Inclusive Developments Through Socio-economic Indicators

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Inclusive Developments Through Socio-economic Indicators: New Theoretical and Empirical Insights

EDITED BY

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United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2023

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British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-80455-555-2 (Print)
ISBN: 978-1-80455-554-5 (Online)
ISBN: 978-1-80455-556-9 (Epub)

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Certificate Number 1985
ISO 14001

INVESTOR IN PEOPLE

To my sister and brother-in-law

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List of Abbreviations

ADB:	Asian Development Bank
ADF:	Augmented Dickey Fuller
ADP:	Annual Development Program
AIC:	Akaike Information Criterion
ANOVA:	Analysis of Variance
APEC:	Asia-Pacific Economic Cooperation
ARDL:	Autoregressive Distributed Lag
ARIMA:	Autoregressive Integrated Moving Average
BDF:	Bangladesh Development Forum
BDNA:	Balochistan Drought Needs Assessment
BIMARU:	Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh
BITE:	Balochistan Institute of Technical Education
BLA:	Balochistan Liberation Army
BOP:	Balance of Payments
BPM:	Business Process Management
BPO:	Business Process Outsourcing
BRICS:	Brazil, Russia, India, China, South Africa
BSE:	Bombay Stock Exchange
CAEd:	Children's Average Education
CDS:	Current Daily Status
CGE:	Computable General Equilibrium
CHI:	Coefficient of Human Inequality
CIA:	Confidence Interval Approach
CLMRM:	Classical Linear Multiple Regression Model
CSA:	Climate-Smart Agriculture
CSS:	Climate-Smart Soil
CSSC:	Selection of Course of Study for the children
CV:	Coefficient of Variation
DAI:	Digital Adoption Index
DCBMHEdC:	Decision regarding Choice Between Marriage and Higher Education
DCGs:	All Developing Countries Groups
DEI:	Dalit Exclusion Index
DEMATEL:	Decision-Making Trial and Evaluation Laboratory
DEMU:	Diesel Electrical Multiple Unit
DEW:	Development Effectiveness Wing

DHS:	Demographic and Health Surveys
DP:	Development Partners
DPP:	Development Project Proforma
DR:	Dependency Ratio
DRMC:	Decision regarding Marriage of Children
DS:	Difference Stationary
ECEC:	Early Childhood Education and Care
ECM:	Error Correction Mechanism
ECNEC:	Executive Committee of the National Economic Council
ERD:	Economic Relations Division
ES:	Economic Sustainability
EU:	European Union
FATA:	Federally Administered Tribal Areas
FDI:	Foreign Direct Investment
FE:	Fixed Effects
FII:	Foreign Institutional Investors
FYP:	Five-Year Plan
GDDP:	Gross District Domestic Product
GDP:	Gross Domestic Product
GE:	Government Expenditure
GER:	Gross Enrolment Ratio
GITE:	Gwadar Institute of Technical Education
GMM:	Generalized Method of Moments
GNI:	Gross National Income
GNP:	Gross National Product
GNPAR:	Gross Non-Performance Asset Ratio
GoB:	Government of Bangladesh
GPEDC:	Global Partnership for Effective Development Cooperation
GSDP:	Gross State Domestic Product
GSDPE:	Gross State Domestic Product Expenditure on Education
GST:	Goods and Services Tax
GSVA:	Gross State Value Added
GVA:	Gross Value Added
HAI:	Household's Annual Income
HD:	Human Development
HDGs:	Human Development Groups
HDI:	Human Development Index
HDR:	Human Development Report
HI:	High Income
HSS:	Higher Secondary School
IBEF:	India Brand Equity Foundation
ICI:	Income Concentration Index

ICT:	Information and Communication Technology
ID:	Index of Democracy
IE:	Inequality in Education
ILO:	International Labour Organization
IMED:	Implementation Monitoring and Evaluation Division
IMF:	International Monetary Fund
IoMT:	Internet of Medical Things
IoT:	Internet of Things
IR:	Industrial Revolution
ISTAT:	Istituto Nazionale di Statistica
IT/ITES:	Information Technology/Information Technology Enabled Services
JCS:	Joint Cooperation Strategy
JWA:	Jordan Water Authority
LCG:	Local Consultative Group
LCG-WG:	LCG Working Group
LDC:	Least Developed Countries
LDCGs:	Least Developed Countries Groups
LEB:	Life Expectancy at Birth
LI:	Low Income
LMI:	Lower Middle Income
LMP:	Labor Market Programs
LNG:	Liquefied Natural Gas
LQM:	Location Quotient Method
LR:	literacy Rate
LSDV:	Least Square Dummy Variable
MA:	Mother's Age
MBRT:	Multi-brand Retail Trade
MCDM:	Multiple Criteria Decision Making
MCSAS:	Myanmar Climate Smart Agriculture Strategy
$MDMP_{CEdu}$:	Mother's Decision-Making Power regarding Children's Education
MEd:	Education of mother in years
MENA:	Middle East and North Africa
MFDI:	Modified Fundamental Index of Fiscal Decentralisation
MFI:	Micro Finance Institution
MNC:	Multi National Corporation
MoSPI:	Ministry of Statistics and Programme Implementation
MP:	Mother's Property
MRA:	Multiple Regression Analysis
MRT:	Mass Rapid Transit
MSEs:	Micro and Small Enterprises
MSERA:	MSE Rating Agency

MSMEs:	Micro, Small, and Medium-sized Enterprises
MWI:	Ministry of Water and Irrigation
NaBFID:	National Bank for Financing Infrastructure and Development
NASSCOM:	The National Association of Software and Service Companies
NPP:	Nuclear Power Plant
NS:	Negative Ideal Solution
NSDP:	Net State Domestic Product
ODA:	Official Development Assistance
OECD:	Organisation for Economic Co-operation and Development
OLS:	Ordinary Least Squad method.
OMI:	Outlying Mean Index
PCA:	Principal Component Analysis
PCCE:	Per Capita Consumption Expenditure of Households
PCE:	Per Capita Expenditure
PCEE:	Per Capita Expenditure on Education
PCI: Per	Capita Income
PCNSDP:	Per Capita Net State Domestic Product
PESRP:	Punjab Education Sector Reform Programme
PIAAC:	Programme for the International Assessment of Adult Competencies
POV:	Poverty Headcount Ratio
PPP:	Purchasing Power Parity
PS:	Positive Ideal Solution
R&D:	Research and Development
RBI:	Reserve Bank of India
RD:	Research and Development Expenditure
RE:	Random Effects
REI:	Real Estate Index
RMG:	Readymade Garments
RSDSCP:	Red Sea Dead Sea Canal Project
SA:	Social Assistance
SCB:	Scheduled Commercial Bank
SD:	Standard Deviation
SDG:	Sustainable Development Goals
SI:	Social Insurance
SIDBI:	Small Industrial Development Bank in India
SL:	Skilled Labour Force
SLM:	Segmented Labour Markets
SMA:	Simple Moving Average
SMEs:	Small and Medium Scale Enterprises

SS:	Social Sustainability
SSE:	Social Sector Expenditure
SSEE:	Social Sector Expenditure on Education
SSFC/CCFC:	Selection of School or College for the children
STP:	Sewage Treatment Plant
SWOT:	Strength, Weakness, Opportunity and Threat
TFPG:	Total Factor Productivity Growth
TIB:	Transparency International Bangladesh
TOPSIS:	Technique for Order Preference by Similarity to Ideal Solution
TOR:	Trade Orientation Ratio
TOSA:	Test of Significance Approach
TPP:	Technical Project Proforma
TS:	Trend Stationary
UHC:	Universal Health Coverage
UMI:	Upper Middle Income
UMIC:	Upper Middle Income Country
UN:	United Nations
UN:	United Nations
UNDP:	United Nation Development Programme
UNGA:	United Nations General Assembly
UNICEF:	United Nations International Children's Emergency Fund
VIF:	Variance Inflation Factor
WB:	World Bank
WDR:	World Bank Report
WTO:	World Trade Organization
Z&A:	Zivot and Andrews

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Foreword

The last 200 years of global trade show that not only is trade a necessity but also is desirable for growth and prosperity of nations. If we use the contemporary terminology of globalization, we may be allowed to present the world's economic history in terms of three distinct phases of globalization. While the first phase of it, lasting from 1814 to 1914, was known for free trade and unfettered movement of labour spreading economic benefits to countries that could engage in free trade, the second phase lasting from 1915 to 1980, was marred by two world wars, extreme contraction in global trade, tariff wars and protectionist trade regimes that benefitted mainly the USA, Japan and Western Europe, the so-called developed world. In this phase, trading blocs were important platforms of intra-bloc free trade, but tariff barriers were placed to ward off the competing blocs, as a result of which the benefits of free trade and investment were restricted to fewer countries. This phase can hardly be called a phase of globalization. The third and current phase of globalization began to integrate free trade with domestic competition and deregulation, and boldly promote private enterprises, trade in services and free cross-border movement of capital. We are truly living through a regime of internationally mobile capital and skilled labour, and our daily lives are serviced by a globally sourced supply chain, thanks to modern communication and information services technology, and last but not least, the opening up of two remarkably important countries, China and India, which will continue to shape the global trade in goods and services.

Some of the benefits of the current phase of globalization are evident in the sharp decline of absolute poverty (an early achievement of the first Millennium Development Goals), not just in India and China, but also in much of Africa. Per capita incomes of some of these countries grew unmistakably. The rich and the middle class populations of China, India, Brazil, Argentina, Russia, Indonesia and South Africa enormously benefitted, although in relative terms which section gained more remains an open question. While by some studies, the first three decades of the current phase of globalization (1980–2010) have reduced global income inequality, most authors now fear that the picture has changed of late. Within-country inequality has been growing, and the very poor have been left behind everywhere; even for the middle class, the growth momentum is disappearing. Whether free trade is the root cause of it is yet to be determined. But the public manifestation of growing despair and disappointment is too obvious to miss, as populist politics is spreading across continents often promising to reverse globalization, at least the free trade part of it. Serious doubts have emerged about

the world's capacity to create inclusive societies amidst the high-speed traffic of trade and finance that globalization has unleashed.

Against this backdrop of waning support for globalization, this edited volume by Ramesh Chandra Das has attempted to compile a number of important studies from a distinguished body of international academicians that have rightly turned our attention to inclusive growth and development in a much broader sense than what mere economic categories permit. The studies discuss the goals of inclusive development in respect of different socio-economic sectors and groups in the presence of good governance practices. With 25 chapters divided in to two sections, the book includes various theoretical modelling and empirical exercises. The issues of convergence in socio-economic indicators have been elaborately dealt with for groups of countries as well as for individual nations. Scholars and researchers from different fields such as Economics, Sociology, Political Science, Public Finance, among others, should benefit from this book. The policy-makers, practitioners, public officials and NGOs will also find something from this book that they can apply to their development discourse and practice.

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Introduction

There is no doubt that the world economy has progressed rapidly after the different phases of the globalization process initiated by the major part of the world. But there is a by-product of this huge progress. According to the World Bank, the globalization process has led to bring down the inequality in income at the world level, but there are increasing inequalities across countries and some groups of economies. There are so many economic, social and environmental factors in determining the income and wealth of a country as well as a group of countries. There have been immense studies on the income aspects of these inequality factors across the countries and regions but there is a crunch of studies on the social indicators behind the presence of such inequalities. The 17 points agenda of the United Nations Sustainable Development Goals (SDGs) cover many sectors from the social sector. The social sector is the foundation of any nation which not only generates income in the long run, it also generates social justice and moral values which ultimately helps in the true development of the countries in the long run.

The principle of the market economy usually does not nurture the social indicators; it solely plays with the capitalistic mode of production out of the profit maximizing behaviour of the entrepreneurs. It does not bother what the roles of the social sectors like education, health, etc., will be in the economic decision-making processes. The rule of the market strongly nullifies the intervention by the government sector in economic activities. But market principle sometimes fails and the roles of the unknown forces, the set of natural forces, hold the key to the operation of the system. The issues of risks and uncertainties bear the credit for haltering the performance of the pure market theory. The emergence of the different economic crises in the past and the outbreak of COVID-19 in recent times have pointed out the flaws of the market principle and justified the roles of the public policies in restoring the socio-economic bonding. The huge investment in the health sector, sizeable amounts of government stimulus packages for food security, online aids for education, etc., are the key policies that had to be undertaken for the sake of the economic and social well-being. The role of the government institutions thus in general has been to upgrade the socio-economic status of the poor and backward classes without hampering the richer ones in the society to have an equitable distribution of income and social indicators. The countries are seemed to earn the capacity to converge to the relatively richer ones and reap the benefits step-by-step to reach the ultimate goal of sustainable development.

The present edited book titled *Inclusive Developments Through Socio-economic indicators: New Theoretical and Empirical Insights* throws light upon the roles of different socio-economic indicators in ensuring or explaining convergence and inclusiveness of income across different income groups in the world. The studies cover up the highly related issues in the social sector and posit alternative source of explanations for the convergence and inclusiveness of income in these groups of economies. The book has compiled a list of highly rich 25 studies in the related themes that explain inclusive developments through several socio-economic indicators in both theoretical and empirical lines from across the world.

Keeping in mind its broad coverage, the book is structured in two separate sections to present the list of the finalized chapters. Section I encapsulates the discussions on economic growth, convergence and inclusive development through different socio-economic indicators in the groups of countries. It covers both the theoretical as well as empirical analysis of the said issues for the groups of economies. Section II captures the deliberations on the poverty and inequality aspects of different socio-economic indicators in countries. There are 12 chapters in Section I and 13 chapters in Section II. The modicum of the chapters is outlined below.

Section I: Growth, Convergence and Inclusive Development Through Different Socio-economic Indicators in Groups of Countries

Chapter 1 seeks to examine the impacts of international trade and informational globalization on income inequality in both the developing and developed groups of nations of the world using dynamic panel GMM estimates. The results of first difference dynamic panel GMM estimates imply the analogous impacts of trade and informational globalization on income inequality in both developing and developed nations, while the financial and political measures of globalization have dissimilar effects on income inequality across the two groups of economies.

Chapter 2 investigates the convergence of several socioeconomic indicators in a sample of 137 countries over the period 1990–2019 applying the log-*t* convergence tests and finds that most of the socio-economic indicators' convergence is divergent. Out of the seven different indicators, there are two indicators, life expectancy and access to the internet, which are converging at the global level, while the remaining indicators of GDP per capita, FDI inflow, urbanization, fertility and CO_2 emissions do not.

Chapter 3 emphasizes on determining the socio-economic variables of countries that have nuclear energy investments using the DEMATEL method. The profiles of the countries that make nuclear energy investments demonstrate that education level and income inequality are the essential socio-economic factors for the improvement of the nuclear energy investments.

Chapter 4 focuses on the roles of different socio-economic indicators in explaining convergence or inclusiveness of income across different income groups in the world and as a result, overall greater role of socioeconomic factors of

social sustainability than economic sustainability has been found, causing greater income inequality among these various income groups of the world, with income diverging among various groups of countries.

Chapter 5 explores the concept of enhancing welfare through the expenditure in healthcare in BRICS nations by the way of α & β convergence approaches for the period 2006–2018 and finds that these countries catch up with significant convergence. Further, with the help of the panel data analysis, it is found that such convergence is significantly explained by GDP per capita, life expectancy at birth, elderly ratio, CO_2 emissions and prevalence of undernourishment.

Chapter 6 analyzes the global historical change between 2007 and 2014 mainly emanating from economic and political game played between USA and European countries starting with the Great Crisis and ending with Arab Spring from the perspective of contemporary philosophy and observes that The Great Crisis is not a global crisis, but a Trans-Atlantic financial crisis initiated by incapable corporate governance of US-based financial MNCs.

Chapter 7 examines the role of state activity, and labour force variables on the variation of Digital Adoption Index (DAI) across 169 countries over two different years such as 2014 and 2016 by using a static panel regression with a fixed effect approach and finds that digitalization is influencing business operations. Furthermore, the labour force becomes a crucial factor in the case of DAI in the countries and it is stated that educational factor as the literacy rate is very crucial in that regard.

Chapter 8 analyses the types of protection aiding in the expansion of credit and the alleviation of capital constraints and simple credit guarantee policies to provide adequate credit flow and thus continued MSME growth. It also considers the importance of priority sector lending policies in ensuring adequate credit distribution to this sector. The results show that protection helps in enhancing flow of credit and thereby works in relaxing the capital constraint. However, the tariff protection for the organized sector may positively or negatively affect the non-traded unorganized sector.

Chapter 9 aims to investigate the socio-economic challenges of the tribal people of Pakistan and the reluctant outlook of the federal government. It also delineates how the tribal youths are being attached to terrorist groups due to unemployment and how it has more dangerous to the security of Pakistan. The basic finding is that the tribal groups are excluded from most of the social sector policies and thus it argues that socio-economic inclusiveness is required in a multiethnic country for ensuring social harmony, national integration and national security.

Chapter 10 examines the issues which impede development effectiveness and governance related to the Government of Bangladesh (GoB) as well as development practices (DPs) and observes that the DPs and GoB don't represent a horizontal relationship to implement the development effectiveness agenda in Bangladesh mainly because of dominant attitude, lack of alignment and harmonization, and accountability of DPs and weak policy, institution and leadership of GoB. However, COVID-19 economic crisis makes a renewed call to both DPs and GoB.

Chapter 11 intends to construct an index to explain how inclusive social contextual factors influence the price level of real estate in Genoa of Italy using the non-parametric methodologies of factor analysis and cluster analysis. The results suggest that most of the variability in the fluctuation of the average price of properties is strictly connected to the features of the reference social context such as neighbourhood prestige, type and level of education of residents, access to services, etc.

Chapter 12, the last one in this section, aims to investigate Jordan's water scarcity problem, highlighting its political and economic aspects and its impacts on socio-economic development, and to propose solutions to the water scarcity problem in Jordan. The study observes that it is important for Jordan to use its water resources in an efficient, effective and sustainable way so that socio-economic development of Jordan can be supported. Unsustainable use of water resources can cause depletion of Jordan's scarce water resources that can exacerbate magnitude of water resource problem and hinder socio-economic development.

Section II: Poverty and Inequality Aspects of Different Socio-economic Indicators in Countries

Chapter 13 seeks to determine or identify the impact of social protection index on inclusive growth through poverty alleviation in a few Asian countries using secondary data of ADB on government social protection programs in the some countries of Asia. It is obtained that the impact of components of social protection index such as social insurance programs, social assistance programs and labour market programs plays a vital role in eradication of poverty and attaining inclusive growth.

Chapter 14 inspects the influence of public expenditure on the growth of SMEs in Nigeria employing unit root and co-integration tests for the period 1981–2019. The results reveal that SMEs and selected macroeconomic variables have a long-run relationship with SMEs output performance. It also shows that government expenditure has direct and significant impact on the growth of SMEs in Nigeria. The study thus recommends that government should ensure the proper management of the capital expenditure and recurrent expenditure in raising the growth of SMEs in Nigeria to achieve inclusive growth.

Chapter 15 discusses the drivers for sustainable smart villages and ways for enhancing and supporting their effectiveness in socio-economic development, in enhancing welfare and living conditions of people living in villages, and reducing income gap between urban and rural people. It finds that effective and successful sustainable smart villages can play important role in sustainable development, and social inclusion and achievement of socio-economic indicators.

Chapter 16 aims to enquire to what extent is fiscal decentralization effective in combating social tension arising out of absolute (poverty) and relative (income inequality) deprivations? Using GMM Kernel estimations in the presence of the control variables like-modified fundamental index of fiscal decentralisation, the size of the government, etc., the study finds that fiscal decentralization reduces

poverty levels while it deteriorates the inequality in the distribution of income below a threshold size of the government.

Chapter 17 aims to inspect the growth in the service sector in India is inclusive or not. The observations of the study have shown that the service sector has been growing at fast pace compared to the other two sectors and making the system into job-less status. Revival of high linkage sectors with higher potential of employment growth such as agriculture and manufacturing can be game changer towards the goal of inclusiveness, as recommended by the study.

Chapter 18 analyzes labour market segmentation and income inequality in the Western, Eastern and Ashanti regions of Ghana. The application of labour market segmentation and the Gini coefficient for personal income is found to be significantly associated with the type and levels of mining employment maintaining a Kuznets curve pattern. This implies that the segmented labour market within the mining industry is likely to be a problem as it results in increased income inequality among locales relative to foreign expatriates.

Chapter 19 attempts to analyze patterns in social sector expenditure on education (SSEE) and its impact on human development index (HDI) among different states in India. The combined SSE of Centre and States which provides the best picture of India's commitment towards the social sector on education may be assessed. The results show a positive relationship between SSEE and HDI. Further, SSEE may lead to an increase in gross enrolment ratio and literacy rate and an increase in gross enrolment ratio and literacy rate may help in increasing the HDI.

Chapter 20 analyses how diverging bank credit affects macroeconomic performances of the Indian states, through an alternative approach of composite indicators-based rankings of States adopting the methodology of TOPSIS. The results show that wealthier and better performing states continue to attract the larger chunk of bank credit, while weaker states have not been able to catch up. The study thus prescribes putting more emphasis on higher levels of credit growth for weaker states to achieve a degree of income convergence throughout the Indian economy.

Chapter 21 analyses the security and secrecy challenges, together with the necessities, the danger involved and proposed secured blockchain-based framework which is capable of future research scope in the e-healthcare under Industry 5.0. The study has described an Eye Hospital case study that stores the eye donors' details. With such critical scenario, the study addresses healthcare scenario with poverty-led agenda and social developmental features.

Chapter 22 aims to conceptualize the exclusion of Dalits within a rigorous quantitative structure for all the districts of India using both the positive and negative aspects of social indicators and the results show a close relation between Dalit exclusion index and a number of variables. General impression is that as the general well-being of people rises, there is a fall in the Dalit exclusion, also that public policies have a strong effect on Redresser of Dalit exclusion. Policy-makers should give emphasize the three pillars of human development such as health, education and livelihood to counter Dalit exclusion.

Chapter 23 goes for examining convergence in forest products in West Bengal, India, and observes both absolute convergence as well as conditional convergence,

but significant sigma divergence has been found. Hence, growth rate of total output of forest products along with growth rate of income from forestry has been falling in all three forestry regions of West Bengal under the study. But their variances do not converge, that is, the dispersion rises.

Chapter 24 examines mothers' educational profiles and ascertains the extent to which their education influences their children's educational attainments. The results show that woman's education has a direct role in enhancing the overall welfare of children, and thus, indirectly improve the economic status of the family. The results provide definite causal connections between a mother's education and children's educational attainment.

Chapter 25, the last one in the book, deals with the disparities in different paddy production and irrigational facilities in different blocks of the Paschim Medinipur District of the West Bengal State in India in order to justify the inclusiveness via different channels. The results show positive association between the two and prescribe inclusive arrangements of irrigational facilities to all the blocks under the district to have long-run solutions.

The studies have dealt several issues of growth, convergence and inclusive developmental aspects of different socio-economic and environmental indicators across different groups as well as individual countries in the world. The essence of the covered studies are that socio-economic and environmental indicators becoming important factors in reducing cross country income and wealth differences, reducing levels of poverty and income inequality. The governments of the countries are recommended to take part in carrying out projects in building economic and social infrastructures to allow the under privileged section of the society to reap the benefits of them and permit them to be the part of inclusive growth and development. The process, if successfully continues, will not only benefit the particular sections of the society, it will also involve the other sections of the society to get benefits through interlink effects so that the goal of sustainable development can be achieved at a faster pace.

The contents of the book may provide thought provoking solutions to the existing problems on the global economic and social fronts and there may be the possibilities of enlargement in the literature base in this area. The readers and policy-makers will be immensely benefitted from the contents of the book.

While carrying out the book project, the editor got tremendous supports from different corners of the academic and social world. The editor acknowledges the supports of the entire Emerald Team, the contributing authors and the Foreword writer. In addition, the editor is indebted to his parents, wife, daughter and other members of the family for their sacrifice and supports to unveil the title. However, the editor is solely responsible for any error still left in the book.

Ramesh Chandra Das

Section I

Growth, Convergence and Inclusive Development Through Different Socio-economic Indicators in Groups of Countries

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Chapter 1

Globalization and Income Inequality: Evidence From Developing and Developed Economies

Anjan Ray Chaudhury, Partha Mukhopadhyay and Madhabendra Sinha

Abstract

The dynamic effect of globalization on socio-economic disparity measured by the income inequality is always a noteworthy issue of research interests. Globalization is mostly appreciated from the aspect of economic growth, but it has been blamed for influencing the imperfect competition, environmental degradation, economic inequality, etc. Under this backdrop, this chapter seeks to examine the impacts of international trade and informational globalization on income inequality in both developing and developed groups of nations of the world using dynamic panel Generalized Method of Moments (GMM) estimates. The results of first difference dynamic panel GMM estimates imply the analogous impacts of trade and informational globalization on income inequality in both developing and developed groups of nations. However, the financial and political measures of globalization have dissimilar effects on income inequality across developing and developed economies.

Keywords: Globalization; income inequality; developing countries; developed countries; dynamic panel; Generalized Method of Moments

1. Introduction

Over the years, economists have had a lot to say and argue about when it comes to distribution and inequality in distribution. According to Milanovic (2012),

Inclusive Developments Through Socio-economic Indicators: New Theoretical and Empirical Insights, 3–13

doi:10.1108/978-1-80455-554-520231001

income inequality has increased significantly, and some of the figures presented by the author confirm this fact. Using purchasing power parity (PPP), it is possible to identify that in 1820, Great Britain and Holland, the two wealthiest countries at the time, were only about three times richer than China and India, the two poorest. The richest-to-poorest ratio is more than 100 to 1.

Furthermore, according to Milanovic (2015), where a person is born accounts for 60% of their personal income, and the social status of their parents accounts for another 20%. Thus, 80% of income is explained by these two factors, showing that there is no social mobility resulting from effective income distribution worldwide. For neoclassical theory, globalization would reduce inequality in the world as a result of international convergence (Costinot & Vogel, 2010) (Heckscher-Ohlin model and one of its theorems, the Stolper-Samuelson theorem, 1941). Opening to trade would increase the real and nominal return of the abundant factor in a country and, conversely, cause a fall in the real and nominal return of the country's scarce factor. But capital continues to be destined more for rich countries than for poor ones; several numbers show this. According to the author, the worst is that a new flow of capital has increased considerably from developing to rich countries. In economics, it has been a stylized fact that globalization directly interferes with income and wealth inequality. Several studies in this direction reach opposing results, and it has yet to be possible to reach more consistent conclusions about the effects of these variables on income and wealth inequality.

The region with the greatest inequality is the Middle East and North Africa. Southeast Asia's inequality rate in 2021 was at the 0.5434 percentile, up from the 0.4641 percentile in 1990. In Europe, inequality is at its lowest (0.2804 percentile in 2021, compared to 0.3798 percentile in 1990). First, let's define two fundamental terms used in this analysis to measure economic inequality: national income and wealth. The total annual income of all citizens of a certain nation is known as its national income. There are many different types of income, but generally speaking, there are two main sources: revenues derived from an individual's work (such as wages or salaries) and incomes derived from an individual's possessions (e.g. interest and dividends). The total worth of all the assets possessed by people in a nation is what is referred to as its national wealth.

It is stock produced by price effects and capital accumulation (from savings or money that has not been spent). Global income is €86 trillion ($122 trillion) in 2021, whereas net wealth is €510 trillion, which is six times this amount. In 2021, the typical adult will earn €16,700 or PPP €1,390 per month (equivalent to $23,380 and $1,950, respectively), while their average wealth will be €72,900 ($102,600) (or €98,600, or $139,000, when all public assets and private non-profit assets are taken into account). These average values conceal significant disparities between nations and citizens. Fig. 1 presents a brief report on the income and wealth equality across the globe in 2021.

Thus, this essay intends to identify the socio-economic impact of globalization measured in terms of income inequality on a comparative basis between the groups of developing and developed countries across the world over the period from 1990 to 2019. For this purpose, an elaborate literature survey is conducted in the next section about the impact of globalization and income and wealth inequality.

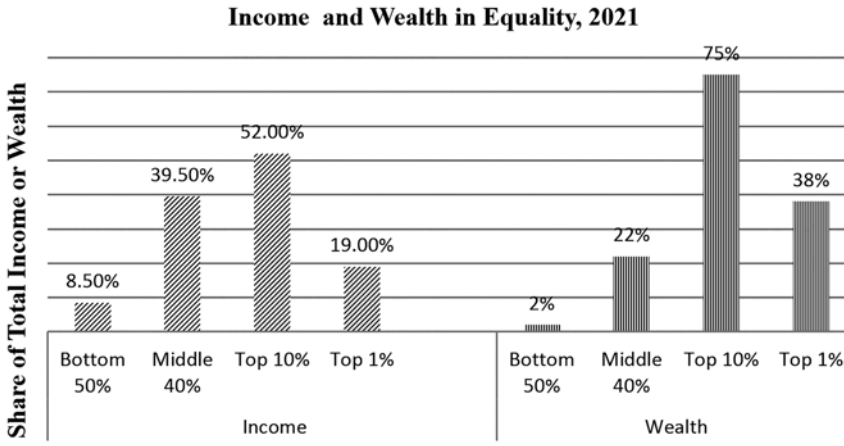

Fig. 1. Global Income and Wealth Inequality 2021. *Source*: Compiled by the authors using the data of World Inequality Report: https://wir2022.wid.worldb

The rest of the chapter is organized as follows. The next section presents a brief survey of allied literature followed by the description of data and methodology. Empirical results are discussed thoroughly before the conclusion of the study in the final sector.

2. Literature Survey

Issues related to distribution and inequality of distribution have been controversial and the subject of debate among economists over the years. Describing how distribution was treated in classical theory, neoclassical theory and Keynesianism is fundamental to understanding it in the contemporary social sciences. Thus, this section will analyze authors who considered distribution essential for economic theory, such as Adam Smith, Karl Marx, Alfred Marshall, Arthur Cecil Pigou and John Maynard Keynes. For classical authors, from Smith to Marx, inequality and the distribution of surplus was a central topic. The surplus was a fundamental concept and depended on institutional arrangements, which can be changed, being the basic ethical criterion (Martins, 2013).

Marshall and Pigou, from the Neoclassical School, analyzed direct and indirect effects of inequality. The main difference between these authors and the classics resides in the analysis of Marshall and Pigou's direct effect, which is measured in terms of utility (Rocha, 2016). Keynes was concerned with issues of distribution and the consequences that their impact on the economy has for well-being, essentially highlighting issues related to demand. Classics range from Adam Smith to Karl Marx, including Jean-Baptiste Say, David Ricardo, Thomas Robert Malthus and John Stuart Mill. According to Martins (2013), in Classical Political Economy, regarding the question of distribution, the economic analysis is focused on the distribution of the economic surplus.

Martins (2021) explains that for Adam Smith, the division of labour was limited by the size of the market, as only production in greater quantity allowed the division of labour and, consequently, an increase in productivity. The increase in productivity allows for the existence of profits, which originate savings, which are reinvested in capital and allow for a greater division of labour and increased productivity. In this way, economic growth enters into a virtuous and sustainable cycle. According to Martins (2014), wages would remain at the subsistence level as a result of competition between workers. The difference between total output and wages represents the economy's surplus, which is distributed between incomes and profits. For Ricardo, it was the profit of agriculture that determined the profit of the economy. Ricardo's major concerns were land price and income level (Piketty, 2014).

In parallel with the increase in income, wages increase so that workers can buy what is produced at higher prices. Thus, capitalists were worse off because they had to pay higher wages and landowners were better off as rents rose as worse soils were used (Lewis, 1954). Unlike Smith's perspective, in which everyone gradually got better as the division of labour increased, in Ricardo's world, only the landlord won. Ricardo considered that the agricultural activity had diminishing returns, which resulted in a decrease in productivity and consequently in the profits of the agricultural activity, and that would lead to a redirection of investment towards industrial activity, increasing the competition in this activity, which led to a decrease in profits in the industry as well, without profits, there is no savings for capital accumulation and economic growth would end up stagnating (Kaldor, 1961).

According to economists (Berg & Ostry, 2011) the International Monetary Fund (IMF), societies with greater levels of equality are more likely to sustain growth over the long run. According to other IMF research on inequality, the growth of the financial sector not only 'enlarges the pie' by fostering economic expansion but also distributes it more fairly; higher income inequality in developed nations is linked to higher debt levels – both domestically and abroad; and while fiscal consolidation is necessary for the medium term, applying the brakes too quickly can harm employment and lower wages, thereby escalating inequality.

Economic growth was not sustainable in the long run because of population growth. While the population grew in a geometric progression, the amount of arable land grew arithmetically (Houghton, 1994). Thus, population growth will always be higher than the total product growth rate, so per capita growth tends to decline (Barro & Grilli, 1994). Thus, the greatest threat to economic growth is overpopulation (Engerman & Sokoloff, 1994). John Stuart Mill (1884) and Rocha (2016) argued that production essentially depended on technology, and distribution did not depend on productivity but on social institutions. For the author, technology already made it possible to produce in sufficient quantities, so economic growth was not a problem, as it depended on technology; hence the fundamental issue to be resolved in the future would be the creation of institutional arrangements that allow for a better distribution of income.

The big question for the classics is the determination of the distribution of the surplus between the social classes, that is, between wages, profits and rents that lapses the whole process of economic development (Currie, Murphy, & Schmitz, 1971). When surplus is used by productive classes, the economy prospers. When

the surplus is used by unproductive classes, the economy stagnates or declines (Gough, 1972). Pigou and Aslanbeigui (2017) considered that the economic well-being of a person in a given period of time depends on the income he consumes and not on the income he receives, so the richer an individual is, the smaller the proportion of income it will consume.

'Effective demand' is the term used by Keynes in his General Theory (1936) to represent the forces that determine changes in the scale of production and in employment as a whole. According to Milanovic a series of data from several countries, considering the period from 1988 to 2005, found a Global Gini index of 0.70, which represents a very high inequality. The richest 10% receive about 56% of all global income, while the poorest 10% receive about 0.7%. The ratio between deciles is 80 to 1. In rich countries, this ratio is better, 10 to 1. The richest 5% hold 37% of global income. The ratio between the top and bottom of the pyramid is about 200 times. If we look in PPP terms, the richest 10% receive more than two-thirds of world income, and the richest 5% about 45%. For Atkinson (2015), globalization begins by influencing inequality through the use of labour. Advanced economies face greater competition from countries where wages for less skilled professionals are lower.

On the other hand, these more advanced economies demand more qualified labour. Thus, according to the author, the story is told in terms of two groups of workers, the skilled and the unskilled. Given this, and the concepts of supply and demand for skilled and unskilled labour, and wage premium, the author demonstrates that the higher the relative price of the good that depends on highly skilled labour, the higher the wage premium for skilled workers (Topel, 1997). Thus, if globalization implies countries importing cheaper manufactured goods, the market equilibrium wage ratio skews unfavourably towards unskilled workers (Harrison & Rodríguez-Clare, 2010). Less rich countries receive more direct investment from abroad, as they are poorer and tend to have lower wages generating higher returns than investments in rich countries (Jensen, 2003).

The poorest countries can take advantage of the technology developed by the richest countries without investing in R&D (Howitt & Mayer-Foulkes, 2002). Specialization in the production of goods in rich countries would help developing countries to develop more quickly; poor countries would also take advantage of policies and institutions that have proven to be better at generating well-being (Hidalgo, Klinger, Barabási, & Hausmann, 2007). According to Krishna, capital continues to be destined more for rich countries than for poor ones (Krishna, 2002). A new flow of capital has increased considerably from poor to rich countries. Regarding the sharing or use of already developed technologies, it should be noted that, according to the new theory of growth, technology is an excluded good; that is, you can charge for its use (Van Dijck, 2009). Therefore, developing countries have to pay for the use of these technologies. With the frustration of these two elements, capital flow and technology, globalization has not been favourable to developing countries (Bhagwati, 2004). The above mentioned background concludes to the need for a study to examine the dynamic effect of globalization on economic inequality comparatively between developing and developed economies across the world.

3. Data and Methodology

In order to examine the socio-economic impact of globalization measured in terms of income inequality on a comparative basis between the groups of developing and developed countries across the world over the period from 1990 to 2019, the study intends to measure globalization in terms of trade, financial, informational and political aspects as per the database of KOF Globalisation Index (2020). The study also utilizes the country wise World Income Inequality Database (WIID) of the United Nations University – World Institute for Development Economics Research (UNU-WIDER) (2020). The World Development Indicators of the World Bank (2020) provides the entire dataset of all variables across selected 69 developing[1] and 47 developed[2] countries.

In order to address the endogeneity issues, the study applies the GMM strategy as suggested by Arellano and Bond (1991) in the dynamic panel structure. First, the study uses panel unit root tests from Levin, Lin, and Chu (2002) and Im, Pesaran, and Shin (2003) to examine the stochastic characteristics of variables before doing the dynamic panel regression analysis. The GMM method described by Arellano and Bond (1991) is frequently used in dynamic panel models with fixed effects. In this method, the fixed effects are first removed by using first-differenced forms of equations, and then models integrate instrumental variables. The tests conducted by Sargan (1958) and Hansen (1982) verify the validity of the instruments. The dynamic panel equation with one-period lag is presented by equation (1).

$$y_{it} = \alpha_i + \theta_t + \beta y_{i,t-1} + X'_{it}\eta + \varepsilon_{it} \tag{1}$$

where α_i, θ_t and X_{it} denote the fixed effect, the time dummy and the vector of $(k-1)\times 1$ exogenous variables, respectively, and $\varepsilon_{it} \sim N(0, \sigma^2)$ represents the random disturbances. The fixed effect model is more appropriate than the random effect model in the vast majority of scenarios using this sort of panel data

[1]Afghanistan, Algeria, Angola, Argentina, Armenia, Azerbaijan, Bahrain, Bangladesh, Barbados, Brazil, Brunei Darussalam, Cambodia, Chile, China, Colombia, Congo, Costa Rica, Cuba, Ecuador, Egypt, Ethiopia, Fiji, Georgia, Ghana, Guatemala, India, Indonesia, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao PDR, Lebanon, Malaysia, Maldives, Mauritius, Mexico, Micronesia, Mongolia, Morocco, Myanmar, Nigeria, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Somalia, South Africa, South Sudan, Sri Lanka, Sudan, Tajikistan, Tanzania, Thailand, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen and Zimbabwe.

[2]Albania, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Greenland, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Jersey, South Korea, Latvia, Lithuania, Luxembourg, Macau, Macedonia, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Spain, Sweden, Switzerland, Taiwan, Turkey, United Kingdom and United States of America.