INTERNATIONAL TRADE, ECONOMIC CRISIS AND THE SUSTAINABLE DEVELOPMENT GOALS

EDITED BY

TONMOY CHATTERJEE

International Trade, Economic Crisis and the Sustainable Development Goals

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INVESTOR IN PEOPLE

To my little princess Trishita (Buri).

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Preface

Navigating Global Challenges

In an ever-shrinking world, the intricate web of international trade has bound nations together in unprecedented ways. Economic globalisation, with its promises of prosperity and progress, has reshaped the landscape of our interconnected planet. Yet, it has also unveiled vulnerabilities that transcend borders, reverberating in the wake of economic crises, and casting a shadow over our shared goals for sustainable development.

In this curated collection, we embark on a journey through the intricate nexus of International Trade, Economic Crisis, and the Sustainable Development Goals (SDGs). This book represents a collaboration of brilliant minds, each contributing their unique perspectives and expertise, to illuminate the complex interplay between these three critical facets of our contemporary global landscape.

Understanding the Interconnectedness

International trade, as the lifeblood of our global economy, holds the power to both uplift and challenge nations. The flow of goods, services and ideas across borders is a testament to human ingenuity and cooperation. Yet, the ripples of economic crises, whether spurred by financial meltdowns or unforeseen shocks, remind us of the fragility that underlies our global economic system.

The SDGs, a shared commitment by the nations of the world, stand as a beacon of hope. They articulate a vision of a just, equitable and sustainable future, promising to leave no one behind. However, achieving these goals in the face of economic turbulence and the complexities of international trade presents a formidable challenge.

Charting a Course Forward

This book endeavours to dissect this intricate tapestry. Through a series of insightful chapters, our contributors delve into the nuances of international trade dynamics, the causes and consequences of economic crises and the alignment of these forces with the SDGs. Together, we seek to answer pressing questions: How can international trade be harnessed to foster sustainable development? What

strategies can nations employ to weather economic storms while staying true to the SDGs? How do we reconcile the pursuit of economic growth with environmental and social responsibility?

As you navigate these pages, you will find a wealth of knowledge, analysis and innovative solutions. Our aim is not only to shed light on the challenges but also to inspire action. We believe that by understanding the complexities of international trade, economic crises and the SDGs, we can chart a course towards a more equitable and sustainable world.

This edited volume is a testament to the collective dedication of experts from diverse fields, all committed to addressing these pressing issues. We invite you to embark on this intellectual journey, to explore the intersections of international trade, economic resilience and the pursuit of a sustainable future.

Together, we can forge a path that leads to a world where the benefits of international trade are equitably distributed, where economic crises are met with resilience and innovation and where the SDGs are not just aspirations but lived realities.

Welcome to 'International Trade, Economic Crisis, and the Sustainable Development Goals. . ..'

Tonmoy Chatterjee
Editor

Foreword

The complex international context, with increasing polarization among groups of nations, creates additional critical issues in the achievement of the Sustainable Development Goals (SDGs) on top of the overlapping food, health, energy and economic shocks of recent years that have pushed tens of millions of people into poverty. The State of the 2030 Agenda for Sustainable Development Report explains that for 50% of the SDGs progress is insufficient or at risk, while for 30% of them (especially those related to poverty, hunger and the climate crisis) the situation is stagnant or has even worsened from seven years ago. Halfway through the 2030 Agenda so many targets are seriously off track. Progress in recent years has been slow and uneven within and among countries. The SDGs index fell from 64% in 2015 to 66% in 2019. Then, with the onset of the pandemic, progress stopped. By 2022, the index was 67%. At current trends, based on simple projections, there is a risk that the gap between high- and low-income countries will be wider in 2030 (29 points) than in 2015 (28 points).

Another aspect that should not be overlooked is the tightening of global financial conditions, which has been devastating especially for countries with high debt. Rising interest rates and borrowing costs in international markets have increased the risk of default. During the pandemic, rich countries were able to afford to invest in recovery and returned to their previous growth paths; their recovery spending was 30 times higher than that of developing countries and 610 times higher than that of least developed countries (LDCs), which could only afford $20 per person. The gap between rich and poor countries is thus widening further, and for the first time, after years of optimistic interim reports, the 2030 Agenda targets are in danger of not being met. This volume aims to examine the critical issues emerging as a result of the economic crisis by highlighting a wide range of crises, including some relevant issues, such as the pandemic crisis, the Russia-Ukraine war crisis and the financial crisis. In order to find a way out of the possible obstacle of the crisis on the SDGs, this book suggests several international trade policy measures with the addition of growth elements. To pursue this goal, the editor has divided the analysis into three parts or sections: Economic Implications of the Crisis on Sustainable Development Goals (Section 1), Recent Developments due to the Pandemic Crisis Development on Sustainable Development (Section 2) and Issues in International Trade, Crisis and Sustainability (Section 3).

The contents of this book are thus highly relevant to measuring and suggesting responses to the major asymmetries in the contemporary world, and can also play a significant role in determining policies at the margin of crises.

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First and foremost, we extend our deepest gratitude to the distinguished authors whose scholarly contributions form the backbone of this volume. Your insights, research and thoughtful perspectives have illuminated the complex interplay of international trade, economic crises and the Sustainable Development Goals. Your dedication to the advancement of knowledge in these crucial areas is truly commendable.

We would also like to thank our peer reviewers, whose meticulous feedback and constructive criticism played an invaluable role in shaping the quality and depth of the chapters within this book. Your expertise and commitment to academic rigor have enriched the content in profound ways. Our heartfelt thanks go to the entire editorial team, whose collective efforts were instrumental in bringing this project to fruition. Your tireless work in coordinating submissions, managing timelines and ensuring the overall cohesion of the book are greatly appreciated.

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immersed in the preparation of the manuscripts. Your patience during late nights and weekends spent on this endeavor is deeply appreciated.

However, any remaining mistakes or omissions are solely my responsibility, and I would appreciate it if they could be pointed out to me.

Lastly, we extend our heartfelt appreciation to the readers and scholars who will engage with this book. It is our hope that the insights within these pages will inspire meaningful dialogues and contribute to a deeper understanding of the complex challenges and opportunities at the intersection of international trade, economic crises and the Sustainable Development Goals.

With immense gratitude,
Tonmoy Chatterjee
Kolkata, India
September 2023

Section I

Economic Implications of Crisis on Sustainable Development

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Chapter 1

Economic Crisis and Challenge to Sustainable Development Goals: The Case of a Small Open Economy

Rudrarup Mukherjee

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Abstract

In this chapter, the author considers a three-sector general equilibrium model in the context of a developing nation to find out the impact of an increase in foreign capital inflow on the welfare level of the nation. Comparative static analysis reveals that an increase in the inflow of foreign capital causes redistribution across the factors of production and a reallocation of resources, reflected through the change in output. Moreover, the author considers the case of technology transfer and proves that an increase in foreign capital inflow makes the country better off in terms of social welfare even if the foreign capital is fully repatriated. Hence, this work shows that in the absence of any trade distortion, a partial investment liberalisation causes a welfare gain for a small open economy.

Keywords: Foreign capital; technology transfer; externality; welfare; economic development; general equilibrium

JEL Codes: D50; D60; D62; F4; F63; O11; O33

1.1 Introduction

In the literature of development economics, there has been a long-celebrated debate regarding the significance of foreign capital in promoting economic development of a developing nation. This issue has gradually become more important in the current age of globalisation and economic liberalisation. In this age, many developing economies have adopted the process of economic

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liberalisation to promote economic progress. Maintenance of a consistent economic growth rate is the necessary condition of economic development, and to achieve this, a developing nation needs a projected growth rate in investment and a huge import of developmental and intermediary goods. However, in reality, developing nations face two major constraints: due to high level of poverty, the national savings fails to suffice the growing need of investment (saving–investment gap), and export earnings often fall short to finance the growing import expenditure (import–export gap). Traditionally, foreign investment is perceived as the best way to bridge this dual gap and supplement the domestic capital (applicability is subject to some reasonable conditions) to raise the investment. Furthermore, this flow often takes place in the form of direct investment made by the multinational corporations involving a technology transfer from the advanced to the developing nations. Currently, policymakers and the economists focus on modernisation through technological advancement of developing nations. According to them, besides the dual gap problem, Foreign Direct Investment (FDI) inflow solves the problem of technological gap through this technology transfer. Several empirical studies have also supported the doctrine of productivity-led growth in developing nations as the result of direct investment.[1]

Some economists argue that as far as the effects of foreign capital inflow in a developing nation are concerned, there is a huge gap between theory and reality. Singer (1950) argues that the main objective of the FDI in developing nations is to exploit their unutilised natural resources and huge size of market of the host nation, not to help them develop. According to the economists belonging to the nationalist school, instead of complementing the domestic savings, foreign capital retards its channelisation. It normally dominates the market of the host nation and suppresses domestic entrepreneurship.

The economists belonging to the neoclassical school often argue that inflow of foreign capital creates job opportunity in the host nation by supplementing domestic investment. Therefore, inflow of FDI works as a remedy to the problem of high unemployment rate in the host nation. However, according to the protectionists, the main destination of the FDI is the industrial sector that uses capital-intensive technology. Hence, only the skilled workers benefit from this kind of investment. It actually widens the gap between the skilled and the unskilled labour forces.

It is really difficult to cover all the issues of the debate in one chapter. There are different aspects and dimensions of the role of foreign capital in the process of economic development of a host nation. Moreover, different developing economies have different characteristics and initial conditions. In the formation of an economic model, it is difficult to consider all conditions separately. Therefore, in this chapter, we consider a neoclassical there-sector general equilibrium model representing a small open economy considering a technology transfer associated

[1] Fredrikson (2003) and Cuadros et al. (2001)

with inflow of foreign capital and analyse the impacts of an investment liberalisation on the level of social welfare.

This chapter is organised in the following manner. Section 1.2 is about literature review. The entire system and its functioning are described in Section 1.3. Section 1.4 is based on comparative static analysis, while we consider an increase in foreign capital inflow as a result of partial investment liberalisation. Section 1.5 analyses the entire mechanism and results, and finally, Section 1.6 consists of the concluding remarks.

1.2 Literature Review

There has been a wide array of theoretical and empirical works on the impact of a foreign capital inflow in a developing nation, along with different modes of operations. Moreover, the works differ from each other in terms of initial conditions and the responsive policies adopted by the host nations. The vastness of works makes it impossible to consider all the works simultaneously. This work considers only the theoretical works, to be precise, the theoretical works considering a general equilibrium framework.

In this context, the famous Brecher-Alejandro Proposition (1977), based on the theoretical works of Bhagwati (1958), Johnson (1967), and Bhagwati (1973), is considered a benchmark model. The work of Brecher and Diaz Alejandro (1977) that considers a two-commodity, two-factor Heckscher-Ohlin-Samuelson type framework proves that under full-employment condition, an increase in the inflow of foreign capital leaves the welfare level of the country unaffected if the foreign capital and domestic capital are perfect substitutes and the foreign capital is fully repatriated. However, the same is followed by a welfare loss if the domestic import-competing sector is protected by a tariff. This is famous as Brecher and Diaz Alejandro (1977) proposition of the Trade Theory. The work of Khan (1982) examined the Brecher-Alejandro proposition in a Harris and Todaro (1970) type framework, and the result is found to be similar.

The Brecher-Alejandro proposition was re-examined by the work of Beladi and Marjit (1992a) in an H-O-S type full-employment framework characterised by the presence of an export processing zone that uses sector-specific foreign capital. This model reveals that an inflow of foreign capital causes a decline in social welfare if the country imports a relatively capital-intensive commodity and the domestic import-competing sector is protected by a tariff. Contrary to this, the expansion of Export Processing Zone (EPZ) (caused by an increase in foreign capital inflow) would bring about welfare gain if the import-competing sector is relatively labour-intensive. Another work of Beladi and Marjit (1992b) considers a three-sector H-O-S type general equilibrium model that includes one Export Processing Zone using sector-specific foreign capital. The model includes a fully employed skilled labour force, whereas the market of the unskilled labour is subject to the existence of unemployment. This work proves the validity of the Brecher-Alejandro Proposition if the foreign capital is not injected directly into the domestic import-competing sector but brings about a change in the output

composition in other traded sectors through the inter-sectoral reallocation of the existing resources. The work of Chandra and Khan (1993) is another effort to re-examine the Brecher-Alejandro Proposition in a Harris and Todaro (1970) type set up with the assumptions of capital mobility and wage flexibility in the urban informal sector. This work reveals that Brecher-Alejandro proposition remains valid if the rural sector is more labour-intensive compared to the average labour intensity of both formal and informal urban sectors. The work of Reis (2001) that considers an inflow of foreign capital characterised by knowledge spill over has proved that an economic growth fuelled by an inflow of foreign capital becomes immiserising even in the absence of any kind of commodity trade. The works of Chaudhuri (2005), Chaudhuri et al. (2006), and Chaudhuri (2007) reveal that foreign capital would generate some favourable welfare effect in some aspects like the informal sector, labour market imperfections, etc.

The model of Gupta and Basu (2004) examines the effect of an increase in the inflow of foreign capital in a Corden and Findlay (1975) type four sector general equilibrium model with the existence of a large urban informal sector producing intermediary product in subcontracts. The working of the model supports the famous Brecher-Alejandro proposition. In their works, Alfaro et al. (2010) examined the effect of the foreign capital on the economic growth of a small open economy characterised by the existence of both skilled and unskilled labour and a domestic intermediary good. The model reveals that the effect of the inflow of foreign capital on the welfare level depends upon the efficiency of the financial markets of the host nation. In their work, Chatterjee and Gupta (2014, 2015), consider a three-sector H-O type model with a subsidised health sector. This model reveals that an inflow of foreign health capital improves the welfare level of the society through the trade of healthcare services. Chaudhuri (2013) considers a three-sector general equilibrium model in which the inflow of foreign capital generates externalities in the presence of a non-traded final goods-producing sector. The efficiency of labour is determined by the level of consumption of the non-traded commodity. The model reveals that an inflow of foreign capital may increase the welfare of the nation if it is injected into all sectors. The work of Chaudhuri (2014) using a three-sector, three-factor general equilibrium model, that considers externalities created by the foreign capital inflow in the presence of a non-traded sector, examines the impact of foreign capital inflow. Comparative static analysis reveals that inflow of foreign capital may increase social welfare if foreign capital is used in all the sectors. However, an increase in foreign capital inflow would cause welfare loss if it is specific to the non-traded sector.

Mukherjee (2017) examines the Brecher-Alejandro model in an H-O type framework with two specific factors. This work reveals that an increase in foreign capital inflow can increase the welfare level in the absence of any type of trade distortion, even if the foreign capital is fully repatriated. This chapter aims at examining the Brecher and Diaz Alejandro (1977) proposition in a three-sector H-O type general equilibrium framework, while the inflow of foreign capital is associated with technology transfer which has a positive external effect on welfare (Faehn & Bye, 2011), the unskilled labour and foreign capital are sector-specific.

1.3 The Model

Here we consider a three-sector small open economy model in a neoclassical Heckshcer-Ohlin-Samuelson type neoclassical general equilibrium framework. This model consists of two specific factors: foreign capital which is specific to the foreign enclave, and unskilled labour force that is specific to the agricultural sector. There is no substitutability between domestic and foreign capital. All the factor markets are subject to full employment. All the commodity and factor markets are supposed to be perfectly competitive. The production function of each sector is subject to CES and CRS. Each factor exhibits diminishing marginal productivity. Trade is free and costless.

The factors of production are as follows:

- unskilled labour;
- skilled labour;
- domestic capital;
- foreign capital.

The three sectors are described as follows:

(1) Sector 1: Agricultural sector that uses unskilled labour and domestic capital.
(2) Sector 2: Import competing domestic industrial sector that uses skilled labour and domestic capital.
(3) Sector 3: This is a foreign enclave that uses skilled labour and foreign capital.

From the structure, it is clear that the model considers two specific factors: unskilled labour which is specific to sector 1 and foreign capital that is specific to sector 3.[2,3] The domestic capital is perfectly mobile within sectors 1 and 2. The skilled labour force is perfectly mobile across sectors 2 and sector 3. All the concerned markets are subject to perfect competition and full employment. There is no trade barrier. The production functions are subject to constant returns to scale and constant elasticity of substitution. Each factor of production is subject to diminishing marginal productivity. We further assume that an inflow of foreign capital is associated with a technology transfer that is reflected through the social welfare function in the form of a positive externality. For the sake of simplicity, we hereby consider the agricultural product as a numéraire (price = 1).

[2]This assumption is taken from the general equilibrium model of Oladi et al. (2011) in which the non-traded agricultural sector uses domestic capital and unskilled labour. If we consider the scenario of the developing nations like India, Pakistan, Bangladesh, etc. the agricultural sector uses unskilled labour with domestic capital.

[3]This assumption is found from the general equilibrium models developed by Beladi and Marjit (1992a), Beladi and Marjit (1992b), Oladi et al. (2011), Marjit and Beladi (1996), Mondal and Biswas (2015) and Chatterjee and Gupta (2013) and so on. Foreign capital is assumed to be sector specific in all the aforesaid works. This type of specification reflects the functioning of the Multi-National Corporations in the developing nations.

Let a_{ij} be the amount of factor i required to produce 1 unit of commodity j, Θ_{ij} be the share of factor 1 in the cost of production of 1 unit of commodity j.; P_j^* be the international price of commodity j, X_j be the volume of production of commodity j, D_j be the demand for commodity j, for all $i = 1, 2, 3$ and $j = L, K, S, F$. Let W_S be the wage rate of skilled labour, W be the wage rate of unskilled labour (see Appendix 1.4), r be the rental rate of domestic capital and r_F be the rental rate of foreign capital, let L, K, S and F be the respective endowments of unskilled labour, domestic capital, skilled labour and foreign capital. $U = U(.)$ be the social welfare function and λ_{ij} be the share of sector j in the total employment of ith factor.

Let us consider the equational structure of the system (See also Appendix 1.3).

The competitive zero profit condition in each commodity market implies:

$$Wa_{L1} + ra_{K1} = 1 \tag{1.1}$$

$$W_S a_{S2} + ra_{K2} = P_2^* \tag{1.2}$$

$$W_S a_{S2} + r_F a_{F3} = P_3^* \tag{1.3}$$

The full employment conditions in the factor markets imply:

$$a_{L1} X_1 = L \tag{1.4}$$

$$a_{S2} X_2 + a_{S3} X_3 = S \tag{1.5}$$

$$a_{K1} X_1 + a_{K2} X_2 = K \tag{1.6}$$

$$a_{F3} X_3 = F \tag{1.7}$$

In this system, we have seven equations and seven unknowns, i.e. $X_1, X_2, X_3, W_S, r_F, r, W$. So the system can be solved. From Eq. (1.2), we can say, given P_2^*, $W_S = W_S(r)$ and $W_S^{/} < 0$[4]

From Eq. (1.3), we can say, given $P_3^*, r_F = r_F(W_S)$, hence $r_F^{/} < 0$

So we can write $r_F = r_F[W_S(r)]$

$$\frac{dr_F}{dr} = \frac{dr_F}{dW_S}\frac{dW_S}{dr}, \frac{dr_F}{dW_S} < 0 \text{ and } \frac{dW_S}{dr} < 0 = > \frac{dr_F}{dr} > 0$$[5]

From Eq. (1.1), we can write $r = r(W), r^{/} < 0$

So $W_S = W_S[r(W)]$, $\frac{dW_S}{dW} = \frac{dW_S}{dr}\frac{dr}{dW}$, $\frac{dW_S}{dr}, \frac{dr}{dW} < 0$

[4]The competitive zero profit condition indicates that, given the price of domestic manufacturing product, an increase in rental rate of domestic capital would cause a decline in the wage rate of skilled labour to maintain the commodity market equilibrium (this is an important assumption of the famous Heckscher-Ohlin Theorem).

[5]The mobility of skilled labour across the foreign enclave and domestic manufacturing sector acts as the linkage between rental rates of domestic and foreign capital. Given the price of manufacturing good, an increase in rental rate of domestic capital would cause a decline in the wage rate of skilled labour. That would be followed by an increase in the rental rate of foreign capital in the foreign enclave. Similarly, the mobility of domestic capital across the domestic agricultural and manufacturing sectors plays the linkage between skilled and unskilled wage.