial inclusion and productivity gains was a key agenda of the Indian Presidency that also had significant resonance with Global South. Mobilisation of private capital for financing climate action, including for deployment of green technologies, was also an issue that featured prominently in G20 discussions in 2023. Finally, the finance track advanced the discussion on international tax cooperation including issues related to exchanging of tax information.

The Sherpa track facilitated agreement on the digitalisation of trade documents, mapping of global value chains, and greater information on MSMEs to unlock trade for growth. Skill-based migration pathways were identified to bridge the global skills gap. Climate-resilient and nutritious crops like millet were advocated for global food security. A global digital health ecosystem emphasising manufacturing networks for health care, including traditional medicine, was stressed as imperative. Complementing it was the principles agreed to for nudging lifestyle changes resulting in pro-planet individual behaviour. Promotion of hydrogen and collaboration on critical minerals along with biofuels qualified as next steps for sustainable energy transition. The disaster risk reduction was linked to building resilient infrastructure. The role of data for development, including AI, was reaffirmed and synthesised with global efforts for developing the DPI ecosystem. G20 leaders also agreed to take forward the empowerment of women.

The Indian G20 Presidency contributed to advancing global multilateralism by putting in place a clear, ambitious, and pragmatic agenda, ensuring inclusivity, and striving towards breaking institutional silos, which elicited cooperation from member countries despite geopolitical differences.

"*Multilateralism is not an option but a necessity as we build back a better world with more equality and resilience, and a more sustainable world.*"

-United Nations General Assembly, September 2020

5.1 India assumed the Presidency of the G20 on December 1, 2022, when the prospects for global cooperation had begun to appear more aspirational than real. The interlocking crises of food, fuel, and finance, emerging global challenges, and a fractured geopolitical situation presented a complex multilateral landscape. Against this backdrop, an action-oriented and people-centric agenda combined with a pragmatic approach towards consensus-building was adopted by the Indian G20 Presidency to deliver constructive outcomes while navigating the geopolitical realities of the day. In this chapter, we explore some of the major outcomes of the G20 during the Indian Presidency and examine their relevance in the current state of global multilateralism.

Setting the context for India's G20 Presidency

"Can the G20 go further still? Can we catalyse a fundamental mindset shift to benefit humanity?"[238]

-Prime Minister of India

5.2 India based her 2023 G20 Presidency on the theme "Vasudhaiva Kutumbakam", or "One Earth, One Family, One Future". This theme enabled India to build a G20 agenda focused on issues supporting the global economy to move towards just and equitable growth while ensuring sustainable development.

5.3 The priorities of the Indian Presidency were selected with three parameters in mind: First, the global relevance of the issue; second, mainstreaming the concerns and aspirations of the Global South; and third, leveraging the G20 platform for sharing successful policy experiences of India.

5.4 **Global relevance:** In a multi-polar world with growing divergences, identifying issues that resonate with all G20 members posed a unique challenge. Nevertheless, a meticulous and inclusive consultation process spanning domestic and international stakeholders resulted in a set of issues of wide relevance. These included enhancing financing for development, strengthening policy coordination for combating global challenges, including pandemics and climate change, and reforming multilateral institutions.

5.5 **Primacy for issues relevant to the Global South:** Within the subset of issues of global relevance, India was keen to ensure that the G20 priorities during the Indian Presidency reflected the core concerns and aspirations of the Global South. This ensured that the G20

[238] Press Information Bureau (pib.gov.in)

platform was more inclusive and representative of the emerging global order. As the centre of gravity of global growth is shifting toward developing countries, the challenges of the modern world cannot be addressed without them being at the decision-making table. Therefore, achieving the 2030 Sustainable Development Goals (SDG) agenda, climate finance and energy transition, strengthening Multilateral Development Banks, enhancing international tax cooperation and advancing financial inclusion and urban infrastructure, core concerns of the developing world, were brought to centre stage under the Indian Presidency.

5.6 **Leveraging policies for sharing successful policy experiences of India**: Often, multilateral forums build upon policy actions that have found success in advanced economies. Today, India has some key policy successes to highlight, and these have the potential to provide good guidance for similarly placed countries. With this objective, it was decided to share India's experience using tools that have played a pivotal role in accelerating India's economic progress. This was the background for Digital Public Infrastructure to find prominence in India's G20 Presidency agenda.

5.7 Based on these building blocks, a wide array of priorities was identified across the G20 Sherpa and Finance Tracks [Box V.1] to help address the global economy's key challenges and plan for a better future.

Box V.1: G20: A Primer

The G20 was founded in 1999 after the Asian financial crisis as a forum for Finance Ministers and Central Bank Governors to discuss global economic and financial issues. The G20 was upgraded to the level of Heads of State/Government in the wake of the global economic and financial crisis of 2007 and, in 2009, was designated the "premier forum for international economic cooperation". The G20 initially focused largely on broad macroeconomic issues, but it has since expanded its agenda to include *inter-alia,* trade, sustainable development, health, agriculture, energy, environment, climate change, and corruption.

The G20 Summit is held annually under the leadership of a rotating Presidency. A country holds the Presidency of G20 from December 1 of a year to November 30 of the succeeding year. The Indian Presidency hosted the 18th G20 Summit in New Delhi on September 9-10, 2023. Following India, Brazil assumed the Presidency of the G20 on December 1, 2023.

The G20 has two tracks: the Sherpa track and the Finance track. The Sherpa Track, coordinated by the G20 Secretariat, focuses on developmental issues. The Finance Track, managed by the Department of Economic Affairs of the Ministry of Finance, focuses on global economic and financial issues. The Sherpa Track is headed by G20 Sherpa, usually a senior political appointee of a country who is the representative of the Heads of Nations. A sous-sherpa assists the Sherpa. The Finance Track is headed by G20 Finance Ministers and Central Bank Governors, who are assisted by G20 Finance and Central Bank Deputies. Hon'ble Finance Minister and Governor, RBI, jointly head India's G20 Finance Track work.

They are assisted by the Secretary of Economic Affairs (India's G20 Finance Deputy) and Deputy Governor RBI (India's G20 Central Bank Deputy).

The Sherpa Track comprises 13 workstreams, each represented by a working group. They are Agriculture Working Group, Anti-corruption Working Group, Culture Working Group, Development Working Group, Digital Economy Working Group, Disaster Risk Reduction Working Group, Education Working Group, Employment Working Group, Energy Transitions Working Group, Environment and Climate Sustainability Working Group, Health Working Group, Tourism Working Group, and Trade and Investment Working Group. The Finance Track comprises eight workstreams, including five working groups and one Task Force. They are the Framework Working Group, International Financial Architecture Working Group, Infrastructure Working Group, Sustainable Finance Working Group, Global Partnership for Financial Inclusion, Joint Finance and Health Task Force, International Taxation Workstream, and Financial Sector workstream.
Source: G20 - Background Brief

Priorities and Key Outcomes

"At a moment when the global economy is suffering from the overlapping shocks of the climate crisis, fragility, and conflict, this year's Summit proved that the G20 can still drive solutions to our most pressing issues."

-President, United States of America

"This year, the G20 has also effectively articulated and integrated the priorities of the Global South in our deliverables. We have ensured that the common person and her aspirations have been kept at the centre of our deliberations."

-Finance Minister of India

5.8 The G20 Leaders, in the Summit held in September 2023, unanimously adopted the G20 New Delhi Leaders Declaration (NDLD)[239]. This marked a significant milestone for the G20 as well as global multilateralism. The NDLD represented a crucial step towards building a consensus and bridging gaps between developed and developing economies, particularly in accelerating the SDG progress and addressing the shared global challenges we continue to face. Some of the key priorities and the corresponding outcomes achieved under India's G20 Presidency are presented in the following section.

G20 Finance Track

5.9 **Strengthening multilateral development banks for the 21st century**: With the increasing development needs of low and middle-income countries and expanding global challenges such as climate change and pandemics, the pressure on global development financing is rapidly increasing. This has led to a growing demand for strengthening the MDBs, which play a key role in global development financing. The Indian Presidency set up the G20

[239] Microsoft Word - New Delhi Leaders' Declaration Final Adoption (g20.in)

Independent Expert Group (IEG) on Strengthening MDBs to guide how MDBs can be strengthened to meet the development needs and address global challenges. The Group submitted its Report in two volumes: Volume 1 in July 2023 and Volume 2 in September 2023 (after the Leaders' Summit). In the NDLD, the Leaders appreciated the work of the IEG and called for examining Volume 1 in conjunction with Volume 2. This was done by G20 Finance Ministers and Central Bank Governors in October 2023, and all G20 members have unanimously welcomed the IEG's Report. Volume 1 of the Report calls on MDBs to (i) address global challenges along with their core mandates of eliminating poverty and fostering shared prosperity, (ii) triple their sustainable lending level by 2030, and (iii) enhance their financial strength. Volume 2 of the Report offers recommendations to make MDBs better, bolder, and bigger by suitably modifying their operating models, developing a whole-of-institution approach for mobilising private capital, and scaling up financing at an affordable cost.

5.10 The G20 outcomes on the MDB agenda have provided significant momentum to the efforts related to MDB reforms within the MDB ecosystem. The World Bank Group has embarked on an ambitious Evolution Roadmap, which the WB's shareholders have endorsed. MDBs are also exploring options for collaborating and working as a system in areas such as innovative financing. Meanwhile, major shareholders, such as the United States and Germany, are also working towards putting more money into the MDB ecosystem.

5.11 Countries of the Global South constitute the major clientele of many MDBs, such as the World Bank. Over the years, these countries have received concessional finance and grants from the MDBs across various sectors, such as infrastructure, health, and education. Global challenges have necessitated an enhanced need for finance for these countries. However, funding for global challenges should come in addition to the current flow of development finance rather than substituting it. Therefore, strengthening MDBs can contribute to countries of the Global South receiving more multilateral assistance, speeding up and simplifying the MDB processes so that client countries can have faster access to MDB finance.

5.12 During the September Summit, President Lula highlighted that reform of global financial architecture will be one of their key priorities in 2024. In October, the G20 Finance Ministers and Central Bank Governors, in their meeting held in Morocco, tasked[240] the relevant working group in the G20 to deliberate on the recommendations of the IEG Report in consultation with MDBs and suggest a way forward for better, bigger, and more effective MDBs, including ways to work together better as a system. The working group was mandated to report back to ministers in April 2024 during the Brazilian presidency.

5.13 **Managing global debt vulnerabilities:** The escalation of debt issues in vulnerable economies poses significant economic risks, potentially hindering their progress towards sustainable development. Under India's G20 Presidency, the G20 members re-emphasized the importance of addressing debt vulnerabilities in low and middle-income countries and strengthening multilateral coordination to facilitate coordinated debt treatment for debt-distressed countries. Progress has been achieved in debt treatment of both Common Framework

[240] Final_G20_FMCBG_October_2023_Communique.pdf

countries (Zambia, Ethiopia, and Ghana) and beyond Common Framework countries (Sri Lanka). The G20 has reaffirmed its commitment to uphold all the provisions outlined in the Common Framework for Debt Treatments and stepped up its implementation in a predictable, timely, orderly, and coordinated manner.

5.14 Additionally, to accelerate debt-restructuring efforts, the **Global Sovereign Debt Roundtable** (GSDR), a joint initiative of the IMF, World Bank, and the Indian G20 Presidency, was launched earlier this year to strengthen communication and foster a common understanding among key stakeholders, both within and outside the Common Framework, for facilitating effective debt treatments. The GSDR has been able to impart momentum in resolving individual cases and reaching a common understanding on ways to address key impediments with further work expected on domestic debt restructuring, debt treatment of state-owned enterprises, engagement with credit rating agencies, analysis of the drivers of debt accumulation and ways to prevent debt build-up.

5.15 **Globally coordinated and comprehensive policy and regulatory framework for crypto assets: Before** the Indian G20 Presidency, the focus of the G20 discussions was on potential risks associated with crypto assets and was limited to addressing concerns related to financial stability and integrity. However, the Indian G20 Presidency laid the groundwork for formulating a globally consistent and coordinated policy and regulatory framework for crypto assets by adding new dimensions to the discussions and influencing the standard-setting bodies at a conceptual stage. During the Indian G20 Presidency, the scope of potential risks was significantly broadened to encompass macroeconomic risks arising from crypto assets. Furthermore, discussions delved into risks specific to emerging markets and developing economies, with notable contributions from important papers and reports by organisations such as the IMF, UNCTAD, and the BIS. These collective efforts culminated in the G20's adoption of a comprehensive representation of these risks in a **Synthesis Paper** prepared by the IMF and the Financial Stability Board (FSB).

5.16 At the New Delhi Leaders' Summit, the IMF and FSB presented the Synthesis Paper, integrating macroeconomic and regulatory viewpoints, which the Leaders welcomed. Subsequently, the members adopted the roadmap outlined in the Synthesis Paper as the **G20 Roadmap on Crypto Assets**. The G20 called for swift and coordinated implementation of the G20 Roadmap, including implementation of policy frameworks, outreach beyond G20 jurisdictions, global coordination, cooperation, information sharing, and addressing the existing data gaps. Going forward, the IMF and FSB will provide regular updates on the roadmap's progress.

5.17 Developing countries confront more severe risks and consequences compared to their advanced counterparts. These economies also lack the capacities and capabilities to manage these risks effectively. As a result of the Indian Presidency’s focus on macroeconomic implications, especially for Emerging Markets and Developing Economies (EMDEs), the International Standard Setting bodies have been entrusted with the task of addressing specific global south concerns. Their mandate includes proposing tailored measures to mitigate risks

specific to EMDEs, identifying appropriate strategies, and enhancing the capabilities and capacities of these economies.

5.18 **Financing cities of tomorrow:** During the Indian Presidency, efforts have been made to promote effective and efficient use of financial resources to support urban development that is socially inclusive, environmentally responsible, and economically sustainable and converges with the 2030 Agenda for Sustainable Development. The **G20 Principles for Financing Cities of Tomorrow** have been endorsed, providing a framework to guide Governments, MDBs, and other development financing institutions in planning and financing sustainable urban infrastructure. Complementing these principles, the G20/OECD report on Financing Cities of Tomorrow outlines key areas for policy focus by providing a compendium of best practices and innovative solutions. The G20 also developed a G20/ADB Framework for Capacity Building of Urban Administration that serves as a guide for local governments in assessing and enhancing their institutional capacity. The G20/World Bank Report on Enablers of Inclusive Cities, which intends to make cities of tomorrow inclusive by enhancing access to services and opportunities with positive outcomes towards enhanced well-being of the citizens, has also been finalised under India's G20 Presidency.

5.19 **Advancing Financial Inclusion and Productivity Gains through Digital Public Infrastructure (DPI):** IMF (2023) notes that "*foundational digital public infrastructure (DPI), consisting of unique digital identification, payments system and data exchange layer has the potential to support the transformation of the economy and support inclusive growth*"[241]. This year, Digital Public Infrastructure (DPI) has been seamlessly integrated into the G20 discussions as one of the key priorities under the G20 India Presidency. The **G20 Policy Recommendations for Advancing Financial Inclusion and Productivity Gains through Digital Public Infrastructure** have been endorsed unanimously by G20 Leaders at the New Delhi Summit. This is a first-of-its-kind literature on DPI, capturing in detail the essential elements of the DPI approach, including its design and characteristics such as interoperability, minimalism, adaptability, etc. This set of action-oriented and customisable policy recommendations is expected to guide G20 countries and beyond to maximise the potential of DPIs, including advancing financial inclusion and productivity gains. These recommendations primarily target public authorities but possess relevance for a broader spectrum of stakeholders, including private sectors of G20 countries and countries of the Global South. The lessons from India's success in leveraging DPIs for financial inclusion, including the policy and regulatory frameworks, were instrumental in informing these policy recommendations. The uniqueness of the Indian approach to DPI was that it "incorporated legal and regulatory principles into the technical design of the system. This meant that compliance with the law could be assured merely by participating in the ecosystem".[242] Based on this work, the G20 Leaders have noted the significant role of DPI in helping to advance financial inclusion in support of inclusive growth and sustainable development and encouraged the continuous development and responsible use of technological innovations to achieve financial inclusion of the last mile and progress towards reducing the cost of remittances.

[241] Stacking up the Benefits: Lessons from India's Digital Journey (imf.org)
[242] Mathan, R (2023), 'The third way: India's evolutionary approach to data governance', Juggernaut Books

5.20 The work initiated under the Indian Presidency, including the G20 2023 Financial Inclusion Action Plan (FIAP) for the next three years, 2024-26, will go a long way in transforming the financial inclusion landscape globally. The success of India's DPI model in expanding reach across genders, geographies, and economic strata has generated interest in the Global South and beyond about the potential of DPI for addressing multiple public service delivery issues and accelerating the development process. With the objective of sharing successful digital solutions implemented at the population scale for digital transformation, India has already signed MoUs on cooperation with seven countries: Antigua & Barbuda, Armenia, Sierra Leone, Suriname, Papua New Guinea, Tanzania and Trinidad & Tobago. Currently, India is working with many countries for similar engagements.

5.21 **Mechanisms to support timely and adequate mobilisation of resources for climate finance:** Most big economies aim to reach net zero emissions by about mid-century. Finance and technology are key aspects of effective climate action and sustainable growth. This calls for collective action, and trillions of dollars of investments are urgently needed in climate mitigation and adaptation. The required scale of investments has to come from different sources- both the public and private sectors. The risk associated with climate-related projects, often due to the infeasibility of new technology, unproven commercial viability, and longer time horizons, is one of the biggest hurdles to mobilising climate finance from the private sector. New innovative instruments and de-risking mechanisms that can mobilise financial resources at scale and reasonable costs are necessary. Recognising this, India's G20 Presidency focused on mobilising timely and adequate resources for climate finance as a priority issue. It developed **voluntary recommendations for stakeholders – governments, MDBs, and the private sector –for mobilising climate finance**. The recommendations also suggest ways for scaling up blended finance and risk-sharing facilities, including the enhanced role of MDBs in mobilising climate finance. Further, to support the commercialisation of early-stage technologies that avoid, abate, and remove greenhouse gas emissions and facilitate adaptation, the **G20 has also recommended financial solutions, policies, and incentives to encourage greater private flows for the rapid development, demonstration, and deployment of green and low-emission technologies**. These recommendations can provide impetus to global actions focused on scaling up and fast-pacing climate finance mobilisation. It can also guide countries such as India, where blended finance has emerged as an important instrument to incentivise private capital flows and is expected to catalyse substantial investment that can contribute to filling the climate financing gap[243].

5.22 **Capacity Building of the Ecosystem for Financing toward Sustainable Development**: The G20 Leaders endorsed the **G20 Sustainable Finance Technical Assistance Action Plan (TAAP)** in the New Delhi Leaders' Declaration. It is a multi-year document with recommendations for creating an enabling environment for enhancing capacity-building services and tailoring them according to local needs. The Implementation Mechanism developed for the effective implementation of the G20 TAAP is aimed at fostering collaborations, sharing knowledge, and tailoring capacity-building needs, especially in EMDEs

[243] Report-Blended-Finance-for-Climate-Investments-in-India.pdf (ifc.org)

and Small and Medium Enterprises (SMEs). By focusing on capacity-building on topics such as transition planning and emission reduction of key industries, sustainability data and reporting, and risk assessment frameworks, TAAP aligns with the broader objectives of the Global South to foster economic development without compromising environmental integrity. This approach is particularly beneficial for SMEs, which contribute significantly to the economies of the Global South but may lack the resources to leverage sustainable finance. The plan recognises the unique challenges different regions and sectors face, advocating for customised solutions rather than a one-size-fits-all approach. It calls for a deep engagement with local stakeholders to understand their specific needs and circumstances, ensuring that the capacity-building efforts are relevant, effective, and sustainable in the long term. By bridging the gap between global financial practices and country-specific needs, TAAP paves the way for a more inclusive and resilient global economy, where sustainable development is not just an aspiration but also a practical reality.

5.23 **Country-driven assessment of the macroeconomic impact of climate change and transition pathways:** The macroeconomic costs associated with the physical impact of climate change are significant both at aggregate and country levels, and the costs of inaction substantially outweigh those of an orderly and just climate transition, particularly in the long term. This formed the key premise of the **G20 Report on Macroeconomic Risks Stemming from Climate Change and Transition Pathways,** which G20 Leaders endorsed in NDLD. This Report was prepared based on the policy experiences of G20 members in dealing with the macroeconomic impacts of climate change and transition pathways and supported by analysis by international organisations. The Report also identifies that the macroeconomic impacts of the transition to a low-carbon economy will depend on the composition of a country's transition policies but can be managed if the appropriate policy mix, sequenced properly, is implemented. Policymakers have a range of tools to address climate change risks. These include carbon taxes, emissions trading, feebates, tradable performance standards and green subsidies, standards for green technologies, adaptation policies, and regulatory and other non-price policy measures. The optimal choice of these instruments and their applicability for specific sectors depends on the country's circumstances. Through this analysis, the G20 has recognised that countries may choose from a range of policy options, both pricing and non-pricing, which has been a key ask of developing economies in the global policy conversations on transition. The report also emphasises the importance of international dialogue and cooperation, including in finance and technology.

5.24 **Assessing the macroeconomic consequences of food and energy insecurity:** Food and energy security are essential for global prosperity. The COVID-19 pandemic and the war in Ukraine led to significant supply disruptions in food and energy markets, contributing to persistent inflationary pressures and below-par global growth. While global food and energy prices have fallen from their peak levels, the potential for high levels of volatility in food and energy markets remains, given the uncertainties in the global economy. In this context, the **G20 Report on Macroeconomic Impacts of Food and Energy Insecurity and their Implications for the Global Economy** provides a comprehensive overview of policy experiences shared by members in dealing with the macroeconomic impacts of food and energy insecurity. It is supported by analysis from international organisations.

5.25 **Reinvigorating multilateral efforts on International Tax Cooperation:** Starting with an ambitious International Tax agenda, the Indian Presidency furthered multilateral efforts at G20 to provide a strong impetus to achieve significant progress under the international taxation workstream. The key priorities pursued under the International Tax agenda were enhancing Tax Transparency, Capacity Building, and monitoring the progress of the OECD/G20 Inclusive Framework's Two-Pillar Solution to address the Tax Challenges arising from the Digitalization of the Economy[244]. The G20 has played a sterling role in enhancing tax transparency globally. Indian Presidency efforts on wider adoption of Automatic Exchange of Information (AEOI), exploring the feasibility of exchange of information in respect of real estate transactions and identifying approaches towards streamlining the wider use of treaty-exchanged tax information between interested jurisdictions on a bilateral and voluntary basis while upholding the confidentiality of such information, are vital and critical in influencing the future tax transparency agenda at the global level. Work is ongoing in the Inclusive Framework on the Two Pillar International tax package. The nuanced and novel technical designs of the envisaged international tax reforms warrant bespoke technical assistance. India, thus, identified tax capacity building as a priority for international taxation.

5.26 G20 outcomes on the International Tax agenda have largely accelerated international tax cooperation on critical issues, most significantly in enhancing tax transparency. In view of asset shifting witnessed globally on implementation of AEOI and the strong need to expand the scope of AEOI, at the request of the Indian G20 Presidency, the OECD presented a **Report to the G20 on 'A roadmap for enhancing international tax transparency on real estate'**. The Global Forum also published a **Report on 'Facilitating the Use of Tax-Treaty-Exchanged Information for Non-Tax Purposes'** providing an approach to advance and streamline the wider use of treaty-exchanged information between interested jurisdictions on a bilateral and voluntary basis while upholding the confidentiality of such information. Work continues on the negotiations of the two-pillar international tax package.

5.27 In October 2023, a text of the Multilateral Convention (MLC) to implement Amount A, along with the Explanatory Statement (ES) and the Understanding on the Application of Certainty (UAC) for Amount A, was published. Discussions are going on to resolve a few issues in MLC on which there still are divergent views among Inclusive Framework member countries. The technical work on the design of Amount B as an optional simplification mechanism is ongoing. On Pillar Two, the GloBE Implementation Framework, GloBE Information Return and further Administrative Guidance have been released. Further, based on the Indian Presidency's initiative, the OECD has released a Minimum Tax Implementation Handbook (Pillar Two) to assist capacity-constrained jurisdictions. To enhance capacity

[244] The Inclusive Framework, comprising nearly 143 countries, has been addressing tax challenges arising from the digitalisation of the economy since 2017. Pursuant to the Leaders' Rome (2021) and Bali (2022) Declarations, work is ongoing in the Inclusive Framework of the Two Pillar International tax package. **Pillar One** grants taxing rights, known as **Amount A**, to market jurisdictions on a portion of the profits of multinational enterprises (MNEs). **Amount B** aims to simplify and streamline the application of the arm's length principle to in-scope transactions involving the performance of "baseline marketing and distribution activities". **Pillar Two** introduces Global Anti-Base Erosion Rules (**GloBE Rules**) that aim to ensure that large and profitable MNEs pay a minimum tax rate of 15%.

building, the Indian G20 Presidency launched a pilot programme of the South Asia Academy in India for tax and financial crime investigation in collaboration with the OECD.

G20 Sherpa Track

5.28 **Unlocking Trade for Growth:** The expansion of international trade has led to significant economic growth, innovation, and prosperity for the global economy. Yet, the global trade and investment regime is under unprecedented strain due to the pandemic, geopolitical tensions, and the steady weakening of the multilateral trading system. Given the disruptions caused by the COVID-19 pandemic and other shocks, there is a pressing need to have an equivalent focus on ensuring a cost-efficient, robust, resilient, and sustainable logistics and digital ecosystem for trade. While acknowledging that service disruptions, shortage of containers and other critical equipment, and cost variations were partially caused by operational issues and constraints, it also needs to be acknowledged that the impact of these distortions was amplified by certain trade practices of the international shipping industry, which were not in conformity with the international norms and standards. Trade documents, for instance, are not standardised and have not kept up with digitisation. Considering India's experience in boosting internal trade through GST and the GSTIN, digitising trade documents would reduce costs, boost efficiencies, and help boost the participation of MSMEs.

5.29 To this end, the **High-Level Principles on Digitalization of Trade Documents**, delivered by the Indian G20 Presidency in the Trade and Investment Working Group, will be an important guide towards a successful transition to a more efficient and accessible global trade ecosystem powered by digital technology. In addition, the **G20 Generic Framework for Mapping of Global Value Chains** provides a useful tool to help developing countries move up the global value chain by identifying opportunities and addressing gaps. For MSMEs, the **Jaipur Call for Action on Fostering Access to Information for MSMEs**, if adequately implemented, will support the accessibility of trade-related information for them and spur their greater integration in world trade.

5.30 **Preparing for the Future of Work:** At a macro level, a country's performance is heavily influenced by the skills of its workforce. Trends such as demographic transitions and technological changes such as Industry 4.0, Web 3.0, and extended reality technology, including metaverse, will bring immense possibilities that will forever change the world of work. Countries must be prepared for this disruption. Given changing demographics and technological advancements, it is important to identify the mix of skills that workforces will need. A concurrent mapping of opportunities and skills across G20 countries is essential for the supply of both domestic and foreign labour. Furthermore, seamless labour mobility across countries calls for a unified framework and robust policies focusing on labour mobility and harmonisation of qualifications for skills recognition of the migrating labour. The **Policy Principles to address the global skills gap and harmonise taxonomies** will help address global skill gaps and facilitate cross-country comparability and mutual recognition of skills and qualifications, strengthening international migration and mobility partnerships. The NDLD

recognised that well-integrated and adequately skilled workers benefit origin and destination countries alike, and G20 countries are committed to working towards ensuring well-managed, regular, and skills-based migration pathways.

5.31 **Recommitting to Achieving SDGs:** Today, at the crucial midway point to the 2030 Agenda, the lack of progress on SDGs, with only 12% of the SDG targets on track, is deeply worrying. Achieving SDGs requires scaled-up international cooperation focused on finding lasting solutions and leaving no one behind. The **G20 High-Level Principles to Accelerate Progress on the SDGs,** adopted in our Presidency, will guide the G20's work and actions for the next seven years for accelerating progress towards SDGs, with a focus on poverty alleviation, disaster risk reduction, and preparedness, access to finance & technology, promoting collective actions for encouraging IFIs to scale-up development finance and accelerating infrastructure investment. In addition, India's Presidency brought an SDG focus in several G20 work areas. **The Goa Roadmap for Tourism** that aims to provide governments and other tourism actors with voluntary tools and recommendations to leverage the sector's capability to contribute progress to the SDGs and **Culture as a Transformative Driver of SDGs,** focusing on economic contribution and growth of the culture sector as a whole, were important takeaways of the New Delhi Leaders' Declaration.

5.32 **Eliminating Hunger and Malnutrition:** Climate variability and extremes, the COVID-19 pandemic, and political conflicts have exacerbated hunger and malnutrition crises. One of the essential ways to boost economic growth and combat poverty worldwide is to invest in food security and adequate nutrition for all. A multi-pronged approach is needed to ensure food security and the resilience of rural livelihoods. This involves tackling climate change, protecting natural resources, transitioning to sustainable agriculture, investing in research and development, utilising technology, and improving infrastructure and human capital. Through the **Deccan High-Level Principles on Food Security and Nutrition**, the G20 has taken an important step towards promoting global food security through inclusive food systems, resilient and sustainable agriculture, food security nets and humanitarian supplies, digitisation, empowering small and marginal farmers and achieving the "Zero Hunger" SDG. The **Millet and Other Ancient Grains International Research Initiative (MAHARISHI)** is a concrete step taken under the Indian Presidency that brings focus to climate-sustainable practices by mainstreaming superfoods such as millets, which are climate-resilient and nutritious, connecting international researchers and institutions, promoting wider dissemination of the research findings and helping identify gaps and needs.

5.33 **Strengthening Global Health and One Health Approach:** Once a pandemic ceases to be an acute threat to life, the urgency drops, the focus shifts, and efforts toward preventing future pandemics dwindle, as witnessed even in the aftermath of previous pandemics. The COVID pandemic brought to the fore the fragilities, disparities, and inequities in health systems, particularly in developing countries, regarding equitable access to medical countermeasures, technology transfer, and knowledge. The pandemic renewed focus on the need to utilise technology in health care to transform service delivery and empower those seeking medical care. We have also witnessed the use of digital technologies as a catalyst and enabler of the digital transformation of healthcare. During our Presidency, a **Global Initiative**

on Digital Health (GIDH) was agreed within a WHO-managed network to build a comprehensive global digital health ecosystem, for standards-based digital health transformation through convergence of efforts and investments in digital health around the globe. The **Interim Medical Countermeasures (MCM) Coordination Mechanism**, pursued under India's Presidency, envisions the establishment of R&D and manufacturing networks enabling accountable and timely access to safe, effective, quality, and affordable medical countermeasures including VTDs (vaccines, therapeutics, diagnostics). Importantly, India's Presidency also saw the G20 recognise the role of **Traditional & Complementary Medicine (T&CM),** both in the Leaders' Declaration as well as in the form of a dedicated session on T&CM at the G20 Health Ministerial Meeting during the first-ever Global Traditional Medicine Summit in Gandhinagar.

5.34 **Mainstreaming Lifestyle for Environment:** Currently, 10 per cent of households with the highest per capita emissions are responsible for a disproportionately large share of global consumption-based household GHG emissions. These lifestyles also influence global aspirations and drive consumption and growth. The need is to bridge the gap between the aspirations of the people and climate ambitions, and it requires a new 'human-centric' growth model wherein developing countries can grow within the limited carbon space available. In this regard, Lifestyle for Environment, which brings together the development and climate agenda, is the new mantra. The **G20 High-Level Principles on Lifestyle for Sustainable Development (LiFE) provide an impetus towards nudging pro-planet individual behaviour globally and** taking ambitious actions for achieving development, environment, and climate goals. They focus on the human-centric and pro-growth approach to climate action and highlight the need to support developing countries. These HLPs have also mainstreamed India's homegrown values and ways of life globally. LiFE was also our crosscutting priority in various other G20 working groups, for example, **Travel for LiFE,** which supports the development of smart destinations that are responsible and sustainable, in the Tourism Working Group.

5.35 **Implementing Sustainable Energy Transitions:** G20 member countries account for about 75 per cent of global energy demand and thus hold significant responsibility and play a strategic role in pushing for a cleaner energy future. It is well recognised that while energy can create transformational opportunities, lack of access to modern energy sources limits human development, depriving people of basic and dignified lifestyle needs. G20 members need to recognise the priorities and circumstances of individual countries in achieving SDG 7 while transitioning towards respective net-zero emissions pathways. Energy transition also drives a fundamental shift in energy flows and creates new dependencies on materials critical to developing clean technologies. To ensure accessibility to a secure and affordable supply of critical materials, it is essential to build global consensus, policy coordination, and oversight on the security of energy sources. While renewable energy capacity addition has shown encouraging trends across several developed and emerging market economies, reducing technology gaps via advancements in developing and deploying the full range of emerging clean energy technologies, such as energy storage, green hydrogen, and biofuels, requires urgent, collaborative actions. In this context, the agreement to triple renewable energy capacity globally by 2030 was a landmark outcome of India's Presidency. This will help rapidly scale

up investments in renewable energy capacity globally and accelerate clean energy transitions. Through the **G20 High-Level Voluntary Principles on Hydrogen** agreed on during India's Presidency, we are in a better position to drive the production, utilisation, and global trade of hydrogen produced from zero and low-emission technologies and its derivatives such as ammonia, *among other things* to decarbonise hard-to-abate sectors and contribute to global net zero GHG emissions/carbon neutrality. A **Green Hydrogen Innovation Centre** will also be set up at the International Solar Alliance. The **Voluntary High-Level Principles for Collaboration on Critical Minerals for Energy Transitions** emphasise building reliable, diverse, responsible, and sustainable value chains of critical minerals, semiconductors, and related technologies. The setting up the **Global Biofuels Alliance (GBA)** during the G20 Leaders' Summit will help bolster biofuels markets, facilitate sustainable global biofuels trade and investments, and promote greater international collaboration.

5.36 **Reducing Disaster Risk and Building Resilient Infrastructure:** In March 2015, 187 nations adopted the Sendai Framework for Disaster Risk Reduction (SFDRR 2015-2030). At the mid-point of the SFDRR, progress, particularly on loss reduction targets, is slow or even negative. Climate change has increased the intensity of extreme weather and climate events. Combined with rapid urbanisation, growth in economic activity, and capital assets exposed to multiple hazards, disaster risk is a real concern for all countries, especially the Global South. Although the world has significantly improved early warning systems over the last decade, communities in many hazard-prone areas still need reliable access to early warning. Infrastructure resilience is the cornerstone of sustainable development. An understanding of risks to infrastructure, as well as to the services it provides, is therefore crucial. **The Disaster Risk Reduction Working Group,** a new working group launched by the Indian Presidency, drove a fundamental transformation in the global approach to disasters from a reactive to a proactive, people-centred, all-of-society approach to managing and reducing disaster risk. The UNGA Res 77/289, in welcoming the creation of a global platform for DRR, noted its work and its outcomes, including urging accelerated progress on early warning and early action.

5.37 **Building Digital Public Infrastructure (DPI):** Digital technologies are transforming conventional notions about how individuals and firms interact, how consumers obtain services, information, and goods, and how governments deliver public services while providing new business opportunities for the private sector. Despite considerable progress in recent years, as per the International Telecommunication Union (ITU), one-third of the world's population (approximately 2.9 billion people) suffer from the digital divide. People who lack opportunities to engage purposefully with the digital economy face a worsening cycle of disenfranchisement. As the world rebuilds from the consequences of the pandemic, global policymakers need to look beyond economic recovery towards a better, more resilient, and future-ready digital economy. In the current digital age, integrated digital public infrastructure offers transformative solutions for the delivery of public services and for empowering citizens through digital inclusion. However, in advanced and emerging economies, capacity constraints should not preclude them from building these systems. Countries must invest in technology, finance, and human resources to enable and implement DPI. During our Presidency, the G20 showed the way forward on DPI. Leaders agreed in New Delhi to promote DPI, welcomed the **G20 Framework for Systems of DPI**, noted the Indian Presidency's proposal of the **One Future**

Alliance (OFA), and affirmed the role of **Data for Development**. The DPI framework will help ensure equitable access to and last-mile delivery of essential services at a societal scale, streamline governance, propel economic growth, enhance data security, advance financial inclusion, and foster sustainable development, especially in Low-and-Middle-Income countries through capacity building, technical assistance and facilitating funding support.

5.38 The proposed **Global Digital Public Infrastructure Repository (GDPIR)** aims to share best practices and experiences in developing and deploying DPI to bridge existing information and knowledge-sharing gaps. The One Future Alliance brings together governments, the private sector, academic and research institutions, donor agencies, civil society organisations, existing mechanisms, and other relevant stakeholders to synergise global efforts in the DPI ecosystem. Leaders further welcomed the G20 High-Level Principles to support businesses in building safety, security, resilience, and trust in the Digital Economy. They also supported leveraging Artificial Intelligence (AI) for the public good, such as achieving SDGs, by solving responsible, inclusive, and human-centric challenges while protecting people's rights and safety. They expressed support for a pro-innovation regulatory/governance approach to AI.

5.39 **Gender Equality and Empowering all Women and Girls:** Gender equality is not only a fundamental human right but also fulfilling this right is the best chance we have in meeting some of the most pressing challenges of our time, from the economic crisis and lack of health care to climate change and escalating conflicts. Violence and exploitation, unequal division of unpaid care and domestic work, discriminatory property and inheritance laws, lack of access to finance, technology, and education, limited mobility, voice, and political representation, besides cultural norms that pre-define what sectors are acceptable and what are not for women, continue to persist. Women are not only more impacted by these problems but also have the ideas and leadership to solve them. There is an urgent need for a paradigm shift in women's role from being passive recipients of the fruits of development to meaningfully and actively contributing to global growth through a women-led development approach, which calls for women's participation in decision-making roles in all sectors and at all levels. India's G20 Presidency has shifted the focus from women's empowerment to women-led development, including enhancing economic and social empowerment, bridging the gender digital divide, driving gender-inclusive climate action and securing women's food security, nutrition, and well-being. G20 has agreed to create a **Working Group on the empowerment of women.**

Key learnings from India's G20 Presidency

5.40 The Indian G20 Presidency aimed to ensure that the G20 continues to deliver on its core mandate of international economic cooperation. The issues discussed under the Indian G20 Presidency have also been echoed across the multilateral landscape, such as CoP-28, IMF and World Bank. The present section distils some key learnings from India's G20 Presidency.

5.41 **The willingness of nations to collaborate despite differences:** When India took over the Presidency of G20, there were genuine concerns about how the Indian Presidency would

be able to deliver in such challenging circumstances. However, during this Presidency year, what became evident was the willingness of governments to cooperate despite global conflicts in the spirit of preserving multilateralism and delivering timely and effective solutions to global problems. The G20 NDLD and all its outcomes were achieved through full consensus. The consensus on the geopolitical language in the NDLD was of key significance in this regard. As the global community is increasingly mired in deeper conflicts and widening divergences, the G20 has delivered a timely reminder to keep the lines of communication open and allow multilateralism to work. The G20's success this year shows that dialogue is an effective solution, and maintaining an open line of communication can enable countries to seek and utilise opportunities to collaborate despite divergences.

5.42 **Clear, ambitious, and pragmatic agenda:** Having ambitious and well-articulated priorities while maintaining pragmatism played a key role in building consensus on the various outcome documents during the Presidency. Members appreciated the intent of the Presidency to move forward the global policy conversations with new perspectives while ensuring that country-specific sensitivities were properly accounted for. Whether it was work related to strengthening multilateral development banks or that related to crypto-assets, the discussions and outcomes were focused on expanding the ambit of global policy conversation inclusively. Throughout the year, the Presidency adopted a collaborative and consultative approach in the negotiation processes to bridge differences and develop consensus across a wide range of outcome documents.

5.43 **Building an inclusive multilateralism:** At the time of the commencement of India's Presidency, Prime Minister Modi, in a blog post, emphasised that "*Our G20 priorities will be shaped in consultation with not just our G20 partners, but also our fellow travellers in the global South, whose voice often goes unheard.*"

5.44 In the early stages of the Indian Presidency, while the agenda was being firmed up, New Delhi hosted 125 countries as part of its 1st Voice of Global South Summit. Their views informed India's G20 agenda-building process for 2023. The issues discussed under India's G20 Presidency are of existential importance to the countries of the Global South. They will also determine their future trajectory, for instance, climate finance, women-led development, biofuels, the reform of multilateral development banks, infrastructure financing and advancing financial inclusion. Subsequently, on 17 November 2023, a 2nd Voice of Global South Summit was held to inform the countries of the Global South how their concerns and aspirations have been incorporated into the G20 and how the momentum set in the NDLD would be carried forward.

5.45 To further enhance the representation of the Global South in the G20 dialogue, India made the historic decision to include the African Union (AU) as a permanent member of the G20. It is also worth noting that among the nine guest countries who were part of the Indian Presidency's invitee list, six countries were emerging markets and developing economies.

5.46 **Exploring global issues comprehensively beyond institutional silos:** Global issues have become extremely complex and intertwined. Unlike any other multilateral organisation,

G20's unique strength is that it is not bound by any mandate and, therefore, has the freedom to explore issues in a very dynamic way. In 2023, India leveraged this unique strength of the G20 and explored how issues can be explored comprehensively.

Way forward and Conclusion

"*The 21st century is a time that has the potential to give a new direction to the entire world. It's a time when years-old challenges demand new solutions from us. We must move towards concrete solutions for these challenges, not just for the present but also for future generations*."

-Prime Minister of India

"In a few days, we will begin the Brazilian presidency. The motto of the Brazilian presidency – building a just world and a sustainable planet."

-President Luiz Inácio Lula da Silva, Brazil

5.47 India passed on the Presidency of the G20 to Brazil on December 1, 2023. However, the outcomes from this year's G20 Presidency require continuous engagement within the G20 and through relevant international organisations, given that these are multi-year issues. The momentum must be maintained on the policy guidance in the New Delhi Leaders' Declaration.

5.48 In this context, it is worth noting that the Brazilian Presidency[245] has indicated that their key focus areas will be social inclusion, the fight against hunger, energy transition, sustainable development and reform of global governance institutions. With India joining Brazil and South Africa as the G20 Troika for 2024, it sets the stage for effective collaboration amongst the three major EMDEs of the world to ensure that the G20 narrative maintains the spirit of inclusiveness even as the agenda evolves to meet the needs of a dynamic global economy.

[245]https://www.gov.br/planalto/en/follow-the-government/speeches/speech-by-president-lula-at-the-closing-of-the-g20-summit

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Published by:

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