



Prospects of Circular Economy towards International Trade in Bangladesh

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Abstract

Circular economy invents a new horizon to struggle with scarce natural resources and environmental injury in Bangladesh. Circular Economy can amplify the potentials of international trade of Bangladesh through accelerated economic growth. Regardless of satisfactory growth, Bangladesh has to struggle to achieve trade balance and sustainable environment in near future. It requires a transition from traditional system to circular system of production and consumption. In this backdrop, the study aims at developing a model to show how circular economy can accelerate international trade volume and bring trade balance through the amplification of economic growth. Following the inductive reasoning approach with critical review of empirical literature, the study arrives at a model which explains how trade can be accelerated with trade balance through economic growth owing to the transition to circulation economy. It concludes with the recommendation of preferential trade policy, government intervention, and international cooperation.

Key Words: Circular Economy, International Trade, Economic Growth, Inductive Reasoning Model.

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1. INTRODUCTION

Circular economy invents a new horizon to struggle with scarce natural resources and environmental injury in Bangladesh. The circular economy moves from consumption to production in a spherical way which protects the environment and makes a deposit of productive resources. The transition of linear economy to circular economy ensures the optimized use of resources with constraints, economies of scale and a balance between economic development and ecological security. The nonlinearity of circular economy paves the way to sustainable living. In Bangladesh, linear mode of economic activities results in ecological disasters and multiple disequilibria among economy, ecology and human life. Bangladesh's economy requires a new mode of production and a change in consumption pattern. The country is working persistently to reach the double digit GDP growth rate, enlarge international trade along with achievement of Sustainable Development Goals (SDGs). Bangladesh suffers from the trade deficit in each fiscal year. The journey towards growth and development is embraced with environmental disasters and climate change. The circulation minimizes negative externality and social marginal costs. Circular economy builds resilience to mitigate the environmental disequilibria. Circular mode of economic activities brings the benefits to both domestic and international trade. To gain competitive advantage in trade, circular mode can help the economy vibrant. The present study is intended to know, how the adoption of this circulation can bring trade balance in lieu of trade deficit. Trade balance is essential as it implies a substantial reserve of foreign currency which ensures the insurance of the economy in sudden and uncertain world crisis. Voluminous trade assures precautions from unknown risky events of global business cycle. Circular economy helps regenerate the environment at one hand and acts as a new innovation to foster the trade volume on the other. So, the study aims at proposing a model demonstrating the circulation process to trade balance. The remaining sections illustrate a review of literature, objectives, methodology, the model and conclusion.

2. LITERATURE REVIEW

The present section has conducted a profound review of existing empirical studies. A critical review on studies related to the prospects of circular economy and international trade of Bangladesh's economy has been conducted. At the end, a research question has been aroused regarding the circular economy to promote international trade economic growth of Bangladesh. Barrie and Schroder (2021) shed light on the adverse consequences and benefits of transition to circular economy. Specifically, they study the complex relationship between international trade and transition to be a circular economy. International trade can be an equipment to accelerate the transition process. It is a study of complex network among national policy, governance of international trade outflows and inflows of an economy and multilaterals agreements regarding environmental issues among countries. Authors systematically review 69 documents on this interconnected topic. The findings reveal inefficient policy measures, knowledge gap in relation to trade dynamics with the transition. Authors illustrate the suggestions to redesign policies and conduct more rigorous research. Policies should include the development of the concepts and structures of circulation enabling more trade and involvement of circular economic activities in

the agreements of free trade. The study necessitates more research on transition process and role of trade, financing of transition and geopolitical issues.

Polyakov et al. (2021) analyze the paradigm of bumper growth due to capitalism and the depletion of natural resources. Transformation to circulation process is an alternative to restrain the depletion. The authors propose few production models for circulation process at national level considering the involvement of the economy in global trade. The proposed models necessitate the involvement of small and medium entities in production process. The new production system requires digital techniques with new communication arena. The circulation process must consider the pattern of trade of the country. The circulation process stimulates the trade of processed raw materials, materials ready to process, finished items, techniques and research and development assistance. International trade facilitates circulation process in the presence of purposeful global and domestic policies, augmentation of international cooperation and cooperation of developing countries. The study recommends information availability digital means for communication between producers and consumers, industrial garden and hum and innovation.

Bellmann (2021) explores the interconnection between trade and circular economy. International trade acts a crucial role in the transformation while the economies are integrated extensively. By the virtue of comparatives advantage and economies of scale, countries can be circular economies with trade. As trade policies are not designed in accordance with circularity, the policies aimed at the fostering of transition may have adverse unintended impacts on trade. Hence, the formation of trade policy carries immense significance. The study conducts interview with policy makers, non-government researchers, firms in private sectors working in circular value chain, and international entities dealt with the concept of circular economy.

Yamaguchi (2021) focuses the policy issues of trade and circular economy. Significant linkages between trade and this circulation occur through diversified channels specifically the supply chains from products to materials and materials to products. The study explores the policy linkage between trade and circular economy. The policies of trade and circular process should be mutually independent and supportive. Supportive policies may accurate the volume of trade and circulation process. The study examines the versatile correlation between trade and circulation processes at policy level giving emphasize on multilateral and regional trade patterns. The factors such as producer responsibility maintaining environmental standards, government assistance and green general procurement can promote circulation process. The study necessitates an agenda to get trade and circular economy mutually inseparable. Significant steps should be initiated at domestic, regional and global level. In concludes with the recommendation of future research in knowledge gap of circular economy.

Lange et al. (2022) opines that circular economy is an opportunity to augment international trade. The literature implies this new concept of trade intertwined with circulation process. Academic insights include suggestions for research on trade agreements which will open a new horizon for circular economy. Authors illustrate the UK and Canada post-Brexit trade policy design in 2018 and in 2021, the design incorporates some policies for sustainable development. Consideration of sustainable development embeds the circular economy trade agreements between UK and Canada. This type of agreement may create progression of trade and a more competitive

environment to boost global trades. Though, World Trade Organization views the new mode of trade as an effective means of cooperation and trade, the traditional ideologies on trade may remain a clog. Moreover, the study implies opportunities for research augmentation on circular economy and international trade.

The above discussion ends with a research question of the influence of circular economy on international trade through economic growth. Though, notable studies have been carried out, there is no specific attempt to demonstrate a model portraying probable positive effects of circular economy towards international trade through economic growth.

3. RESEARCH QUESTION

The study has the following research question:

How can circular economy accelerate international trade volume and bring trade balance through the amplification of economic growth?

4. OBJECTIVE

The study has following objective:

To develop a model to show how circular economy can accelerate international trade volume and bring trade balance through the amplification of economic growth.

5. METHODOLOGY

The approach to the investigation of the research question is inductive reasoning in nature with the observation of environmental damage & ecological imbalance, and pattern of international trade in Bangladesh. The exploration of environment & ecology gives birth to the necessity of circular economy. In-depth exploration found environment thirsty to be rescued. The data collected from secondary sources help observe the volume of export, export composition, the volume of import, composition of import, and balance of trade. The study is also asking a model to depict the prospects of circular economy on international trade through the probable amplification of economic growth. To date, any theoretical and methodological basis is nonexistent to the newly emerged issue of circular economy and trade for Bangladesh. Hence, reviewing empirical literatures is a part of methodology. To make the solution of the research question, it has arrived at a general explanation- a conceptual model. In order to attain the objectives, a model has been developed. The study exemplifies as an applied research and the analysis is mostly qualitative in nature.

I. Pattern of International Trade

The study shows major export and import items of Bangladesh along with importing and exporting countries respectively. The trade deficit has also shown for last 15 years.

Export Items and Countries: The growth of export earnings is mainly attributable to the increase of export of frozen food, woven garments, knitwear, chemical products, plastic products, leather, leather goods, handicrafts, jute goods, teri towel, home textile, footwear, ceramic products, engineering goods, vessels and others. The major importing countries of Bangladeshi products

are USA, UK, Germany, France, Belgium, Italy, Nether lands, Canada, Japan and others (Bangladesh Economic Review, 2019).

Import Items and Countries: The imported items include primary commodities such as rice, wheat, oilseeds, crude petroleum, and cotton. The imported industrial commodities include edible oil, petroleum products, fertilizer, clinker, staple fiber, yarn and others. The mentionable item is capital machinery. The exporting countries include China, India, Singapore, Japan, Hong Kong, Taiwan, South Korea, USA, Malaysia and others (Bangladesh Economic Review, 2019).

Trade Balance: The trade balance of Bangladesh's economy records a deficit due to the larger base of import. The value of import is greater than the value of export. Table-1 illustrates the value of export, value of import and trade balance for the last 15 years.

Table 1: Trade Balance of Bangladesh (FY 2005 to FY 2019)

Fiscal Year (FY)	Export f.o.b. (including EPZ) in million US\$	Import f.o.b. (including EPZ) in million US\$	Trade Balance	Fiscal Year (FY)	Export f.o.b. (including EPZ) in million US\$	Import f.o.b. (including EPZ) in million US\$	Trade Balance
FY 05	8573	- 11870	- 3297	FY 13	26576	- 33576	- 7009
FY 06	10412	- 13301	- 2889	FY 14	29777	- 36571	- 6794
FY 07	12053	- 15511	- 3458	FY 15	30697	- 37662	- 6965
FY 08	141151	- 19481	- 5330	FY 16	33441	39901	- 6460
FY 09	15581	- 20291	- 4710	FY 17	34019	43491	- 9472
FY 10	16233	- 21388	- 5155	FY 18	36205	54463	- 18258
FY 11	23008	- 30336	- 7328	FY 19	27144	37839	- 10695
FY 12	---	---	---				

Source: Bangladesh Economic Review, 2019 & 2011.

II. The Model

The developed conceptual model is a demonstration of concepts and system which is used to comprehend the benefits of circular economy to accelerate trade and achieve trade balance through the amplification of economic growth. It includes the theme, assumptions, definitions, illustration, and diagrammatic presentation. It is named **CEIT** model (Circular Economy to International Trade) (Fig.-1).

Theme: The circular economy is a curious horizon to promote international trade through economic growth. The transition to circular economy attracts international community and makes Bangladesh a new destination for trade. The circulation will create potential markets for Bangladesh's export. Hence, in the long run, Bangladesh will enjoy trade balance.

Definitions: Circular Economy is a production system which embraces the concepts of reuse and recycles in production and consumption aims at environmental sustainability.

Trade is the function of purchasing and selling goods and services in exchange of money. International trade is the exchange of goods and services among countries. Global trade facilitate countries the opportunity to be exposed to goods and services not produced domestically.

Economic Growth is the change in total domestic production within the country no matter who possesses the factors of production in consecutive years in percentage point term. Nominal Gross Domestic Product, Real Gross Domestic and Per Capita Gross Domestic Product (Nominal/Real) resemble economic growth.

III. Assumptions

The model requires the following assumptions:

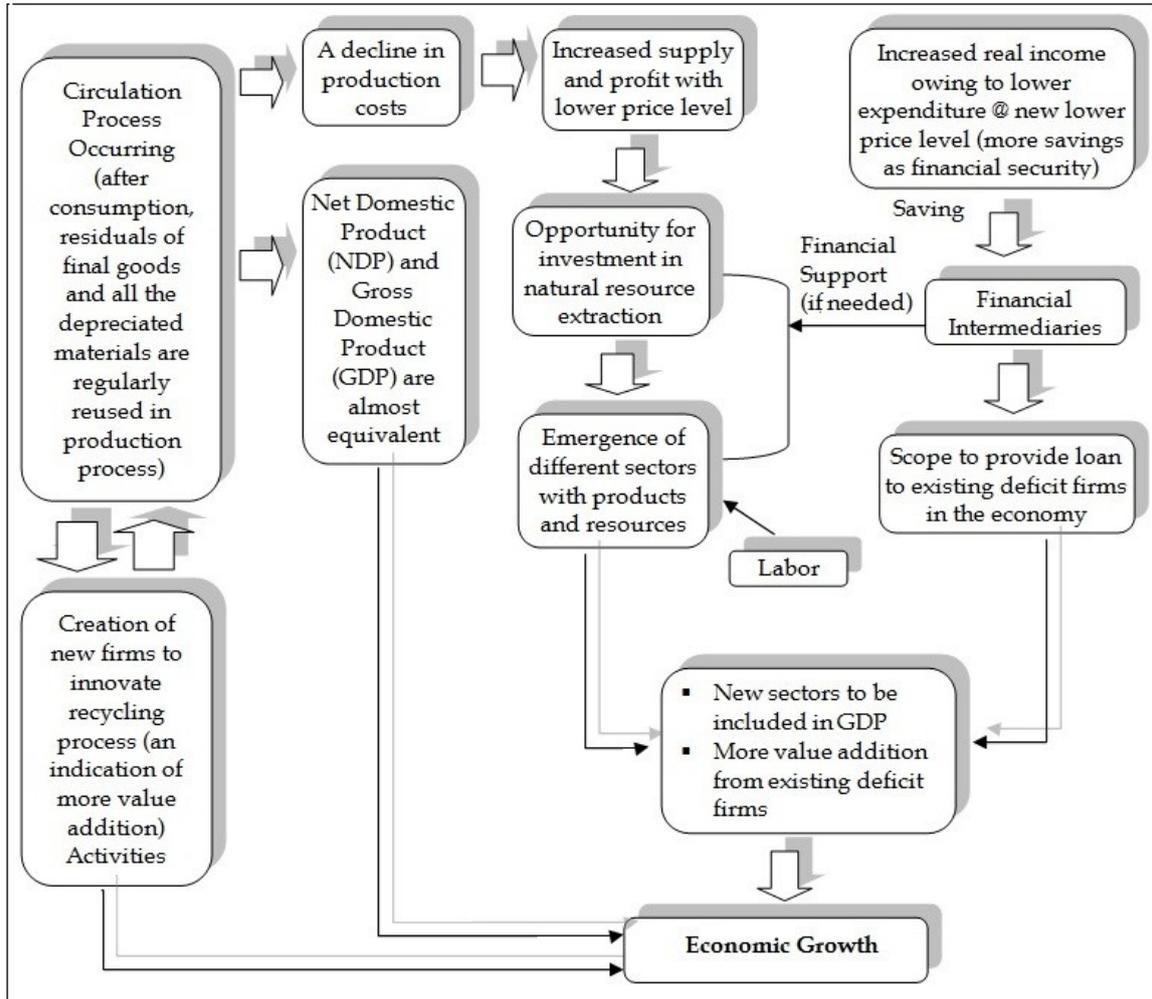
- The domestic firms are maintaining circulation process.
- At initial stage, imports of capital machineries may increase.
- The domestic financial system is working as a 'soft-load window' for extraction of new natural resources.
- The firms are aware of the changes of taste and preference of foreign buyers.
- The circulation is applied to the three broad sectors namely agriculture, industry and service.
- The degree of circulation is different among the sectors.

6. ILLUSTRATION AND DISCUSSION

The circulation procedures reuse the residuals of final goods and depreciated materials. Hence, the life of goods is not end at the end of consumption. The life cycle of all types of final goods, intermediate goods and raw materials is extended. This reduces the need of new raw materials. As depreciation cannot be adjusted with GDP as new mode of production integrate the depreciation in the cycle. So, gross and net mean minuscule difference. For recycling and reuse, new innovation techniques are invented by new firms which indicate more value addition. Reuse and recycling reduce production costs at national level. Thus, supply boosts up and profit hikes. Firms get the opportunity to make investment to extract unutilized natural resources. Firms may take financial assistance from the intermediaries if needed. The other aspects of the model cover the surplus units of the economy, labor force and new emerging sectors producing new products. GDP augments resulting from value addition of new firms, existing firms and depreciation recycling. Thus economic growth occurs.

At Phase II, economic growth enables export to be augmented and imports to be reduced. These create an opportunity of raw materials export for the surplus materials. Simultaneously, new firms of innovation techniques induce human resource mobility across countries. AS circulation keeps the environment and ecology safe from hazards, the economy becomes a new identity to protect environment. The world community prefers to trade more with new strategic policies. This enables the economy to bur gain more and creates new markets for existing and new products. Gradually trade deficits turn into trade balance.

Phase - I: Circulation Process to Economic Growth



Phase - II: Economic Growth to Trade Balance

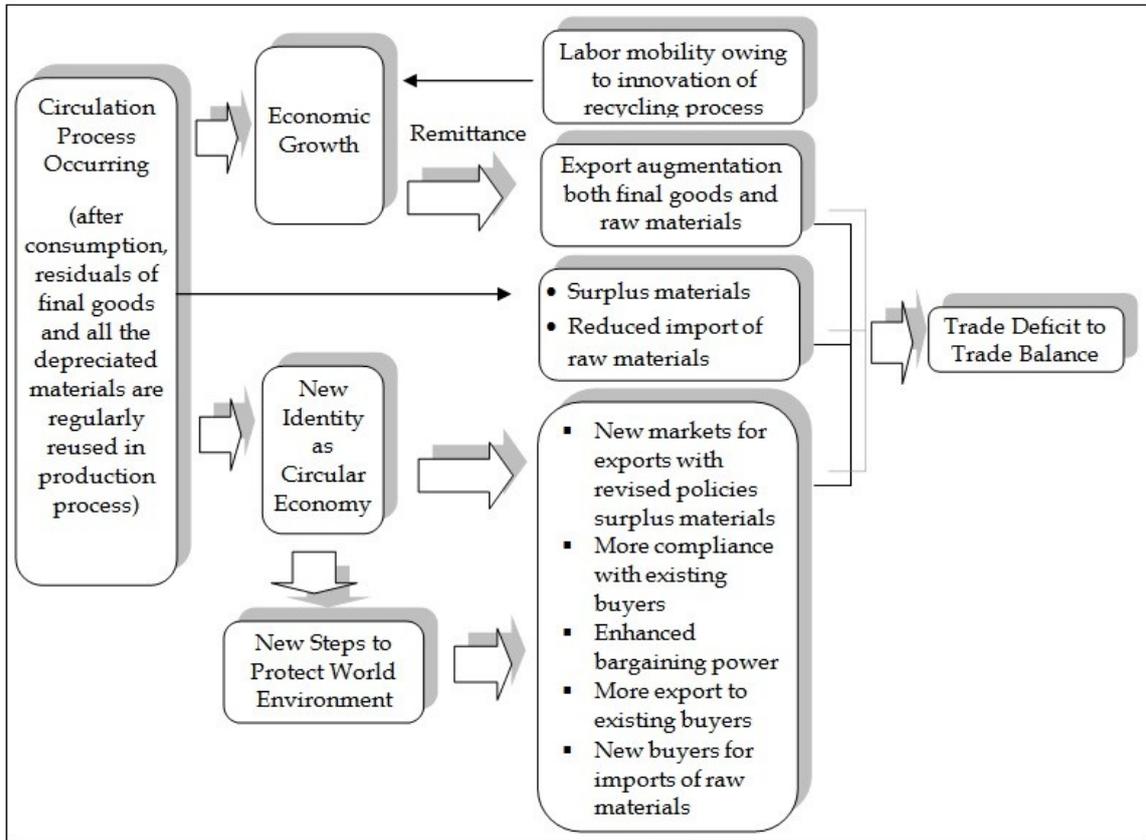


Fig.-1: CEIT model (Circular Economy to International Trade)

7. ARGUMENTS IN FAVOR OF THE MODEL

- The country can earn more foreign currency through voluminous export.
- The domestic firms will enjoy economy of scale as production increases to meet the export demand.
- The economy will enjoy a healthy financial system.
- As domestic firms will grow to meet the export demand, the economy can reach the other macro and socio-economic goals such as employment enhancement.

8. CONCLUSION

The circular economy brings numerous benefits to Bangladesh economy. The study starts with the question of how the circulation can help Bangladesh to get trade balance. The proposed model if works will, the trade balance will be generated. To get the model operated, imports of capital machinery may increase initially which enlarges the trade deficit. To combat with this issue,

government should envelop the production unit with financial and preferential policy assistance. To strengthen the trade relations, diplomatic understanding should be smooth. Nonetheless the circular economy is a concern of global climate change and environmental disasters. Hence, national, regional and global cooperation to each other is required. The study recommends trade among circulation economies to promote the circulation process of other countries. Free trade, preferential trade and quota facility for circular economy product will stimulation the transition. Bangladesh has started this transition only in a few sectors such as, plastics, apparel, garments etc. To reap the prospects of circular economy for trade balance, Bangladesh should focus more on natural resources, innovation, domestic human resource development, ecological balance, diplomatic relations and trade agreements.

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