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DOES EXPORT DIVERSIFICATION PROMOTE EXPORT GROWTH IN BANGLADESH?

Abstract

Export diversification helps a country to increase export earnings and create employment opportunities, especially in labour-intensive export sectors. Product and geographical diversifications are believed to be associated with reduced volatility in export earnings and vulnerability to sharp declines in terms of trade in developing countries. Bangladesh has witnessed remarkable export growth over the last two decades. However, despite policy indicatives for diversification, exports are overly dependent on readymade garments and concentrated to European Union and North American markets. Given this backdrop, the present paper tries to derive empirical evidence on whether the level of export diversification has positive linkage with export growth in Bangladesh. In doing so, it adopts time series econometric techniques to estimate an export supply function. The empirical results reveal that even though export diversification has positive but statistically insignificant linkage with quantity of export supplied in the world market, Bangladesh should pursue the ongoing policy measures to realise statistically significant benefits of export diversification in the long run.

1.   Introduction

Bangladesh has been experiencing spectacular growth in exports for over a decade, which has emerged as a fundamental pillar of positive external sector performance, macroeconomic stability, manufacturing growth and creating employment for significant portion of less skilled and semi-skilled labour force of the country. The growth has been led predominantly by Readymade Garments (RMG), which is primarily concentrated on few major geographical destinations like European Union (EU), the USA and Canada. However, it is widely argued that overly reliance on one or few items in export basket and high geographical concentration can be detrimental for export earning if the products are exposed to declining demand and the destination countries experience macroeconomic instability or financial crisis. In other words, diversified bundle of export is a protection towards unpredictable price fluctuations and sudden shocks in specific product market

and can lessen income volatility. Product and country diversification are two main dimensions of export diversification. Product diversification can influence economic growth and structural changes of a country, whereas the contribution of country diversification to export performance can be derived from exploiting economies of scope. According to Kim *et al.*[1], reduction of risks and increase in return of firms from product diversification can be enhanced by geographic diversification as additional market opportunities are opened for product diversified firms that facilitate geographic expansion. Thus, export diversification can help stabilise export earnings in the long run.[2]

According to structural models of economic development (*viz.*, Chenery[3] and Syrquin[4]), countries should diversify from primary exports to manufactured exports in order to achieve sustainable growth. Vertical export diversification could, according to the Prebisch-Singer thesis, reduce declining terms of trade for commodity-dependent countries.[5] Endogenous growth models emphasise the importance of learning-by-doing in the manufacturing sector for sustained growth.[6] Related to export diversification, Pineres and Ferrantino[7] reveal that there could be knowledge spillovers from new techniques of production, new management or marketing practices, potentially benefiting other industries. Producing an expanding set of export products can be seen as a dynamic effect of export diversification on higher per capita income growth.

Bangladesh has been witnessing transition from "traditional" (raw jute, tea, etc.) to "non-traditional" (frozen food, leather item, pharmaceuticals, textiles, etc.) items and primary to manufactured products. The improvement in diversification of export of Bangladesh results from the expansion of new export markets or destination. However, Razzaque and Raihan[8] reveals that the export base still remains narrow and undiversified even though there are some new items in the export basket of the country. The argument is subsequently

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[1] W. C. Kim, P. Hwang and W. P. Burgers, "Multinationals' Diversification and the Risk-Return Trade-Off", *Strategic Management Journal*, Vol. 14, No. 4, 1993, pp. 257–286.

[2] A. R. Ghosh and J. D. Ostry, "Export Instability and the External Balance in Developing Countries", *IMF Staff Papers*, Vol. 41, 1994, pp. 214–235; M. Bleaney and D. Greenaway, "The Impact of Terms of Trade and Real Exchange Volatility on Investment and Growth in Sub-Saharan Africa", *Journal of Development Economics* Vol. 65, No. 2, pp. 491–500.

[3] H. Chenery, *Structural Change and Development Policy*, New York: Oxford University Press, 1979.

[4] M. Syrquin, "*Patterns of Structural Change*", in H. Chenery and T. N. Srinivasan (eds.), *Handbook of Economic Development,* Vol. 2, Amsterdam: Elsevier Science Publishers, 1989, pp.1691-1753.

[5] Bleaney and Greenaway, *op. cit.*

[6] K. Matsuyama, "Agricultural Productivity, Comparative Advantage, and Economic Growth", *Journal of Economic Theory*, Vol. 58, No. 2, 1992, pp. 317-334.

[7] S. A. G. De Pineres and M.J. Ferrantino, *Export Dynamics and Economic Growth in Latin America*, Burlington, Vermont: Ashgate Publishing Ltd, 2000.

[8] A. Razzaque and S. Raihan, *Trade and Industrial Policy Environment in Bangladesh*, Dhaka: Unnayan Shamannay, 2006.

supported by Hossain and Chowdhury,[9] and Kabir[10] who demonstrate that the export basket of Bangladesh has continued to remain relatively undiversified and the comparative advantages of the country are yet to be translated into competitive advantage.

Bangladesh's position in the international division of labour and global value chain and the demand and prospects in the world market are the main drivers so far to determine the export policy of the country. Again, rapid generation of employment opportunities as envisioned in the upcoming Seventh Five-Year Plan (2016-2020) can be prompted through increased export earnings and labour-intensive jobs. The government has given special emphasis on export growth which has become double digit over the past two decades. Nevertheless, a sudden shock can be avoided through creation of a diversified export basket and destinations, which rationalises undertaking a pragmatic and effective strategy for export diversification.

Given the backdrop, it is important to understand whether the export diversification has any significant impact on export growth in the long run. This paper would add significant value in formulating external sector policies since the Sixth Five-Year Plan (2011-2015) and the Seventh Five-Year Plan (2016-2020) of Bangladesh have considerably emphasised on export (mainly product) diversification for promoting export growth and avoiding shock on export performance. Thus, the contributions of this paper are as follows. *First*, this is the first paper that examines the relationship between export diversification and export growth of Bangladesh. *Second*, it adopts an export supply function which is popular in trade modelling, but has not yet been used in providing scientific evidence on the relationship between export diversification and export growth. *Third*, it has used time series econometric techniques for a reasonable time period, which provides useful insight for policymaking and undertaking future studies. Thus, the paper has been organised as follows. After this brief prelude, a comprehensive review of literature is presented in Section 2. The present scenario of Bangladesh's export diversification is given in Section 3. Section 4 describes the methodology of conducting the empirical study. Section 5 describes the results and analysis of the empirical findings. Section 6 concludes the paper.

2.   A Review of Literature

Currently, there is no literature on scientific assessment of the relationship between export diversification and export growth. However, there are few studies that have found contradictory relationships between geographic and product diversification, including: (i) a positive linear relationship indicating complementarity between the two strategies, (ii) a negative linear relationship indicating a substitution effect between these two growth strategies, and (iii) more complex curvilinear

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[9] M. M. Hossain and S. A. Chowdhury, "Pattern and Determinants of Export Diversification in Bangladesh: An Empirical Assessment", *D.U. Journal of Marketing*, Vol. 15, 2012, pp. 109-126.
[10] Mahfuz Kabir, "Examining the Pattern of Bangladesh's Exports: Application of a Panel Gravity Model", *Jahangirnagar University Journal of Business Research*, Vol. 14, 2012, pp. 35-57.

relationships (*e.g.*, Davies *et al.*;[11] Kumar;[12] Meyer;[13] Wiersema and Bowen[14]). Farjoun reveals "under-diversification" in a given diversification path as insufficient utilisation of a given firm's fixed bundle of resources for that growth strategy. In that case, continued expansion into new countries or businesses will provide good opportunities for growth or risk reduction.[15] Conversely, Lu and Beamish imply "over-diversification" as an excessive use of the firm's resource base coupled with high governance costs leading to diseconomies of scope.[16]

Kim *et al.*[17] argue that increased geographic diversification enables firms to reduce the risk of and increase returns from product diversification, since additional market opportunities are opened for product diversified firms that pursue geographic expansion. Geringer *et al*. show that geographic and product diversification complement each other by permitting a firm to leverage its strategic rent-yielding resources from existing operations in order to increase its rents.[18] On the other hand, Hitt *et al*.[19] argue that the combination of high levels of geographic and product diversification creates synergies that enable firms to differentiate their products while incurring lower costs than non-diversified firms, which help them emerge as monopolistically competitive firms. Tallman and Li argue that geographic diversification improves the performance of low product-diversified firms by providing risk diversification and enhances the ability to exploit economies of scope.[20]

Do geographic and product diversifications help each other? Wiersema and Bowen[21] argue that they are substitute strategies, but they are exposed to a given firm's fixed bundle of resources coupled with increased coordination and control costs. Therefore, a substitution between the two is expected at least in the short run.

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[11] S. W. Davies, L. Rondi and A. Sembenelli, "Are Multi-Nationality and Diversification Complementary or Substitutive Strategies? An Empirical Analysis on European Leading Firms", *International Journal of Industrial Organization,* Vol. 19, No. 8, 2001, pp. 1315–1346.

[12] M. V. S. Kumar, "The Relationship between Product and Geographic Diversification: The Effects of Short-Run Constraints and Endogeneity", *Strategic Management Journal*, Vol. 30, No. 1, 2009, pp. 99–116.

[13] K. E. Meyer, "Global Focusing: From Domestic Conglomerates to Global Specialists", *Journal of Management Studies*, Vol. 43, No. 5, 2006, pp. 1109–1144.

[14] M. F. Wiersema and H.P. Bowen, "Corporate Diversification: The Impact of Foreign Competition, Industry Globalization, and Product Diversification", *Strategic Management Journal*, Vol. 29, No. 2, 2008, pp. 115–132.

[15] M. Farjoun, "Beyond Industry Boundaries: Human Expertise, Diversification and Resource-Related Industry Groups", *Organization Science*, Vol. 5, No. 2, 1994, pp. 185–199.

[16] J. W. Lu and P.W. Beamish, "International Diversification and Firm Performance: The S-Curve Hypothesis", *Academy of Management Journal*, Vol. 47, No. 4, 2004, pp. 598–609.

[17] Kim *et al*., *op. cit.*

[18] J. M. Geringer, S. Tallman and D.M. Olsen, "Product and International Diversification among Japanese Multinational Firms", *Strategic Management Journal*, Vol. 21, No.1, 2000, pp. 51–80.

[19] M. A. Hitt, R. E. Hoskisson and H. Kim, "International Diversification, Effects on Innovation and Firm Performance in Product-Diversified Firms", *Academy of Management Journal*, Vol. 40, No. 4, 1997, pp. 767–798.

[20] S. Tallman and J. T. Li, "The Effects of International Diversity and Product Diversity on the Performance of Multinational Firms", *Academy of Management Journal*, Vol. 39, No. 1, 1996, pp. 179–196.

[21] Wiersema and Bowen, *op. cit.*

Conversely, Kumar[22] has shown that geographic and product diversifications are negatively linked in the short run due to constraints in replicating and transferring techniques and causally ambiguous competencies between the two diversification strategies as identified by Martin and Salomon.[23] Pearce[24] reports an inverted U-shape between product and geographic diversification, which indicates that the direction of relationship between the two may alter at different levels of diversification. Hashai and Delios[25] argue that these two are likely to complement each other at certain levels of resource utilisation, while at other levels they are likely to become substitutes. However, Lederman and Klinger[26] find that "a country's export basket becomes more diversified as income rises until a relatively high level, at which point the process reverses itself and specialisation occurs." Naude and Rossouw[27] confirm this U-shaped relationship for Brazil, China, India and South Africa. As a result, the effect of export diversification on growth depends on a country's level of economic development.

There is a number of literature on the determinants of export diversification, especially of developing countries. Using the "new trade theory" Krugman[28] and Grossman and Helpman[29] explained the horizontal and vertical intra-industry trade, especially concerning the attempts to secure infant industries of developing countries, with an analysis of the determinants of human capital, and research and development (R&D) expenditures on export diversification. In this context, knowledge spillover to developing countries through openness are of utmost importance and are explained through the externalities of "learning by doing" and especially of "learning- by-exporting".[30]

According to Dogruel and Tekce[31], one of the proposed determinants of export diversification is the level of development, usually represented by the country's per capita gross domestic product (GDP), which supports both "supply-

[22] Kumar, *op. cit.*

[23] X. Martin and R. Salomon, "Tacitness, Learning, and International Expansion: A Study of Foreign Direct Investment in A Knowledge Intensive Industry", *Organization Science*, Vol. 14, No. 3, 2003, pp. 297–311.

[24] R. D. Pearce, *The Growth and Evolution of Multinational Enterprise: Patterns of Geographical and Industrial Diversification*, Aldershot: Edward Elgar, 1993.

[25] N. Hashai and A. Delios, "Balancing Growth across Geographic Diversification and Product Diversification: A Contingency Approach", *International Business Review*, Vol. 21, No. 6, 2012, pp. 1055-1064.

[26] D. Lederman and B. Klinger, *Diversification, Innovation, and Imitation inside the Global Technology Frontier*, World Bank Policy Research Paper No. 3872, Washington DC: World Bank, 2006.

[27] W. Naude and R. Rossouw, "Export Diversification and Economic Performance: Evidence from Brazil, China, India and South Africa", *Economic Change and Restructuring*, Vol. 44, Issue 1, 2011, pp. 99-134.

[28] P. Krugman, Increasing Returns, Imperfect Competition and the Positive Theory of International Trade", in G. Grossman and K. Rogoff (eds.), *Handbook of International Economics*, Elsevier, Vol. 3, 1995, pp. 1243-1277.

[29] G. Grossman and E. Helpman, *Innovation and Growth in the Global Economy*, MA: MIT Press, 1991.

[30] D. Herzer, *Export Diversification, Externalities and Growth*, University of Göttingen Discussion Paper no. 99, 2004.

[31] A. S. Dogruel and M. Tekce, "Trade Liberalization and Export Diversification in Selected MENA Countries", *Topics in Middle Eastern and African Economies*, Vol. 13, 2011, pp. 1-29.

side"[32] and "demand-side"[33] growth theories. Another potential determinant of export diversification is foreign direct investment (FDI). According to Gourdon,[34] FDI can lead to export diversification directly by entering the non-traditional export sector, or indirectly by increasing exports of traditional exports with the lowest share. Ekholm *et al*.[35] demonstrate that FDI would enter a country solely to produce for export markets in third countries, thus the growth in exports would be towards new markets or on new industries, resulting in export diversification.

According to Agosin,[36] there are potentially two different effects of export diversification. The first is "portfolio effect", which implies that the greater the degree of diversification the less volatile the export earnings. Second, there is the "dynamic effect" of export diversification. Long run growth is associated with learning to produce an expanding range of goods. This view sees growth as being the result of adding new products to the export and production basket. Agosin *et al*. suggest that producing a new product for export markets may reveal to domestic producers that there is demand in international markets for products that can be (or are being) produced domestically.[37] Sannassee *et al*.[38] state that not only the level of exports that leads to growth, but the degree of diversification of such exports or of the export base. For instance, Romer[39] has identified diversification as a factor of production in the endogenous growth model.

Trade policy of a country is also considered as a determinant of export diversification. As explained in Melitz,[40] trade liberalisation that leads to lower tariffs is expected to improve the access to foreign markets, which will eventually lead to export diversification as the country becomes capable of facing a more diverse demand from its partners. Shepherd[41] shows that export costs, tariffs and international

[32] P. Aghion and P. Howitt, "A Model of Growth through Creative Destruction," *Econometrica*, Vol. 60, No. 2, 1992, pp. 323-351.

[33] F. Fiorillo, "Rate of Growth and Sector Specialization Coevolution in A Kaldorian Export-Led Growth Model", *Structural Change and Economic Dynamics*, Vol. 12, No. 1, 2001, pp. 91-114.

[34] J. Gourdon, "FDI Flows and Export Diversification: Looking at Extensive and Intensive Margins", in J R. López-Cálix, P. Walkenhorst and N. Diop (eds.), *Trade Competitiveness of the Middle East and North Africa: Policies for Export Diversification*, Washington, DC: World Bank, 2010, pp. 13-46.

[35] K. Ekholm, R. Forslid and J. Markusen, "Export-Platform Foreign Direct Investment," *Journal of the European Economic Association*, Vol. 5, No. 4, 2007, pp. 776-795.

[36] M. R. Agosin, *Export Diversification and Growth in Emerging Economies*, Departmento De Economia, Universidad De Chile, 2007.

[37] M. R. Agosin, R. Alvarez and C. Bravo-Ortega, *Determinants of Export Diversification around the World: 1962-2000*, Departmento De Economia, Universidad De Chile, 2009.

[38] R. V. Sannassee, B. Seetanah and M. J. Lamport, "Export Diversification and Economic Growth: The Case of Mauritius", 2014, available at https://www.wto.org/english/tratop_e/devel_e/train_e/Mauritius.pdf, accessed on 30 June 2015.

[39] P. M. Romer, "Endogenous Technological Change", *Journal of Political Economy*, Vol. 98, No. 5, 1990, pp.71-102.

[40] M. Melitz, "The Impact of Trade in Intra-Industry Reallocations and Aggregate Industry Productivity," *Econometrica*, Vol. 71, No. 6, 2003, pp. 1695-1725.

[41] B. Shepherd, "Geographical Diversification of Developing Country Exports", *World Development*, Vol. 38, No. 9, 2010, pp. 1217–1228.

transport costs are all important determinants of geographical export diversification in a sample of 123 developing countries. A 10 percent reduction in any one of these factors produces a 5 to 6 percent increase in the number of foreign markets entered. Moreover, these impacts differ significantly across countries and sectors: geographical export diversification is more sensitive to export costs and transport costs in more differentiated sectors and to export costs in lower income countries. The study also states that developing countries' trade growth can take place in four dimensions: more trade in goods that existing trading partners already exchange (the intensive margin); introduction of new product varieties (the new products margin); an increase in the unit values of traded goods (the quality margin); and creation of trading relationships between new partners (the new markets margin).

Exporting to proximate markets is found to be a significant predictor of geographical diversification, which Evenett and Venables[42] argue, could be "learning effects". Shepherd[43] found that 10 percent reductions in export costs and transport costs (distance) were associated with approximately 6 percent increases in the number of export markets served. Export costs have stronger effects on geographical export diversification in poorer countries and that export costs and transport costs have stronger effects in sectors that are relatively more differentiated.

Evenett and Venables[44] demonstrate that around one-third of developing countries' export growth over the period 1970-1997 was due to the export of old goods to new markets. Hesse[45] argues that export diversification can lead to higher growth. Developing countries should diversify their exports since this can help them overcome export instability or the negative impact of terms of trade in primary products. Export diversification does play an important role in this process. The paper provides robust empirical evidence of a positive effect of export diversification on per capita income growth which is potentially nonlinear with developing countries benefiting from diversifying their exports in contrast to the most advanced countries that perform better with export specialisation.

According to Samen,[46] diversification of export products and markets destination is viewed as means to meet the challenges of unemployment and lower growth in many developing countries. However, export diversification may seem to be in contradiction with the notion of comparative advantage. In line with the Presbisch-Singer hypothesis, specialisation in a narrow group of export products exposes a country to increased instability in export earnings which can be made worse when concerned products are subject to secular declining terms of trade. This volatility

[42] S. J. Evenett and A.J. Venables, "Export Growth in Developing Countries: Market Entry and Bilateral Trade Flows", 2002, *University of Bern Working Paper*, mimeographed.
[43] Shepherd, *op. cit*.
[44] Evenett and Venables, *op. cit*.
[45] H. Hesse, *Export Diversification and Export Growth*, Washington, DC: World Bank, 2008.
[46] S. Samen, *A Primer on Export Diversification: Key Concepts, Theoretical Underpinnings and Empirical Evidence*, Washington, DC: World Bank Institute (Growth and Crisis Unit), 2010.

exposure can be mitigated, through diversification, by expanding production and trade of a variety of commodities with different price trends, which can potentially help to achieve some stability in economic performance.

3.   Policy Perspective on Export Diversification in Bangladesh

Export growth is very crucial for Bangladesh since it is largely dependent on export earnings. The export of the country experienced its transformation from primary to manufactured products and traditional to non-traditional export items as a strategy of export diversification for export growth.[47] By this time, the emergence of new products such as auto parts, electronics and light engineering is expected to contribute in gradual diversification of exports in a big way over the coming decade. The country's export base still remains narrow and undiversified in spite of some additional new items in the export basket.

The Government of Bangladesh aims to focus on both product and market diversification to extract the benefit of maximum leverage out of manufacturing sector and its competitiveness in the global marketplace. The country experienced double digit export growth over the past two decades. Yet, it is on export concentration rather than diversification in terms of export basket. Presently RMG, emerged in the late-1970s, is the main contributor to the country's export basket reaching a share of 81 percent in FY2013-14[48] but jute and jute goods dominated the export sector prior to the emergence of RMG exports, making up 70 percent of exports until 1981.[49] A fair degree of diversification is going on within RMG. Also, market diversification is taking place in RMG export — the Export Concentration Ratio (ECR) in top 15 destination countries has fallen from 88.6 percent in FY1999-00 to 82.4 in FY2013-14. ECR in RMG export to top five countries has been falling significantly, from 79.1 percent of 1999-00 it came down to 60.6 percent in FY2013-14, which indicates an increasing trend of destination diversification of RMG items, the most crucial export item. The number of countries in which export value was higher than US$1 million increased from 60 of FY1999-00 to 111 in FY2013-14. The number of destination countries of RMG of the same value has increased from 15 of 1990 to 75 in 2014. The share of RMG exports to the United States, single largest country, has decreased from 45.32 percent of FY2000-01 to 20.1 percent in FY2013-14. These indicate that Bangladesh is undergoing higher diversification in RMG exports and overall growth in geographical diversification.[50]

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[47] M Ismail Hossain and Mahfuz Kabir, "Export Promotion and External Issues: Present Status and Future Developments", in Mustafa K. Mujeri and Shamsul Alam (eds.), *Sixth Five Year Plan of Bangladesh 2011-2015: Background Papers*, Volume 1 (Macroeconomic Issues), Dhaka: Bangladesh Institute of Development Studies and Planning Commission, 2011, pp. 189-257.

[48] Bangladesh Bank, *Major Economic Indicators: Monthly Update*, Dhaka, July 2015.

[49] General Economics Division, *Perspective Plan (2010-2021)*, Dhaka: Planning Commission, Government of Bangladesh, 2012.

[50] Z. Satter, *Strategy for Export Diversification 2015-2020*, prepared as a background paper for the Seventh Five-Year Plan, Dhaka: Planning Commission, Government of Bangladesh, 2015.

Figure 1: Export Diversification Index of Bangladesh vs Its Competitors in South Asia
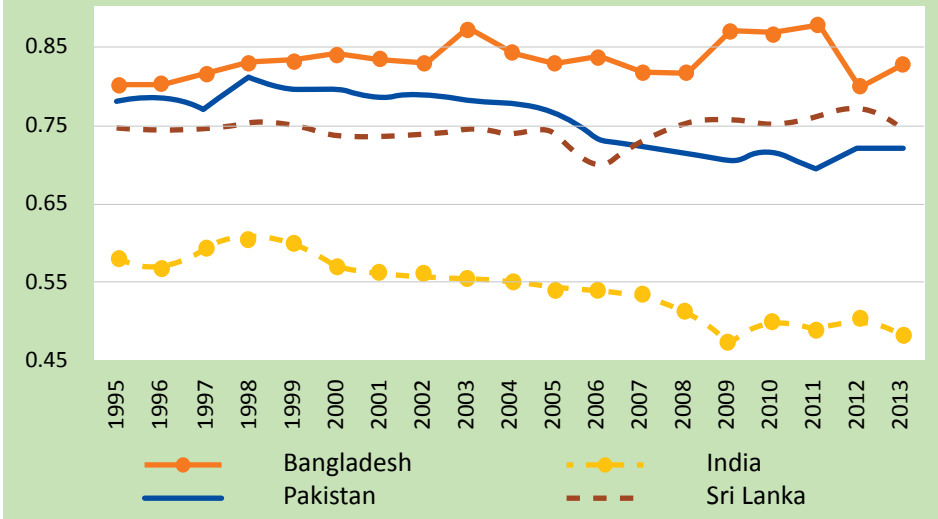
Source: Based on UNCTAD Statistics.

Export diversification is the lowest for Bangladesh in comparison with its competitors of South Asia (Figure 1). It is followed by Pakistan, Sri Lanka and India respectively. India possesses the most diversified export basket in South Asia. The export concentration in Bangladesh has increased from 1995 to 2002 and then reduced up to 2008. After that concentration, there is a trend of fluctuation of export diversification index. However, the general trend of the index value is declining since 1998 in the cases of India and Pakistan.

Figure 2: Composition of Products in Bangladesh's Export Basket
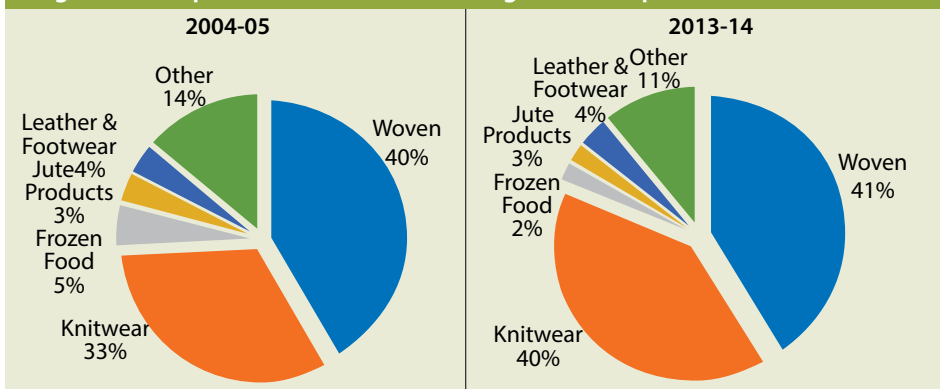
Source: Based on Bangladesh Economic Review (2006 and 2015), Ministry of Finance, Government of Bangladesh.

Data on export basket (Figure 2) reveal that Bangladesh is heavily dependent on RMG (woven and knitwear). Collectively these two contributed to the export basket by 75 and 81 percent in FY2004-05 and FY2013-14, respectively. Even though 5 percent contribution of frozen food is observed in FY2004-05, it has been lower significantly in FY2013-14 (2 percent only). Contribution of leather item and footwear has increased slightly in FY2013-14 compared to FY2004-05 (from 3 to 4 percent). This shows that still Bangladesh is experiencing very high product concentration rather than product diversification in country's export basket.

As dependence on one or few certain items can cause a severe loss ranging from a sector to throughout the economy, the government intends to avoid the unforeseen shocks through creation of a diversified export basket.[51] The government has adopted a strategy to promote export diversification according to the highest priority to several emerging potential exports.[52] These are: agricultural and agro-processing products, light engineering products (including auto parts and bicycles), footwear and leather products, pharmaceutical products, software and ICT products, home textile, ocean-going ship building industries and toiletry products.

According to Perspective Plan (2010-2021) of the Government of Bangladesh, the strategy of export diversification is to embrace many different dimensions rather than mere product diversification. Moreover, success of RMG sector due to lower labour cost promotes to exploit the benefit of export competitiveness by expansion of new export products in export basket. Again, three aspects of the trade policy regime are meaningful for export diversification and cornerstone of the export strategy.[53]

First, ensuring export competitiveness in general by addressing beyond the border constraints (*e.g.*, tariffs) at regional (through regional grouping) and global level (through World Trade Organisation) and behind the border constraints (*e.g.*, trade infrastructure, energy and telecommunications, regulations, finance) existing in the country.

Second, reducing the celebrated "anti-export" bias of the trade regime. Given the extensive evidence of anti-export bias of the current import, tariff and subsidy regime has been found to favour import substituting production over exports whereas the duty-drawback scheme to provide world priced inputs for export production has proved inadequate. Thus, eradication of the built-in anti export bias would be key to switching the incentive regime in favour of exports.

Third, reducing "anti-diversification" bias. Trade policy and incentive regime have been found to have a clear focus on RMG sector, which provides a free trade channel

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[51] General Economics Division, 2012, *op. cit.*

[52] General Economics Division, *Sixth Five-Year Plan (2011-15)*, Part 2, Dhaka: Planning Commission, Government of Bangladesh, 2011.

[53] General Economics Division, 2012, *op. cit.*

and logistic supports (duty free import of raw materials, bonded warehousing facilities, back-to-back letter of credit, rapid custom clearance) because of the spectacular success of RMG exports. This policy is appropriate for making RMG exports competitive on a global scale but attention needs to be focused on similar policy environment for emerging and potential exports without which considerable barriers are to be faced in the context of a high-tariff and restrictive import regime in Bangladesh. Thus, the existing regime of anti-diversification bias has been identified in the Sixth Five-Year Plan (2011-2015) for reduction through reforming export policy.

The background paper of the Seventh Five-Year Plan also emphasised on addressing the deficiency in hard and soft infrastructures to facilitate export diversification. It admits the fact that even though there are ongoing initiatives of diversification in RMG sector, Bangladesh still has a narrow range of exports with high concentration on a few products, which is always susceptible to adverse impact of sudden shock. Thus, the background paper suggests the country's export policy to attach high priority on devising a sound strategy for multidimensional and comprehensive basket of exports through diversification. *First,* the policy should focus on tariff and non-tariff barriers of imports and exports, better customs facilitation and anti-export bias. *Second,* focus should be on products improvements or moving up along the value chain through investment in research and development (R&D) and addressing supply side and competitiveness constraints behind the borders. *Third,* expansion of exports to respond to increased demand in regional and global market, which requires increased production (supply) of goods and services in all sectors or addressing market access (beyond the border constraints) for promoting export growth.[54]

4.   Methodology and Data

4.1   *Export Supply Function*

This paper argues that greater export diversification, *i.e.*, lower score of export diversification index, is related to higher volume of exports which is expressed in higher score of export quantum index. This relationship can be examined by adopting an export supply function of Bangladesh economy. Ahmed argues that export supply function is derived from the principle of profit maximisation of the producers, whereby elasticity of supply demonstrates the responsiveness of export volume to changes in the relative price of exportable in the imperfect substitution model of trade.[55] A country's export supply depends on its production capacity, price of the exportable, export openness, domestic and world prices, exchange rate between trading partners and level of export diversification. Production capacity can increase over time, which

[54] Satter, *op. cit.*
[55] N. Ahmed, "Export Response to Trade Liberalisation in Bangladesh: A Cointegration Analysis", *Applied Economics*, Vol. 32, No. 8, 2000, pp. 1077-1084.

in turn increases the economy's capacity to export. Joshi and Little[56] argue that an increase in export price increases export supply. The real effective exchange rate plays an important role in explaining variation in net export, particularly if a country's exchange rate is volatile, which reveals the change of a country's competitive position compared to its trade partners.

The estimation of export supply function depends on the specification of its empirical model and availability of data on the appropriate variables. For the estimation purpose, the appropriate variables pertaining to quantity of export and its price are Export Quantity Index (*EQI*) and Export Value Index (*EVI*) respectively. The Quantum Index of Industrial Production (*QIIP*) is used for measuring the production capacity of the Bangladesh economy, a part of which is used for producing exportable. The ratio of exports to real GDP (*XGDP*) has been used as an overall measure of the dominance of exports on the economy. Finally, Export Diversification Index (*EDI*) has been used to understand the relationship between diversification and direction of change of exports. The following export supply function is adopted to estimate the aggregate price elasticity:

$$\text{LEQI}_t = a_0 + a_1 \text{LEVI}_t + a_2 \text{LXGDP}_t + a_3 \text{LQIIP}_t + a_4 \text{XRER}_t + a_5 \text{EDI}_t + e_t \qquad (1)$$

where *L* indicates natural log, *XRER* is export-weighted real effective exchange rate and *e* is the white noise error term. Here, *XRER* combines nominal exchange rate, effective financial incentives, and home and foreign prices. Ahmed reveals that *XRER* is an index of export competitiveness; depreciation in *XRER* is likely to increase export supply.[57]

The export-weighted real effective exchange rate is not readily available for Bangladesh in secondary data sources like IMF's International Financial Statistics (IFS), World Development Indicators (WDI) and ADB Statistical Database and even in the existing literature. Therefore, it is calculated following Bahmani-Oskooee[58] and Bahmani-Oskooee and Mirzai.[59] At the first stage, the bilateral exchange between individual countries (*i*) and their major export countries (*j*), ER_{ij}, has been calculated. This is used to calculate real bilateral exchange rate in the following way:

$$\text{RER}_j = R_j \left(\text{CPI}_j / \text{CPI}_i \right)$$

where CPI_j and CPI_i are consumer price index of destination and local countries, respectively. In the second stage, an *RER* index has been calculated taking 1995 as base year as follows:

[56] V. Joshi and I. M. D. Little, *India: Macroeconomics and Political Economy 1964-1991*, Washington, DC: World Bank, 1994.

[57] Ahmed, *op. cit.*

[58] M. Bahmani-Oskooee, "Real and Nominal Effective Exchange Rates for 22 LDCs: 1971:1-1990:4", *Applied Economics*, Vol. 27, No. 7, 1995, pp. 591-604.

[59] M. Bahmani-Oskooee and A. Mirzai, "Real and Nominal Effective Exchange Rates for Developing Countries: 1973:1-1997:3", *Applied Economics*, Vol. 32, No. 4, 2000, pp. 411-428.

$$RERI_i = RER_i^t / RER_i^{1995}$$

At the third stage, the weighted average of $RERI_{ij}$ is used to construct an export-weighted $XRER_{ij}$ for home countries according to their export shares such that $\sum_{i=1}^{n} w_j = 1$.

Data used in the variables of export supply function come from various sources over the period 1995 to 2013. The time series of annual average official exchange rate (local currency for one US dollar), *GDP* (in constant 2000 US dollars) and Consumer Price Index (year 2000 = 100) come from the WDI online version and Bangladesh Bank's *Economic Trend*. The WDI provides data on *EQI* (year 2000 = 100) and *EVI* (year 2000 = 100). *EDI* data come from UNCTAD Statistics.

4.2   *Estimating the Export Supply Function*

Export supply functions can be estimated using multi-equation techniques, such as maximum likelihood estimator as suggested by Johansen and Juselius[60] when these are system equations. Since the function has been specified as a single equation, adopting single equation estimation techniques would be appropriate.

This paper adopts two econometric techniques to estimate the long term relationship between changes in exports and export diversification: Fully Modified Phillips-Hansen ordinary least squares (FMPH-OLS) and the autoregressive distributed lag (ARDL). However, there might be short run relationship between the two which may or may not be observed in the long-term estimates. Therefore, an error correction model (ECM) of the ARDL can provide the short term relationship between the two. Among the previous studies, Ahmed[61] applies an unrestricted version of ECM to estimate Bangladesh's export supply function. Athukorala and Riedel,[62] Sinha[63] and Rao and Singh[64] adopted the FMPH-OLS in trade modelling. The ARDL has been adopted by Bahmani-Oskooee and Kara[65] and Chen[66] in the similar context.

[60] S. Johansen and K. Juselius, "Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money", *Oxford Bulletin of Economics and Statistics*, Vol. 52, No. 2, 1990, pp. 169-210.

[61] Ahmed, *op. cit.*

[62] P. Athukorala and J. Riedel, "Demand and Supply Factors in the Determination of NIE Exports: A Simultaneous Error-Correction Model for Hong Kong: A Comment", *Economic Journal*, Vol. 104, No. 427, 1994, pp. 1411-1414.

[63] D. Sinha, "A Note on Trade Elasticities in Asian Countries", *International Trade Journal*, Vol. 15, No. 2, 2001, pp. 221-237.

[64] B. B. Rao and R. Singh, "Estimating Export Equations", *Applied Economics Letters*, Vol. 14, No. 11, 2007, pp. 799-802.

[65] M. Bahmani-Oskooee and O. Kara, "Income and Price Elasticities of Trade: Some New Estimates", *International Trade Journal*, Vol. 19, No. 2, 2005, pp.165-178.

[66] S-W. Chen, "Long Run Aggregate Import Demand Function in Taiwan: An ARDL Bounds Testing Approach", *Applied Economics Letters*, Vol. 15, No. 9, 2008, pp.731-735.

4.3   *FMPH-OLS Estimator*

The FMPH-OLS is the optimal single equation approach to estimate and draw inference when there exists such a single cointegrating relationship between a set of $I(1)$ variables. Based on Narayan and Narayan,[67] consider a linear regression model as follows:

$$y_t = \beta_0 + \beta_1 x_t + u_t;\ t = 1, 2, \ldots, 19$$

where, x_t, a $k \times 1$ vector of $I(1)$ regressors that are not themselves cointegrated, has the following first-difference stationary process:

$$\Delta x_t = \mu + v_t\ ;\ t = 2, 3, \ldots, 19$$

where again μ is a $k \times 1$ vector of drift parameters and v_t is a $k \times 1$ vector of $I(0)$ variables. Assume that $\xi_t = (u_t, v_t')'$ is strictly stationary that has a zero mean and a finite positive definite variance covariance matrix, Σ.

The FMPH-OLS estimator of β is computed in two steps. In the first step y_t is corrected for the long-term interdependence of u_t and v_t. Suppose that the consistence estimator of a long-term variance of ξ_t is

$$\Omega = \begin{bmatrix} \Omega_{11}^{1\times1} & \Omega_{12}^{1\times k} \\ \Omega_{21}^{k\times1} & \Omega_{22}^{k\times k} \end{bmatrix}$$

where the superscript demonstrates the order of the elements in the matrix. In the second step, assume

$$y^* = \left(y_1^*, y_2^*, \ldots, y_n^*\right)';\ y_t^* = y_t - \Omega_{12}\Omega_{22}^{-1}v_t;\ W = (\tau_n,\ X);\ \tau_n = (1,\ 1,\ \ldots,\ 1)';\ D_{(k+1)\times k} = \begin{bmatrix} 0_{1\times k} \\ I_{k\times k} \end{bmatrix};$$

$$Z = \Delta_{21} - \Delta_{22}\Omega_{22}^{-1}\Omega_{21}\ ;\ \text{and}\ \Delta = \begin{bmatrix} \Delta_{11} & \Delta_{12} \\ \Delta_{21} & \Delta_{22} \end{bmatrix}.$$

Then, the FMPH-OLS estimator of β can be expressed by

$$\beta_{FM-OLS} = \left(W'W\right)^{-1}\left(W'y^* - nDZ\right)$$

[67] P. K. Narayan and S. Narayan, "Estimating Income and Price Elasticities of Imports for Fiji in a Cointegration Framework", *Economic Modelling*, Vol. 22, No. 3, 2005, pp. 423-438.

4.4 *ARDL Estimator*

The present version of ARDL estimator follows the approach adopted by Pesaran *et al.*[68] and Narayan and Narayan.[69] The main advantage of this approach is that it avoids the uncertainty pertaining to unit root pretesting by allowing it irrespective of whether the variables are *I*(0) or *I*(1). Inder[70] suggests that ARDL yields precise estimates of long-term coefficients and valid *t*-statistics in the presence of even endogenous variables. Simulations of Pesaran and Shin[71] reveal that the estimates based on an ARDL model are super-consistent and valid inferences can be drawn using standard tests on long-term parameters by applying standard asymptotic theory.

Based on Pesaran and Pesaran,[72] the general form of an augmented ARDL(p, $q_1, q_2, \ldots, q_k$) model can be written as

$$\varphi(L, p) y_t = \sum_{i=1}^{k} \beta_i (L, q_i) x_{i,t} + \delta' w_t + u_t \quad ; t = 1, 2, \ldots, 19 \qquad (2)$$

where, L is the lag operator such that $Ly_t = y_{t-1}$; w_t is $s \times 1$ vector of deterministic variables including intercept; $p = 0,1,2,\ldots,m$; $q_i = 0,1,2,\ldots,m$; $\varphi(L, p) = 1 - \varphi_1 L - \varphi_2 L^2 - \ldots - \varphi_p L^p$; $\beta_i(L, q_i) = 1 - \beta_{i1} L - \beta_{i2} L^2 - \ldots - \beta_{iq_i} L^{q_i}$. The long-term estimator for the response of y_t to a unit change in $x_{i,t}$ is given by

$$\theta_i = [\beta_i(1, q_i)] / \varphi(1, p)$$

and, the long-term estimator related to the exogenous or deterministic variables with fixed lags can be expressed as

$$\psi = [\delta(p, q_i)] / \varphi(1, p)$$

Finally, the error correction representation of the ARDL(p, $q_1, q_2, \ldots, q_k$) model can be written as

$$\Delta y_t = -\varphi(1, p) EC_{t-1} + \sum_{i=1}^{k} \beta_{i0} \Delta x_{i,t} + \delta \Delta w_t - \sum_{j=1}^{p-1} \varphi_j^* \Delta y_{t-j} - \sum_{i=1}^{k} \sum_{j=1}^{p-1} \beta_{ij}^* \Delta x_{i,t-j} + u_t \qquad (3)$$

where the error correction term (EC_t) corresponding to the long-term estimators, is defined by

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[68] M. H. Pesaran, Y. Shin and R.J. Smith, "Bounds Testing Approaches to the Analysis of Level Relationships", *Journal of Applied Econometrics*, Vol. 16, No. 3, 2001, pp. 289-326.

[69] Pesaran *et al.*, *op. cit.*

[70] B. Inder, "Estimating Long-Run Relationships in Economics: A Comparison of Different Approaches", *Journal of Econometrics*, Vol. 57, No. 1-3, 1993, pp. 53-68.

[71] M. H. Pesaran and Y. Shin, "An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis", *DAE Working Paper 9514*, Cambridge: University of Cambridge, 1995.

[72] M. H. Pesaran and B. Pesaran, *Working with Microfit 4.0: Interactive Econometric Analysis*, Oxford: Oxford University Press, 1997.

$$EC_t = y_t - \sum_{i=1}^{k} \hat{\theta}_i x_{i,t} - \hat{\psi} w_t$$

In Equation (3), $\varphi_{(1,\ p)}$ measures the significance of the error correction term. The coefficients φ_j^* and β_i^* transmit to the short-run dynamics of the convergence of the model to equilibrium.

5.   Empirical Results and Analyses

Time series data are used to estimate the export supply function of Bangladesh. However, time series data tend to be non-stationary or non-random. Regression of non-stationary time series, such as $I(1)$, would result in spurious regression. In addition, the variables may be cointegrated, *i.e.*, there may be a long term or equilibrium relationship between them such that $e_t = f(y_t, x_t)$, where, e, y and x are white noise error term, dependent and independent variables respectively. Cointegration can be examined by adopting popular Johansen's[73] method, and Johansen and Juselius'[74] approaches. If two variables have an equilibrium relationship in the long run, there may be disequilibrium in the short run so that the error term can be treated as the equilibrium error. According to Granger's representation theorem, an ECM exists corresponding to a pair of cointegrated variables as suggested by Engle and Granger.[75]

The ARDL model has stronger theoretical properties in modelling the long-run relationship among the economic variables than ECM or FMPH-OLS which are based on purely statistical properties.[76] However, the fundamental assumption of this approach is that the series used in the estimation are either $I(0)$ or $I(1)$. To test the order of integration of the individual series, popular unit root tests can be performed.

For the unit root test, Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests have been applied. The results reported in Table 1 indicate that the variables used in this model are $I(1)$ except EDI which is $I(0)$. This means, ARDL would be appropriate to estimate the export supply function. The next step is to undertake the bounds test to determine the optimal lag length to be used in the single equation error-correction version of the ARDL model. The bounds test is a simple *F*-test to determine the joint significance of the lagged variables. If the calculated *F*-ratio turns out to be

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[73] S. Johansen, "Statistical Analysis of Cointegrating Vectors", *Journal of Economic Dynamics and Control,* Vol. 12, No. 2 & 3, 1988, pp. 231-254; S. Johansen, "Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models", *Econometrica*, Vol. 59, No. 6, 1991, pp. 1551-1580.

[74] Johansen and Juselius, *op. cit*.

[75] R. F. Engle and C. W. J. Granger, "Cointegration and Error Correction: Representation, Estimation and Testing", *Econometrica*, Vol. 55, No. 2, 1987, pp. 251-276.

[76] M. H. Pesaran, "The Role of Economic Theory in Modelling the Long Run", *Economic Journal* Vol. 107, No. 440, 1999, pp. 178-191.

significant against its critical value as tabulated in Pesaran *et al.*[77] and Pesaran and Pesaran,[78] there is no need to test for cointegration separately. Before going on to ARDL model, a simple ECM and FMPH-OLS estimation are performed as alternatives to ARDL approach. Pretesting of cointegration among the variables used in the ECM and PHFM-OLS estimation is necessary.

Table 1: Results of the Unit Root Tests					
	Level		First Difference		Remark
	ADF	PP	ADF	PP	
LEQI	0.785	1.384	-5.818***	-5.794***	*I*(1)
LEVI	0.389	0.610	-4.893***	-4.9***	*I*(1)
LXGDP	-0.639	-0.542	-4.003***	-4.035***	*I*(1)
LQIIP	2.663	3.776	-3.218**	-3.223**	*I*(1)
REER	-0.050	-0.153	-3.592**	-3.586**	*I*(1)
EDI	-3.181**	-3.139**	-5.255***	-5.379***	*I*(0)/*I*(1)

*** and ** imply that the coefficient is significant at 1 and 5 percent levels, respectively.

To carry out cointegration analysis, the selection of the maximum order of vector autoregression (VAR) is important, because the result is sensitive to the choice of the order. Taking the order arbitrarily might thus provide the wrong conclusion about the number of the cointegrating vectors. Pesaran and Pesaran[79] notice there is a risk of over-parameterisation in taking higher order from various competing criteria, such as Schwarz Bayesian criterion (SBC) and Akaike information criterion (AIC), for a short time series of the present paper. Thus, the order of VAR is 1 based on SBC in this case.

Table 2: Cointegration Tests for LEQI, LEVI, LXGDP, LQIIP, XRER and EDI							
Maximal Eigenvalue test				Trace test			
H_0	H_1	Statistic	95% Critical	H_0	H_1	Statistic	95% Critical
r = 0	r = 1	49.60	29.95	r = 0	r ≥ 1	80.65	59.33
r ≤ 1	r = 2	14.34	23.92	r ≤ 1	r ≥ 2	31.04	39.81

The results of cointegration test for all the variables are presented in Table 2. The results demonstrate that only one cointegrating relationship exists among the variables. Therefore the estimates of the export supply function in FMPH-OLS are appropriate and consistent in providing the long-term coefficients of the export supply function.

Following Pesaran and Pesaran,[80] Parzen weights are assigned in the FMPH-OLS estimation. The results, as presented in Table 3, demonstrate that the long-term coefficient of *EDI* is statistically insignificant, although its value is negative. It implies

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[77] Pesaran *et al.*, *op. cit.*
[78] Pesaran and Pesaran, *op. cit.*
[79] *Ibid.*
[80] *Ibid.*, p. 106.

that higher value of *EDI* has a negative impact on *EDI*. The sign of the *EDI* coefficient is according to the expectation that export diversification has a generally positive impact on enhancing volume of exports of Bangladesh in the long run, even though it is not significant.

Table 3: Fully Modified Phillips-Hansen Estimates		
	Coefficient	Standard Error
LEVI	0.717***	0.458
LXGDP	0.872	0.104
LQIIP	0.053	0.078
REER	-0.162***	0.041
EDI	-0.377	0.288
Constant	0.717	0.458

*** implies that the coefficient is significant at 1 percent level.

The long-term coefficients of the estimated ARDL model are presented in Table 4, where the lag orders of ARDL are based on the SBC. Since Table 2 confirms the existence of cointegrating relationship among the variables, there is no need for carrying out the bounds test of ARDL.[81]

The coefficient of *LEVI*, the price elasticity of export supply, is positive and statistically significant at 1 percent level, which is in conformity with the expectation. It implies that in the long run, the increase in value of exports promotes export growth of Bangladesh. However, the coefficient implies that a 10 percent increase in price increases about 7 percent of quantity supplied of exports. The coefficient of *LQIIP* is statistically significant at 1 percent level. It implies that the production capacity of industrial items promoted the export supply significantly. The coefficient of *XRER* is negative and significant at 1 percent level, which is opposite to the expectation. It implies that a real appreciation did not appear to be an incentive to export growth in Bangladesh. Finally, the coefficient of *EDI* has turned out to be negative, which is in line with the expectation but it is statistically insignificant. Like the FMPH-OLS estimate, the export diversification so far has positive but feeble impact on export growth in Bangladesh.

Table 4: Long Run Coefficients of the ARDL Model		
	Coefficient (0,1,0,0,1,0)	Standard Error
LEVI	0.699***	0.068
LXGDP	0.095	0.091
LQIIP	0.254***	0.104
XRER	-0.141***	0.045
EDI	-0.133	0.299

Notes: Lagrange multiplier test is used for residual serial correlation, Ramsey's RESET test is used for functional form using the square of the fitted values, normality is based on Jarque-Bera test, and heteroscedasticity test is based White's general test. *** implies that the coefficient is significant at 1 percent level.

[81] Chen, *op. cit*.

The ECM representation of the ARDL model shows the short-run dynamics of export supply function. The short-term export price elasticities are higher than that of the long-run ARDL estimates for Bangladesh. It implies that a price increase acts as considerable incentive for boosting export in the short run, while price of the previous period act as a disincentive for export supply. Short-run coefficient of *XRER* is positive and statistically insignificant, while its coefficient for a lagged period is negative but significant at 5 percent. It implies that the immediate impact of real appreciation is adverse on export growth.

Table 5: ECM Coefficients of the ARDL Model		
	Coefficient (0,1,0,0,1,0)	Standard Error
LEVI	0.869***	0.068
LEVI(-1)	-0.170*	0.092
LXGDP	0.095	0.091
LQIIP	0.254**	0.104
XRER	0.031	0.072
XRER(-1)	-0.154**	0.070
EDI	-0.133	0.299
R^2	0.998	
Adjusted R^2	0.997	
F (6, 11)	1080.7***	
Serial correlation $\chi^2[1]$	0.119	
Functional form $\chi^2[1]$	0.064	
Normality $\chi^2[2]$	0.578	
Heteroscedasticity $\chi^2[1]$	0.073	

Notes: Lagrange multiplier test is used for residual serial correlation, Ramsey's RESET test is used for functional form using the square of the fitted values, normality is based on Jarque-Bera test, and heteroscedasticity test is based White's general test. ***, ** and * imply that the coefficients are statistically significant at 1, 5 and 10 percent level, respectively.

Finally, export diversification does not reveal statistically significant impact on export promotion in the short run. Thus, both FMPH-OLS and ARDL estimates imply that the linkage between the variability of export diversification and variability in export quantity over the last two decades show a co-movement, even though the linkage is not statistically significant. However, significant results can be brought in through greater efforts in product basket diversification in the days to come. It requires strong efforts from the policymakers towards implementation of the pledges made in the export policy and Five-Year Plan.

6.   Concluding Remarks

This paper provides empirical evidence on the linkage between export diversification and movement of export volume in Bangladesh by adopting an export

supply function and estimating with popular time series estimators like Phillips-Hansen fully modified OLS and ARDL for long and short runs. However, all the econometric results reveal that even though the export diversification has a positive impact on export growth, it is statistically insignificant. In other words, diversification efforts have not yet been able to create strong impact on export promotion even though it is believed that recent diversification in RMG sector is seen to promote RMG export and made the sector more resilient to the shocks in the destination markets. The policy commitment towards a range of diversification measures for export promotion is commendable but its implementation would take time and positive response from the private exporters.

The success of high performing Asian economies that experienced substantial increases in exports, especially exports of manufactured goods and high growth rates of their GDP over many decades, has prompted many analysts to view export development and diversification as the new engine of growth. The patterns of trade have changed from primary exports to labour-intensive manufactured exports and subsequently to more resource intensive manufactures in almost all regions of the world.[82] Diversification also increases the potential for generating spillover, whereas reliance on only a few exports generally has greater negative consequences for growth.[83] At the extensive margin, geographic diversification is more important than product diversification, especially for developing countries like Bangladesh. As the country has recently achieved the lower middle-income status in the World Bank's country income classification, the opportunities in the international market would be declining in the coming days. Therefore, strategy should be taken concentrating the enhancement of the demand both in existing and new markets for sustaining export growth. For that, there is no alternative to rigorous restructuring in export promotion and infrastructural development. Since the notion of export diversification strategy is not confined to product diversification in the export basket, the strategy should embrace many different facets addressing the vulnerability aspect of export concentration such as product diversification, geographical diversification, quality diversification, goods-to-services diversification, intermediate goods diversification, consumer goods in the export basket as emphasised in the Perspective Plan of Bangladesh.

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[82] V. Songwe and D. Winkler, *Exports and Export Diversification in Sub-Saharan Africa: A Strategy for Post-Crisis Growth*, Africa Growth Initiative Working Paper 3, Washington, DC: Brookings Institution, 2012.

[83] D. Lederman and W.F. Maloney, "Trade Structure and Growth", in D. Lederman and W. F. Maloney (eds.), *Natural Resources: Neither Curse Nor Destiny*, World Bank and Stanford University Press, Washington, DC, 2007, p. 15-39.