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Competitiveness: Bangladesh's Trade in Services

Saiful Islam*

Abstract: *This study explores trade performance, contributions and comparative advantage of different services of Bangladesh. The services trade performances are examined by exports and imports basket of services, their contribution to the nation's total trade, gross domestic product (GDP), and employment generation from 2010 to 2019 using descriptive and trend analysis, while the comparative advantage of those services is measured by using the revealed comparative advantage (RCA) analysis. The findings show that other business services, transportation, and computer and information are the key exporting services, whereas transportation, travel, and other business services are major importing services of Bangladesh. Compared to agriculture and industry, the service sector contributes most to Bangladesh's GDP and employment generation. However, the total trade of Bangladesh still significantly relies on manufacturing instead of services. Findings also confirm that currently, Bangladesh has comparative advantages only in construction and manufacturing services among the eleven services analyzed. Therefore, this study urges trade policy reforms to consider the importance of services in Bangladesh's economic development and achieve sustainable competitiveness in potential services.*

Keywords: *Bangladesh, Comparative Advantage, Competitiveness, Trade in Services, Trade Policy*

1. Introduction

Services have become the engine of the global economy by facilitating global value chains (GVCs) and firms' international competitiveness (Lodefalk, 2017). Through its direct contributions to global GDP and employment and indirect contribution to manufacturing, services comprise nearly two-thirds of the global exports (Haven & Marel, 2018). It accounted for around 61% of global GDP and 63% of employment in 2015, whereas the manufacturing sector accounted for only 13% and 23%, respectively (Haven & Marel, 2018). Besides, different services are also embedded in the manufacturing activities such as research and development, engineering, transport, logistics, distribution, marketing, sales, after-sale services, IT, management, and back-office support (Miroudot & Cadestin, 2017). Services trade both as direct and indirect contributions became the primary route of economic progression, employment generation, and international competitiveness for countries.

*Assistant Professor, Department of International Business, Faculty of Business Studies, University of Dhaka, Bangladesh. E-mail: saifulib@du.ac.bd

Developed countries often show concern about the competitiveness of their services trade as it constitutes the highest share in national GDP (Seyoum, 2007). Besides, developing countries expect a shift from agriculture to manufacturing with its economic development, where services play an indispensable role (Haven & Marel, 2018). Therefore, services competitiveness is equally vital for developed, developing, and least developed countries (LDCs). Moreover, determining the competitiveness of different services helps policymakers set policy focus, organize resources, and regulate trade in services, contributing to economic development. However, services competitiveness received less attention in international trade literature than merchandise goods (Enachi, 2020; Jiang & Lin, 2020). Besides, studies concerning services competitiveness in emerging economies are scant as only developed countries are concerned about services competitiveness (Seyoum, 2007), and developing and LDCs still rely mainly on agriculture and manufacturing (Marel & Sáez, 2019).

To address this literature gap, this study explores trade performance, contributions, and comparative advantage of different services of developing and LDCs. The contributions of a particular service can be analyzed in terms of different macroeconomic indicators like GDP, per capita income, employment, and international trade (Burange, Chaddha, & Kapoor, 2010; Seyoum, 2007). Besides, the relative position of service largely depends on the trade performance of the stated service over a specified period (Woerz, 2008). Considering these facts, this study addresses the following specific research objectives, first, determining the performance and contributions of different services in a selected emerging LDC, and second, exploring the country's comparative advantage in those services. Consequently, this study addresses the following two research questions,

1. What are the current export and import basket of services, and how do those services contribute to the selected emerging LDC's total trade, GDP, and employment?
2. Does the selected emerging LDC has any comparative advantage in its different services?

As a representative of the emerging LDCs, this study considers Bangladesh, which is at the final stage of graduation from the LDC status and listed in the N-11 countries. Bangladesh is one of the five fastest-growing economies globally, moving fast towards a lower-middle-income country with a current growth rate of 8.15% (World Bank, 2021). Besides, the current GDP growth rate of Bangladesh is higher than any other country listed in N-11, and the current GDP is US$324.24 billion, which is the highest among South Asian economies after India (World Bank, 2021). Consequently, Bangladesh best represents emerging LDCs, South Asian economies, and N-11 countries. Moreover, the selection of Bangladesh in this study would be worthwhile as the services play a crucial role in Bangladesh's GDP formation and employment generation. While agriculture and industry contribute 12.65% and 28.79%, services contribute 54.63% of value-added in 2020 (World Bank, 2021). In addition, services

generated the highest percentage (40.38%) of total employment in Bangladesh in 2019 (World Bank, 2021).

This study has several contributions. This study enhances the current literature on Bangladeshi services, especially its contribution to economic development and trade competitiveness. Besides, it offers scope to the academics for further research in related areas. Besides, policymakers would be benefitted for designing national trade policy, especially in services trade, trade liberalization, and export promotion. The primary focus in trade policies of developing and LDCs is still on manufacturing goods, which need to be revisited as service has similar or even more potential to contribute to the country's total trade. A liberal trade policy focused on services would be vital for emerging LDCs like Bangladesh in developing a competitive edge in services trade. Moreover, services providers would be aided by the findings of this study by identifying and establishing the most competitive services.

The remainder of this paper is organized as follows. The section 2 presents a literature review examining the role of services in the total trade, GDP, employment, comparative advantages of services. Following that, this study's methodology is presented in section 3. Section 4 presents the analysis and relevant discussion of the major findings of this study. Lastly, the conclusion is presented in section 5.

2. Literature Review

The advent of globalization and trade liberalization facilitated global market integration and made international trade more competitive (Abbas & Waheed, 2017). In global competition, countries need to establish favorable conditions, facilitate producers' and suppliers' skills and knowledge development, generate competitive and demanding products or services to be successful (Bruneckiene & Paltanaviciene, 2012). However, countries are facing difficulties in achieving and sustaining competitiveness in different industries due to severe competition. Therefore, identifying comparative advantages and specializing in those would be crucial for nations to succeed in such competition (Sternad, Safran, & Topolsek, 2012). In this regard, as a trade apparatus, services play significantly essential roles in a country's economic advancement and thus, demand much attention to competitiveness studies (Gümüş & Hiziroğlu, 2015). However, previous studies on international competitiveness primarily focused on merchandise goods, keeping services competitiveness untapped (Burange et al., 2010; Enachi, 2020).

One of the significant concerns about assessing services competitiveness is the difficulties in defining services. Besides, the value of services trade is often underestimated and limited by unavailable comparable data (Gümüş & Hiziroğlu, 2015). Consequently, there are only a few empirical pieces of research in services competitiveness literature. Although there is no clear

and adequate definition of services, a broad consensus is available regarding the characteristics of services that distinguish it from trade in goods (Seyoum, 2007). The author mentioned that services could be electronically delivered instead of physically appearing, remotely accessible, intangible in nature, invisible, non-storable, and subject to more trade regulations. Moreover, service is a process instead of an object, making it difficult to define and measure, and unlike the cross-border movement of goods, it requires commercial presence (Burange et al., 2010; Seyoum, 2007). So, the value of services trade remains underestimated and received less attention in the scope of comparative advantage analysis and competitiveness literature.

Despite this shortage, literature regarding international trade in services is emerging in the recent period, which can be categorized as the role of services trade in economic growth on one end, and cross-border trade and comparative advantage of countries in a given service on another end (Gümüş & Hiziroğlu, 2015). Studies in the first group are conceptual, descriptive, and mostly in developed countries, especially OECD countries (Nielson & Taglioni, 2004). On the contrary, studies in the second group acknowledged the growing importance of services trade, competitiveness, and comparative advantage of countries in specific services or overall services sector (Burange et al., 2010; Fernando, 2020; Jiang & Lin, 2020; Suryawati & Lizhen, 2019). Table A1 (in appendix) lists several selected recent studies that explored the competitiveness of trade in services of different countries. Besides, most of these studies considered the country's overall services sector, while a few others revealed specific services, like travel and tourism, banking, higher education, financial, knowledge-intensive business, computer and information, etc.

Most of the studies listed in Table A1 covered services trade of countries for a broad period ranging from 1980 to 2020 but precisely concentrated between 1998 and 2015. Additionally, most of these studies are focused on the services competitiveness of developed countries, especially European Union and OECD countries, while only a few others considered developing countries, i.e., China, India, Indonesia, Pakistan, Peru, Sri Lanka, Turkey. However, none of these studies considered the LDCs in their study context except Fourie and Fintel (2009), which assessed services competitiveness in 147 countries, including some LDCs without any specific detailed focus. Fourie and Fintel (2009) focused on countries with a GDP above $100 billion in 2005, G8 and O5 countries, and considered all 147 economies only to develop a world average competitiveness index for different services. Studies listed in Table A1 also divulges that revealed comparative advantage (RCA) indices are the most frequently used and accepted measurement tools to determine the country’s competitiveness in specific services or the overall services sector.

Therefore, a general acceptance in services trade literature is evident for RCA, one of the most widely used competitiveness measures (Utkulu & Seymen, 2004). RCA measures the export share of a country's commodity relative to that of the world or selected nations (Seyoum, 2007). Comparative advantage is revealed by observed trade patterns of the country (Balassa, 1977). Several modifications have emerged on RCA measures so far. However, the most widely used is the one proposed by Balassa (1965), which is often criticized for its shortcomings. RCA index states the comparative advantage or disadvantage in the industry but provides no information behind that position (Vanitha, Kumari, & Singh, 2014). Besides, this index does not consider the effect of government distortions like quotas or subsidies. Despite these limitations, the RCA index proposed by Balassa (1965) is considered the most widely used tool to detect comparative advantages in specific sectors (Seyoum, 2007).

Table A1 (in appendix) further shows that despite this burgeoning literature on trade in services, studies focused on developing and LDCs are still scant. While services play an equally important role in these countries, services trade competitiveness researches on developing and LDCs received little attention. Previous studies are mainly concentrated on developed countries at both aggregate and sub-sectoral levels. A few studies have been found in developing countries like India and China, but no empirical research has emerged for emerging LDCs like Bangladesh. To the best of this researcher's knowledge, no previous research identified and measured Bangladesh's services competitiveness at the aggregate or specific sub-sectoral levels. Therefore, this study fills this existing literature gap by exploring the trade performances and comparative advantages of different services of Bangladesh.

3. Methodology

This study adopts a quantitative approach with descriptive analysis techniques. Although the service sector contributes significantly to the nation's economy, trade in services is severely limited by measurement, collection, and categorization (Burange et al., 2010). Besides, services trade data of Bangladesh at disaggregated level is unavailable, which severely restricts this study's scope. The available data for Bangladesh are aggregated with limited depth in each service category. Therefore, this study considers aggregated level data only and for a study period of ten years from 2010 to 2019.

This study initially identifies the trade performances of different services of Bangladesh. In this regard, the export and import composition of different services are analyzed with their contributions to the country's overall trade, production, and employment generation. To complete this performance analysis, data are collected from the corresponding repository of the World Bank on the total trade, trade in goods and trade in services as a percentage of nation's GDP, value-added by agriculture, industry, and services as a percentage of GDP, percentage of employment created by agriculture, industry, and services. Furthermore, this study also explores the comparative advantage of different services of Bangladesh using the

RCA index. To determine the export and import basket and to calculate the RCA index, data on Bangladesh's exports and imports of different services with the world exports and imports are collected from Trade Map, a reliable and authentic source of trade statistics for international business developed by the International Trade Centre (ITC) of UNCTAD/WTO.

In the data analysis, services trade performance is evaluated using descriptive statistics and trend analysis. In the trade performance analysis of different services of Bangladesh, the current value, percentage change over the period, and percentage change from the most recent period in each service industry are estimated. Besides, the trend of services contributions to GDP, employment, and total trade at various levels are also evaluated. Furthermore, in the comparative advantage analysis, this study adopts and customizes the RCA index proposed by Balassa (1965) to determine Bangladesh's services competitiveness. According to Balassa (1965), if RCA > 1, the country has a comparative advantage on the selected service, and if RCA < 1, the nation has a comparative disadvantage. RCA indices over a period reflect the changes in a country's competitive position in a particular service. Therefore, the RCA index is calculated from 2010 to 2019. Following RCA index is used in this study:

$$RCA = \frac{\frac{X_{ij}}{X_{wj}}}{\frac{X_i}{X_w}}$$

Where,

X_{ij}= Export of the jth industry from ith country

X_{wj}= World export of the jth industry

X_i= Total export from the ith country

X_w= Total export of the world

4. Analysis and Discussion

4.1 Services Trade Performance of Bangladesh

This study first explores the export and import composition of Bangladeshi services. Table 1 demonstrates the overall export performance of Bangladesh's services from 2010 to 2019. Over this period, other business services, computer and information, and transportation were evident as primary exporting services, but a noteworthy shift has been marked in recent years. While the export earnings from other business services and computer and information services have reduced over the years, it has increased from transportation, travel, and construction services. Moreover, compared to the initial year of 2010, the export value of personal, cultural and recreational, and manufacturing services also reached a significant

level in 2019. Royalties and license fees, other business services, construction, and transportation services reported the highest growth percentage in 2019 compared to the previous year.

Table 1: Export performance of Bangladesh's services for the period of 2010-2019

Export	2010	2019	2010	2019	2019	2019
	In USD		Share in % of total		as of 2010	y-o-y change in %
Total commercial services	1,236,303	3,178,110	100.00	100.00	257.07	6.88
Manufacturing	37,016	148,265	2.99	4.67	400.54	79.89
Maintenance & repair	-	3,446	0.00	0.11	-	-41.79
Transport	175,770	621,631	14.22	19.56	353.66	-5.18
Travel	81,221	388,427	6.57	12.22	478.23	9.94
Construction	6,909	379,486	0.56	11.94	5492.63	34.18
Insurance	6,841	1,665	0.55	0.05	24.34	33.31
Financial	40,841	145,800	3.30	4.59	356.99	32.03
Royalties & License Fee	517	6,955	0.04	0.22	1345.26	70.34
Computer and Information	313,248	511,501	25.34	16.09	163.29	-12.99
Other business services	572,015	949,286	46.27	29.87	165.95	8.69
Pers., Cultural & Recr.	1,925	21,648	0.16	0.68	1124.57	31.57

Source: Trade Map, 2021, author's aggregation and calculations *[Note: Shares calculated after excluding government services]*

Similarly, Table 2 presents the overall import performance of the Bangladesh's services from 2010 to 2019. While transportation, travel, and other business services were the primary importing services of Bangladesh in 2010, this composition changed over the years to transportation, travel, financial, other business services, and construction services with different levels of magnitudes in the most recent years of 2019. Besides this, personal, cultural and recreational services show the highest increase in import value in 2019 compared to 2010, followed by construction, financial, and insurance services. Insurance, personal, cultural and recreational, construction services reported the highest growth percentage in 2019 compared to the previous year, while maintenance and repair, computer and information, and transportation services showed the highest negative import growth at the same time.

Table 2: Import performance of Bangladesh's services for the period of 2010-2019

Import	2010	2019	2010	2019	2019	2019
	In USD		Share in % of total		as of 2010	y-o-y change in %
Total commercial services	4,121,927	9,333,944	100.00	100.00	226.45	0.67
Manufacturing	-	-	0.00	0.00	-	-
Maintenance & repair	-	32,492	0.00	0.35	-	-23.69
Transport	3,441,860	5,685,843	83.50	60.92	165.20	0.58
Travel	260,595	919,875	6.32	9.86	352.99	21.77
Construction	6,291	504,022	0.15	5.40	8011.79	36.65
Insurance	26,316	183,917	0.64	1.97	698.88	6597.63
Financial	45,348	927,149	1.10	9.93	2044.52	-41.61
Royalties & License Fees	17,637	47,748	0.43	0.51	270.73	14.25
Computer and Information	24,434	100,972	0.59	1.08	413.24	21.45
Other business services	299,317	906,106	7.26	9.71	302.72	25.41
Pers., Cultural & Recr.	129	25,820	0.00	0.28	20015.50	90.64

Source: Trade Map, 2021, author's aggregation and calculations *[Note: Shares calculated after excluding government services]*

The trade policy reforms of Bangladesh should acknowledge this current composition of the country's services export and import. While computer and information services are currently on the government priority list, construction and personal, cultural and recreational services in government's preference are indispensable. As a result, Bangladesh has received significant export earnings from these services in the recent period. Besides, a holistic approach from tourism bodies like Bangladesh Tourism Board (BTB), Bangladesh Parjatan Corporation (BPC), tour operators and their associations should also be initiated to improve Bangladesh's tourism destination competitiveness and receive more foreign earnings from travel and tourism services exports.

Government trade policy revision should also find alternatives to minimize current import dependency on different services. For example, Bangladesh significantly relies on international markets for transportation, travel, financial, other business services, and construction services. As a result, Bangladesh exports fewer transportation services than its significantly higher imports of the same services. Because of its import dependency on transportation services, Bangladesh ranked in the top 100 service-importing countries

globally and heavily depends on foreign firms for airlines and shipping services because of low service quality, shortage of domestic service owners, and lack of supporting facilities (Kathuria & Malouche, 2016). However, a careful policy reform could enable domestic transportation firms to grow competitively and change the country's import-dependency position towards exporters of transportation services.

In addition to these, Bangladesh should also focus on its medical and healthcare sector, higher education and capacity-building programs, and destination images. Each year, the country outlays a large amount of foreign currency by importing travel and tourism services for these purposes. Besides, the import of personal, cultural and recreational services shows a considerable increase in recent years, which matches the residents' higher per capita income and purchasing power. If domestic producers fail to offer similar or better personal, cultural and recreational services to the local consumers, a further surge in the import of these services is anticipated. Besides, trade policy should also develop competitive financial and insurance services locally where newer financial technologies could be a breakthrough.

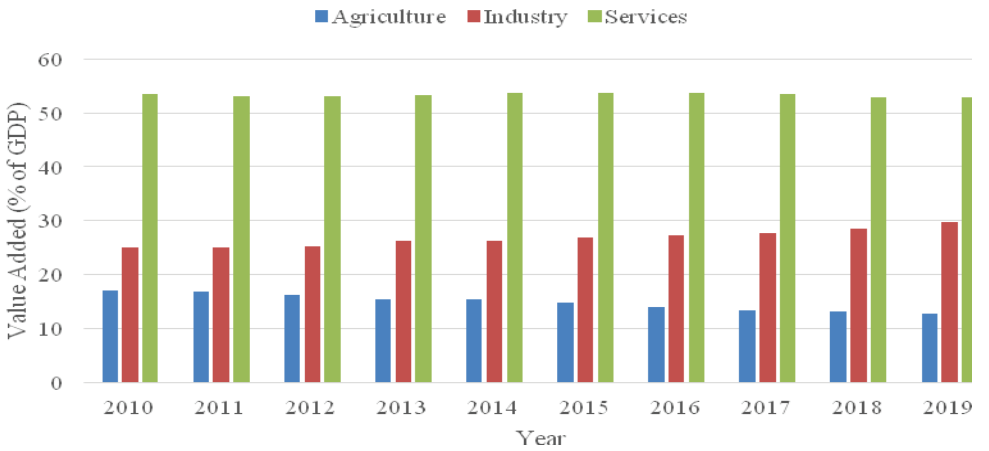
Figure 1: Different categories of trade as a percentage of Bangladesh's GDP for the period of 2010-2019

Source: World Bank, 2021, author's aggregation and calculations

This study further explores the contribution of services in the total trade, production, and employment generation in Bangladesh. Figure 1 demonstrates the total trade, trade in goods, and trade in services as a percentage of the Bangladesh's GDP for 2010-2019. Total trade as a percentage of GDP remains almost at the same place over this period with a first increase and then a gradual decrease in the middle years. The merchandise trade followed a similar trend of total trade as it dominated Bangladesh's total trade and shrunk considerably over 2010-

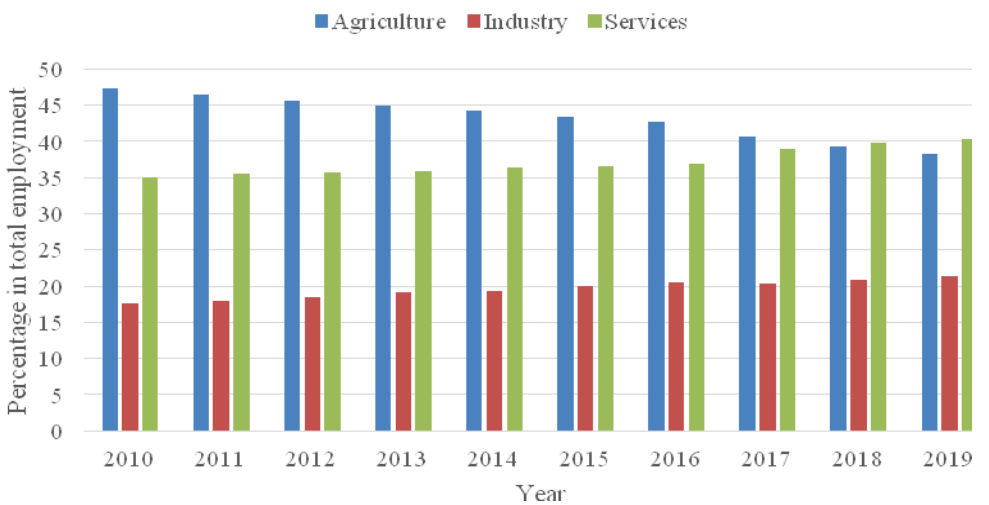
2019 from a peak of 47% to 32% in the most recent time. In contrast, trade in services as a percentage of GDP seemed quite insignificant but relatively stable over this period. It was over 6% until 2014 and then further deteriorated to around 5% in most recent years.

Figure 2: Value-added by different sectors as a percentage of Bangladeshi GDP for 2010-2019



Source: World Bank, 2021, author's aggregation and calculations

Figure 3: Percentage of total employment generated by different sectors in Bangladesh for 2010-2019



Source: World Bank, 2021, author's aggregation and calculations

However, evidence suggests that services contribute to the highest proportion of Bangladeshi GDP. Figure 2 depicts the value added by agriculture, industry (including construction), and services as a percentage of Bangladeshi GDP for 2010-2019. While services alone contributed more than half of the national GDP, agriculture and industry altogether contributed the rest. The contribution of agriculture decreased gradually from 17% to around 10%, and industry increased progressively from around 25% to 30%. In contrast, the contribution of services is steady at over 50% of the total value-added as a percentage of Bangladeshi GDP. Figure 3 illustrates the percentage of total employment in agriculture, industry, and services from 2010 to 2019. While agriculture generated the highest portion of total employment in earlier years of the study period, services replaced this position in most recent years by a gradual increase over 2010-2019. Therefore, services are currently creating the highest portion of total employment in Bangladesh.

Therefore, the alignment between services trade and services contributions in GDP and employment indicate that the higher growth of services contributions to GDP and employment goes to the local market instead of directly exporting to other countries. Considering the local market's use of services, manufacturing firms' role should not be ignored. Manufacturing firms that significantly contribute to Bangladesh's export earnings might be the vital user of this increasing service output, as servicification allows manufacturing firms to embed services both as input in the production process and as output in the bundle with goods to increase firms' heterogeneity in customer solution (Lodefalk, 2017). So, it can be assumed that Bangladesh's manufacturing firms have servicification at a significant level, supporting their trade in goods. However, only detailed firm-level data can support this proposition, which is currently unavailable. Future investigation would be worthwhile to understand the role of servicification in the production and export of Bangladeshi manufacturing firms. Besides, the usual recording problem of services trade might be another factor to show a lower services contribution in the country's total trade. The foreign investment and factor mobility, essential in services export, is often misunderstood and recorded in categories other than trade in services in the country's balance of payment.

4.2 Comparative Advantages in Services

This study further adopts the RCA index to find the comparative advantage of Bangladeshi selected services from 2010 to 2019. According to Balassa (1965), a country holds a competitively advantageous position in a particular industry when the RCA index is more significant than unity. Among the eleven services analyzed (excluding government services), only four services- construction, manufacturing, computer and information, and other business services have a RCA index of more than one at least once within the study period.

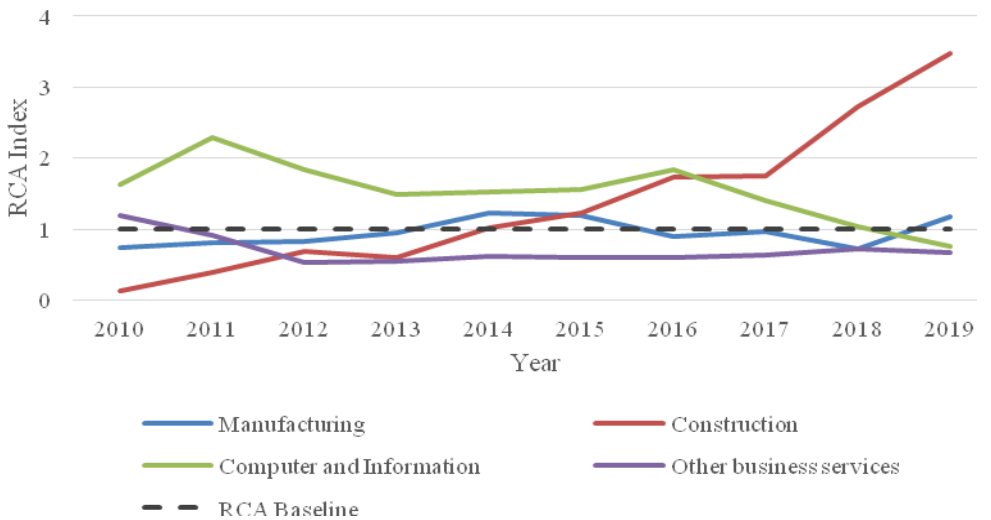
Table 3 and Figure 4 show the composition and trend of RCA values of these four services from 2010 to 2019.

Table 3: RCA index of selected services industries of Bangladesh for the period of 2010-2019

Services	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Construction	0.13	0.39	0.70	0.60	1.02	1.23	1.74	1.74	2.73	3.48
Manufacturing	0.74	0.81	0.83	0.94	1.22	1.19	0.89	0.97	0.72	1.18
Computer and Information	1.63	2.29	1.84	1.49	1.53	1.56	1.84	1.41	1.04	0.75
Other business services	1.20	0.91	0.53	0.55	0.63	0.59	0.61	0.64	0.72	0.68

Source: Trade Map, 2021, author's aggregation and calculations

Figure 4: RCA index of Bangladeshi selected services industries throughout 2010-2019



Source: Trade Map, 2021, author's aggregation and calculations

Figure 4 demonstrates that, at present, Bangladesh has comparative advantages only in construction and manufacturing services. Comparative advantage in construction services gradually increased over 2010-2019 but received notable momentum in 2017. The country's future trade policy should facilitate domestic service exporters in existing and potential markets to achieve a sustainable comparative advantage in construction services. Besides, Bangladesh's comparative advantage in manufacturing services has fluctuated throughout 2010-2019 and reached an advantageous position only in 2014-2015 and then again in 2019. As Bangladesh primarily depends on merchandise exports for its total trade, the growth in manufacturing services is also likely to increase if appropriate policies are offered. Servicification allows manufacturing firms to embed services in production and bundle different manufacturing services in customer solutions. Therefore, future policy reforms should allow expansions of manufacturing services (including provision for servicification and fewer restrictions), which would be helpful to boost both merchandise export and manufacturing services export to the world market.

Figure 4 also depicts that Bangladesh has experienced a comparative advantage in computer and information and other business services between 2010 and 2019. Computer and information services have been considered one of Bangladesh's most promising services exports to date and are still on the government priority list. Bangladesh's Information and Communication Technology (ICT) ministry is fascinated to establish a Digital Bangladesh by achieving UN declared Sustainable Development Goals (SDGs). In this regard, this state department is also working to afford the necessary ICT training and skills for young who are generating computer and information services for both locals and foreign clients. However, Bangladesh is continuously losing its competitive edge in computer and information services despite these potentials, government efforts, and international demand. Lack of digital infrastructure, slower mobile broadband connections with high prices, and uneven distribution of social awareness and inadequate digital equipment are a few reasons causing deterioration to the potential of computer and information services in Bangladesh. Finally, policy reforms and a collective effort can regain the comparative advantage in other business services, which had an RCA index more significant than one until 2010.

Therefore, a revision in the current trade policy of Bangladesh is essential. Still, the current trade policy is centered on merchandise trade, as traditionally, Bangladesh earns significant portions of its foreign earnings through different labor-intensive manufacturing exports. However, the contributions of the services in recent times indicate that Bangladesh should also carefully consider a few of its services in the overall export basket. This study confirms that construction and manufacturing are currently the top most promising services export for Bangladesh, in which country has a comparative advantage. A policy revision could also

bring Bangladesh's comparative advantage in computer and information services. Policy reforms are also required in transportation and travel services. In supporting these services, the medical and healthcare sector, higher education sector, and domestic tourism sector must be competitive. Hence, the trade policy reforms of the country require the careful inclusion of other government policies and initiatives at different levels. Such a holistic approach should not exclude the recent import-dependent services- personal, cultural and recreational, financial, and insurance.

5. Conclusion

Services play a significant role in the economic growth of a country. Countries with varying economic development levels are now more optimistic about finding and nurturing services competitiveness. This study explores the services competitiveness of Bangladesh, a representative of emerging LDCs with its global presence in different macroeconomic indicators and development trajectories and is at the final stage of graduation from LDC status. The findings show that currently, Bangladesh has comparative advantages only in construction and manufacturing services among the eleven services analyzed, while its comparative advantage in computer and information and other business services has been wiped out during the study period. Additionally, the service sector contributes more than agriculture and industry (including construction) to Bangladesh's GDP and employment. However, services account for a very insignificant portion of Bangladesh's total trade due to the country's current trade policy, which still considers the trade in goods as the primary source of export earnings.

The findings of this study provide important implications for the international trade of Bangladesh, both academically and practically. Emerging services are identified which require policy focus for building specialization and sustaining international competitiveness. Few other potential services have been identified with significant growth and share and could be sources of Bangladesh's export earnings if the necessary supporting environment can be offered. Moreover, this study enhances the existing literature on the services trade in Bangladesh. Till now, the trade policy focus of Bangladesh is on merchandise trade which traditionally undermines the required research on services trade. In addition to different developed countries, several developing and emerging economies were explored by previous researchers to find competitiveness at the specific industry and aggregate levels (see Table A1 in appendix), while any such studies focused on Bangladesh are scant. Therefore, this study is the first to identify Bangladesh's competitiveness in services trade and opened the scope for further research in this field.

Despite these notable contributions, this study is not without limitations. This study excludes the most recent year 2020, as the services trade has been severely affected worldwide from

the beginning of 2020 due to COVID-19. The services trade scenario of this period does not follow the trend of the previous decade and is hence excluded from the consideration of this study. Therefore, future studies would be worthwhile to explore and compare the services trade of Bangladesh and other countries in a post-pandemic situation with that of a pre-pandemic context. Additionally, this study relied on aggregate-level data only, which could be improved in future research. Besides, the greater contribution of services in Bangladesh's GDP and employment with a lower contribution in the country's total trade might be the cause of the servicification of manufacturing firms. However, in Bangladesh's context, the scope of servicification can only be confirmed with in-depth firm-level data, which is presently unavailable. Future research on Bangladeshi firms' servicification might address this puzzle. Future studies might apply other techniques and tools for measuring comparative advantage than the Balassa index of RCA. Balassa index only reveals the relative position of export performance of selected commodity or service industry, rather than explaining the reason behind that performance. Moreover, this index is also occasionally criticized in empirical distribution and theoretical foundation. Finally, future studies might focus on only one of the identified Bangladesh's potential services to closely examine that service's strengths, potentials, and trade constraints.

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Appendix

Table A1: List of recent studies that explored services competitiveness of different countries

SL.	*Study*	*Years Covered*	*Country in Focus*	*Scope/Industry*	*Methods applied*	*Major focus of the study*
1.	Bobirca and Miclaus (2007)	2003-2005	EU25, Romania and Bulgaria	Transportation, travel and other services	Revealed comparative advantages (RCA); comparative export performance (CEP); trade overlap (TO); export similarity (ES)	Addressed the need for competitiveness indicators that cover the service sector and sets out a multilevel framework for measuring international services trade competitiveness of selected countries
2.	Kuznar (2007)	1990-2003	Developing countries at an aggregated level	Travel, other business services, royalties & license fees, financial, construction, transport, insurance, cultural & recreational, computer & information, communication services	Observed exports share; adjusted exports share; RCA indices	Examined the international trade in services and particularly the position of developing countries in the contribution of the growth of services share in international trade
3.	Seyoum (2007)	1998-2003	Selected developing countries	Business, financial, transport and travel services	RCA indices	Analyzed the competitiveness of selected services in developing countries in relation to that of the rest of the world based on three indices of RCA
4.	Mohammadi and Yaghoubi (2008)	1998-2004	Developing countries	Travel, transportation, financial, computer and information services	RCA indices	Analyzed the competitiveness of e-services in the fields of computer and information, financial, transportation and travel in selected countries.

5.	Woerz (2008)	1999-2006	EU25 and Austria	Overall service sector	Trade performances, RCA analysis	Described the patterns of competitiveness in services sectors for EU members and differentiated between 11 individual service activities.
6.	Burange et al. (2010)	1980-2007	India	Overall service sector	RCA analysis	Analyzed services trade in India, its composition, RCA of various services and compared their growth in the pre and post liberalization period
7.	Fourie and Fintel (2009)	2005	147 economies at regional aggregation	Travel, communication, construction, insurance, financial, computer and information, royalties and license fees, other business services, personal, cultural and recreational, transport	RCA indices	Provided a snapshot of the current state of trade in services using three measures of the Balassa index to RCA, both by country and by services industry for 147 countries.
8.	Bruneckiene and Paltanaviciene (2012)	2005-2010	Lithuania, Latvia and Estonia	Total exports (merchandise and services)	Systemic, comparative and logical analysis of scientific literature and external secondary data	Created and applied practically the Baltic states export competitiveness index and provided strategic aspects for improvement of competitiveness of Lithuanian export
9.	Sternad et al. (2012)	2009	Slovenia	Transport services	RCA analysis by using Balassa index	Analyzed the exports and the imports of Slovenia in transport services, and explored the country's comparative advantages in the selected service

10.	Gümüş and Hiziroğlu (2015)	2000-2011	Turkey	Transportation, tourism (travel and cultural-recreational activities), financial and insurance, communication and computer-information, construction	Porter's diamond model and three different RCA indices- Balassa index, relative import advantage (RMA), relative trade advantage index (RTA)	Investigated the competitiveness of the selected services in turkey in comparison with the European Union (EU) and the selected EU countries
11.	Huang and Liu (2016)	2000-2010	China and Germany	Overall service sector	Scale index and RCA index in display index and trade openness in analysis index	Used the display and analysis indexes to compare the international competitiveness of service trade between the China and Germany based on the service trade data of Sino-Germany.
12.	Wyszkowska-Kuna (2016)	2000-2013	Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia	Knowledge-intensive business services	Export performance analysis, trade balance analysis and the RCA index analysis	Studied and compared the competitiveness of the new EU member states in international trade in knowledge-intensive business services (KIBS).
13.	Khan, Qianli, SongBo, Zaman and Zhang (2017)	1990-2014	Algeria, Argentina, Brazil, Chile, China, Egypt, Indonesia, Malaysia, Mexico, Morocco, Poland, Russian Federation, Saudi Arabia, South Africa, Thailand, Tunisia, Turkey, United Kingdom, United States	Travel and tourism services	Principal Component Analysis, Fully Modified OLS (FMOLS) regression	Examined the impact of air transportation, railways transportation, travel and transport services on international inbound and outbound tourism in a panel of 19 tourists - oriented countries

14.	Kakol (2018)	2008-2016	Poland	Overall service sector	Cost-price and productivity indicators and revealed symmetric comparative advantage (RSCA) index.	Examined Poland's competitive position and capacity in intra-EU28 trade in services
15.	Stefaniak and Bak (2018)	2008-2015	European Union	Overall service sector	Multivariable analysis including competitiveness areas of general, price/cost, non-price, and trade	Assessed the diversification of the competitive position of the EU member states regarding the export of services. Found no definite leader in terms of overall competitiveness of export in services throughout the period considered
16.	Fedyshyn, Abramova, Zhavoronok and Marych (2019)	2010-2017	Ukrain	Banking services	Economic and mathematical modeling and modification of the Saati method	Assessed the competitiveness of banking services through the method of economic and mathematical modeling to form the competitive advantages and positions of a banking institution
17.	Hansl, Sáez and Marel (2019)	2000-2017	Russian Federation	Overall service sector	Descriptive analysis	Identified development trends of services production and trade in the Russian federation, the potential for increasing services exports to neighboring markets and linkages to other sectors
18.	Jiang and Lin (2020)	2000-2016	China	Overall service sector	International market share (IMS), RCA and trade competitiveness (TC) indices	Analyzed the international competitiveness of China's trade in services

19.	Marel and Sáez (2019)	2000-2013	Pakistan	Overall service sector	Descriptive analysis	Determined the reasons behind the poor performance of the Pakistan's trade in services
20.	Sáez and Marel (2019)	2005-2013	Peru	Overall service sector	Firm-level analysis; Total-Factor Productivity	Examined the competitiveness of Peru's services sector
21.	Suryawati and Lizhen (2019)	2010-2017	Indonesia	Higher education services	IMS, TC, and RCA indices	Performed comparative study and empirical study to find out Indonesia's international competitiveness in higher education service trade and compared with seven other countries.
22.	Fernando (2020)	2020	Sri Lanka	Tourism services	The shift-share analysis; competitive advantage analysis	Analyzed the current tourism competitive position of Sri Lanka with a panel of five rival destinations by adopting shift-share analysis and by developing two propositions.

Note: this table is organized first in chronological order and then second in alphabetical order.