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The Role of Employees with the Investment Capital of The Enterprises in Industrial Parks: Research in Thai Nguyen Province

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Abstract

Industrial parks are formed and developed in countries in general and in localities in particular as an effective channel to attract investment capital, thereby promoting growth and economic development of local as well as each country. One of the key tasks of these industrial parks is to attract investment flows not only from domestic enterprises and foreign enterprises. One of the factors that have a major influence on attracting investment capital of enterprises that are labor - including the quantity and quality of labor in industrial parks. Based on the analysis of the real situation of labor in industrial zones in Thai Nguyen province as well as analyzing the requirements of enterprises with local labor resources, especially in the context of international economic integration as at present, the research will also propose a number of recommendations for good local addressing labor problems, thereby helping to attract investment capital of enterprises in the local industrial parks.

Keywords: Industrial zone, labor, capital attraction, investment, Thai Nguyen province

1. Introduction

With the general trend of the country, Thai Nguyen province has advocated to build and synchronize industrial parks in the overall planning of economic development - society of the country, by the end of 2017, Thai Nguyen province has six industrial zones: Song Cong 1, Song Cong 2, Nam Pho Yen, Tay Pho Yen, Quyet Thang, Diem Thuy. The industrial park establishment and development have contributed to restructuring the economy, creating jobs for thousands of workers, development of ancillary industries and services in the province. As of the end of 2017, had accumulated 182 projects have been certified investment in industrial zones of the province with a total registered capital of about 7.061 billion US dollars of investment and approximately 14192.72 billion; Total investment capital is about USD 6.4 billion and VND 7540.3 billion (Thai Nguyen Industrial Park Management Board, 2018). In addition, by the end of 2017, Of the total of 182 projects licensed for investment in industrial

zones in Thai Nguyen province has 113 projects in operation, which 21 new projects in operation, the consumption in 2017 sales reached about 28.1 billion estimate and 5355.8 billion.

Although the investment in Thai Nguyen's industrial zones tends to increase, especially from foreign invested enterprises (typically Samsung) however, it is still limited, not corresponding with the available potential of the local, so the research of activities to attract investment in industrial parks, identifying the factors that influence the attraction of investment in industrial zones is essential. Based on that, the author proposes some measures to enhance investment attraction in industrial zones in province in the future.

Within the scope of this research, the article focused on the labor factor affecting attract investment in industrial zones. Facts and inheritance of previous studies show that labor source is one of the factors that have a great influence on attracting investment capital of enterprises into industrial zones. This study will look at enterprises' perceptions of labor, their satisfaction with quality and local labor resources, from this; it is possible to identify some of the investment decisions of these enterprises for industrial zones.

2. Overview of research

In the world, the industrial park model is formed as an effective channel for attracting investment capital, contributing to the socio-economic development of the country. Issues related to industrial parks have received the attention of researchers and policy makers. Some studies have been done to assess the impact of the industrial zone to the socio - economic development of countries such as research Damborsky et al (2013), Benacek V (1999), Blomstrom et al (1998), Kim et al (1997) these studies have shown both the direct and indirect impact of foreign direct investment enterprises (These enterprises operating in the industrial park) to the socio-economic development. Simultaneously, the researches also make policy recommendations to promote the attraction of foreign direct investment in the industrial zone in particular and the country in general. Some other researchers around the world are concentrated in the direction of how to develop the industrial zone in the direction of the green industrial research: Popescu et al (2008), Lambert et al (2002).

A number of studies have been carried out in Viet Nam in different directions, in particular some of them have been carried out in the direction of attracting investment capital for the development of infrastructure in industrial zones such as Vu Dai Thang (2012) , Ngoc Hoa (2012), Tran Van Hau (2011), ... These studies analyze the situation and propose a number of measures to develop industrial parks, export processing zones and economic zones. The research methodology used in these studies is the descriptive statistics and SWOT matrix application that identifies the strengths, weaknesses, opportunities and challenges of attracting investment capital to develop the industry zones. Some studies have focused consideration to the location of workers to industrial areas, despite recognizing the location of the labor force, though, authors do not consider the impact of labor to attract investment in industrial areas such as research of the author Thanh Tung.

3. Research methodology

The data used in the research were collected from two sources:

Firstly, the secondary data was collected from the Annual Review Report of the Management Board of Thai Nguyen Industrial Parks. This data was collected to analyze the situation of attracting investment capital of enterprises to industrial parks in Thai Nguyen province. Second, the primary data source: This data was collected from the survey data of enterprises in Thai Nguyen province: Including those who invested in industrial parks and those who did not invest in industrial zones. Second, the primary data source: This data was collected from the

survey data of enterprises in Thai Nguyen province: Including those who invested in industrial parks and those who did not invest in industrial parks. This data was collected to help the author assess the subjective decision to invest in industrial parks on the current practice of labor in industrial parks in the province. With the data collected, the researchers used statistical methods descriptive and comparative analysis to perform analysis in the article.

4. Research Findings

4.1. Results of attracting investment capital of enterprises in industrial parks in Thai Nguyen province

In the period from 2015 to 2017, the number of registered projects in Thai Nguyen's industrial parks tends to increase slightly over the years, however this increase is not much, and the investment projects in the industrial parks are mainly focused on Diem Thuy IPs and Song Cong I IPs.

Table 1: Results of attracting investment capital for new production and business in industrial zones in Thai Nguyen province

TT	Tên KCN	2015				2016				2017			
		FDIProject		DDI Project		FDIProject		DDIProject		FDIProject		DDI Project	
		Number of new projects	Total investment (million USD)	Number of new projects	Total investment capital (billion dong)	Number of new projects	Total investment (million USD)	Number of new projects	Total investment capital (billion dong)	Number of new projects	Total investment (million USD)	Number of new projects	Total investment capital (billion dong)
1	Diem Thuy IPs	18	171,55	4	477,04	18	122,86	3	617,69	9	17,39	6	459,528
2	Song Cong I IPs					3	2,03	2	42,09	2	0,48	2	94
3	Yen Binh IPs	-	-	-	-	1	5,3	2	359,6	-	-	1	925
4	Nam Pho Yen IPs	-	-	-	-	-	-	-	-	-	-	3	122,1
Total (project)		22				29				23			

Source: The Management Board of industrial parks in Thai Nguyen

In 2015, it attracted 22 new investment projects, including 18 FDI projects with a total investment of US \$ 171.55 million and four domestic investment projects (DDI) with the total capital of VND477.04 billion. Specifically, these new investment projects are invested in Diem Thuy Industrial Park and Song Cong I Industrial Park.

In 2016, IZs have attracted 29 new investment projects, including 22 FDI projects and 07 DDI projects with total newly registered capital of USD 126.84 million and VND 1,019.38 billion, of

which: In 2017, 23 new investment certificates were granted to 11 FDI projects and 12 DDI projects with total registered capital of USD 17.87 million and VND 1,600.628 billion.

According to the data sheet, over the three years of research, in 2016 attracted more investment projects, besides the number of FDI projects was higher than that of DDI projects.

Diem Thuy industrial parks and Song Cong industrial parks I are getting more attention from investors at domestic and abroad the most, every year there are more FDI and DDI invested in two industrial zone also IPs Nam Pho Yen currently less attracted most investment, through three years of research without any FDI projects invested in this industrial park, the new 2017 3 DDI projects with a total investment of 122.1 billion.

4.2. Evaluation of enterprises on the role of labor in attracting investment capital in industrial parks

The implementation of investment activities in industrial areas of the business have no small impact on employment of local people as well as neighborhood residents. In fact, by the end of 2017, more than 102 thousand workers are working in industrial zones in Thai Nguyen province, as follows:

Table 2: Impact of attracting investment in industrial zones to the work of the people

Years	The number of jobs in the industrial park
<i>Unit</i>	<i>Labor</i>
2014	44735
2015	81368
2016	90000
2017	102901

Source: Management Board of Industrial Parks

From the above table, as enterprises invest more and more in industrial zones, the number of jobs is increasing, specifically, from 2014 to 2015, the operation of the company Sam Sung Viet Nam's system in the industrial park in Thai Nguyen province, which has attracted a large number of workers from neighboring localities as well as local workers, the number of jobs created increased twice as many as 2015, the number of jobs created in 2015 is more than 80,000 jobs with more than 80,000 workers working in industrial zones in Thai Nguyen 2016, over 90,000 jobs will be created, increasing 111.11% over 2015.

In 2017 created new jobs and created jobs for 102,901 workers, increased 16.17% over the same period, in which some 102 257 workers in the country is increasing by 14.98% compared to 2016, the number of foreign workers is 644, increased 38.49% compared to 2016, female laborers are 75,683, increasing by 18.61% compared to 2016, accounting for 73.55% of the total labor force in the industrial zone.

Thus, it can be seen that attracting investment capital of enterprises into industrial parks is of great significance in creating jobs for laborers of the local and surrounding areas, thereby contributing to improving the lives of the people, promote the growth and development of the local economy.

Enterprises are those who directly participate in the investment process. Therefore, the evaluation of enterprises will be a valuable source of information to find out the causes of ineffective problem in attracting investment in industrial zones.

Researchers surveyed 60 enterprises in the province of Thai Nguyen, have knowledge of the industrial park to see their evaluation of labor in the province and the impact of these resources to attract investment to industrial parks in the province. In this study, the author conducted a survey of enterprises in Thai Nguyen province, in which the object of the author's survey of businesses operating in the industrial park in the province of Thai Nguyen and businesses outside the industry.

The purpose of the author examines these two groups of enterprises to give a more multi-dimensional perspective on the views of each group of enterprises on the impact of labor on the decision to invest in the industrial zones of the enterprise.

To get the answer sheet of the enterprise, the author has to direct the enterprise, among enterprises author's survey authors collected directly questionnaire 26 enterprises, and 34 enterprises selected not meet directly authors have sent the survey via email and receive answers via email. The author uses 5 point Likert scale to measure the rating of the enterprise according to the ascending order from 1 to 5 where 1 is very poor and 5 is very good.

Table 3: Assessment of enterprises on labor in industrial zones in Thai Nguyen province
Unit: Enterprise

Criteria	Review Score
1. Number of employees meet the requirements of enterprises	3,67
2. Labor meets requirements for work at enterprises	3,06
3. Labor can absorb and use technology	3,12
4. Trained professionals	3,15
5. Discipline in the work process of labor	3,21
6. Foreign language skills, computer skills	2,95
7. Labor is trained soft skills	2,98

Data source: Synthesized from the author's survey

Regarding labor in industrial zones in Thai Nguyen province, it has not met the requirements of enterprises in terms of quality and quantity, some enterprises after the workers on Lunar New Year holiday, they do not return to the IP,

Enterprises do not have enough labor to continue production, in addition, the quality of labor is not good, labors have not been trained properly, and technical workers have not been through basic training.

The results of enterprises' assessment on labor in industrial zones in the province are not high, mainly evaluated at average level. In particular, the ability to communicate in English and computer skills as well as soft skills of labor is not guaranteed to meet the needs of work in the context of international economic integration as today (evaluation point average of 3.0 points out of 5 points). Moreover, today the company Sam Sung operating in industrial parks Yen Binh and has attracted a huge labor, however, workers in the province do not really meet the requirements of enterprises, not to mention the requirements of the Korean language.

Table 4: Assessment of enterprise satisfaction on labor

Review of the enterprises	The number of enterprises
1. Very Dissatisfied	0
2. Dissatisfied	17
3. Normal	21
4. Satisfied	22
5. Very Satisfied	0

Source: Synthesized from the author's survey

With the assessment of enterprises in industrial zones, the number of satisfied enterprises is not high, with 22/60 enterprises surveyed answered is satisfied; mainly businesses are confused or dissatisfied with labor in industrial zones in the province of Thai Nguyen. Therefore, it affects relatively large investment decisions of enterprises in industrial zones in Thai Nguyen.

5. Recommendations

Labor sources have important implications and decisions leading to the economic and social development. Foreign companies are often not satisfied with the quantity and quality of labor provided to them. Therefore, measures to ensure and enhance the quality of human resources required to meet in order to stimulate investment attraction for IPs should: Continue to propagate and raise awareness about the position and role of human resources in socio-economic development in general and to meet the demand for investment capital of domestic and foreign enterprises in particular.

Scale up and continue to diversify, socialization in training human resources to rapidly increase the size of trained workforce.

Improve the quality and innovation of content and methods of training of human resources. Training quality requirements of schools to follow the progress of science and technology and the development of technology to meet the human resources required by the foreign company.

Develop a policy system for training, using and attracting human resources.

Diversify forms of training, expand the scale of universities, colleges, secondary and vocational training centers, the training system formed spearhead large-scale high quality.

The province should pay more attention to the vocational training system: from schools, equipment, teachers, training areas, programs and training content.

Each district has at least one vocational training school for young people, when the plan to recover land is to immediately provide vocational training for these schools.

It is necessary to have policies to develop and attract laborers, especially high-level laborers from other places, so as to take initiative in meeting labor demands for industrial parks.

References

- The Management Board of Thai Nguyen Industrial Parks, (2018), 2017 Review Report and Directions for Operations 2018
- Management Board of Industrial Parks of Thai Nguyen Province, (2018), Report on the Operation of Enterprises in Thai Nguyen Industrial Zone
- Management Board of industrial Parks in Thai Nguyen province, (2014), Report on overall plan for socio-economic development of Thai Nguyen province up to 2020
- Blomstrom et al., (1998), Multinational Corporations and Spillovers, *Journal of Economic Surveys* Vol. 12, Iss.3, pp. 247-277. ISSN 1467-6419.
- Bomstrom et al., (1998), Technology Transfer and Spillovers: Does Local Participation with Multinationals Matter? NBER Working Paper Series No 6816.
- Damborsky et al., (2013), The effectiveness of industrial zones in the Czech Republic, *Journal of Economics and Management*.
- Lambert et al., (2002), Eco-industrial parks: stimulating sustainable development in mixed industrial parks, *Technovation* 22, 471-484
- Popescu et al, (2008), Eco-industrial Parks - an opportunity for the developing countries to Achieve Sustainable development, *An Enterprise Odyssey, International Conference Proceedings*, 239-247, University of Zagreb.
- Tran Van Hau, (2011), Meet the needs of bank loans to enterprises in industrial parks and export processing zones, *trade journals* 12.
- Hoang Ngoc Hoa (2012), Industrial Parks and Export Processing Zones with Sustainable Development in Viet Nam - Current Status and Solutions, *Economic and Development Journal* 91.
- Vu Dai Thang, (2012), Improving mechanisms and policies to develop industrial parks, export processing zones, economic zones, the Ministry of Planning and Investment.
- Thanh Tung, Solutions for training human resources for industrial parks and export processing zones in Ho Chi Minh City, *Journal of Labor and Social Affairs* No. 248.



The Efficiency of Development Investment in Agricultural Production Applying Good Agricultural Practices (Gap) Standard of Household - Case Study of Grapes and Apple in Ninh Thuan Province, Vietnam

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Abstract

Development investment of agricultural production with Good Agricultural Practices (GAP) standards is an objective trend of sustainable agriculture. The study used methods of the Data Envelopment Analysis (DEA), compare means and Difference in Differences (DID) to Assessing the effectiveness of development investment in agricultural production applying GAP standard of household with grape and apple production in Ninh Thuan province, Vietnam. The results indicate that participation in GAP does not really make a difference in technical efficiency (TE) compared to the rest of the group due to the large dispersion, but it led to an increase in the Total Factor Productivity Change (TFPCH) higher than the other groups. Therefore, it is necessary to find solutions to promote investment in agricultural production following GAP standards.

Keywords: GAP, Investment efficiency, Agriculture, Farmer household, Ninh Thuan, Vietnam

1. Introduction

Agricultural production with GAP will create a solid foundation for sustainable development agriculture, not only in Viet Nam but also many countries of the world. The agricultural products meet the GAP quality standards to penetrate global agricultural market and bring more benefits to farmers. Agricultural production with GAP standards ensures safety for consumers, producers and also protects rural environment. For that reason, development investment of agricultural production directs to the purpose of developing products to meet the GAP quality standards.

Ninh Thuan is one of the farming provinces in Vietnam in grape and apple products. Farmer households in Ninh Thuan started to participate GAP standards in production of these products since 2013. In addition to, achievements such as expanding cultivation area and increasing prestige and brand of these products, there are still difficulties and limitations in increase of production scale and market development.

The study aims to investigate the efficiency of development investment in agricultural production applying gap standard of household, by using three main methods of DEA, compare means and DID, in order to provide farmers and state managers with objective view of real benefits of GAP adoption.

2. Literature Review

According to Reardon and Farina (2001) stated a food producer can have advantage over its competitors through applying techniques to enhance food safety. Sharing this point of view, Holleran et al. (1999), incentives based on that production units invest in measures to control food safety have originated from both in-side producers and out-side customers and governmental regulations. Studies of Wannamolee (2008), Mushobozi (2010), Jiao et al (2010), Henson và Northen (1998) show that partners with-in agricultural supply chain including producers, distributors as well as consumers play very important roles in encouraging application of food safety standards in which GAP is generally basic one.

Hobbs (2003) argued that GAP benefits can divide in two aspects. The first one is to reduce farmers' production costs by effective use of labors, reasonable selection of inputs and application of good methods. In a case-study of Kenya, GAP help reduce significantly costs of vegetable production. This production method contributes to improve production effectiveness in terms of economic, social and environmental aspects. GAP help farmers control production costs by applying appropriate farming techniques. The second one is to contribute to increase selling prices of agricultural products. GAP is to help enhance product quality, thus, GAP's products can penetrate markets with higher standards. However, when supply of GAP products increased, risk of reduced prices is unavoidable.

In order to ensure strictly standards of GAP, it is necessary to have significantly invest in technical training on production, processing, selections of inputs (seed/seedlings, fertilizers, etc.) as well as in getting regularly certification of quality audits (Okello and Swinton, 2007; Graffham et al., 2007). These impact on production efficiency in the case that outputs achieved is not proportionally. As the result, this make difficulty for small farmers and facilitate sized enterprises in agricultural production with GAP standards, as examples in Kenya (Mungai, 2004; Graffham, 2006; Asfaw, 2007; Graffham et al., 2007) and Uganda (Kleih et al., 2007). However, higher effectiveness of investment in agriculture with GAP have stimulated small farmers to adopt GAP. To be able to protect themselves from competition with enterprises, many small farmers have co-operated each other to set up an organization of agricultural production with GAP standards and have succeeded, as in Zimbabwe (Henson et al., 2005) and in Madagascar (Minton et al., 2007), or made linkages between small farmers and enterprises as in several projects of EurepGAP in Zambia (Graffham and MacGregor, 2007).

Using the index of Technical Efficiency (TE) and Total Factor Productivity Change (TFPCH) as index of Malmquist in Data Envelopment Analysis (DEA) to measure efficiency of development investment have been carried out by many authors, especially in agricultural investment, such as Lin, 1992; Fan and Pardey, 1997; Mao and Koo, 1997; Jin et al., 2002; Fan & Zhan, 2002; Chen et al., 2008. These studies used different input and output indexes to measure TFPCH index, for example, Lin (1992) used 4 normal inputs and 6 supplement variables, Fan and Pardey (1997) used 5 normal input variables and 2 supplement variables, main input factors used by these authors were based on Cobb-Douglas production function.

Fan et al. (2004) also showed that increasing of R & D in agriculture, rural education and infrastructure by supports from Government would contribute to increase of Total Factor Productivity of agriculture. Fan và Pardey (1997) have stated that change in production techniques lead to significant change in the Total Factor Productivity. Thus, it is said that

farmers' adoption in development of agriculture with GAP would make changes in production techniques, infrastructure, knowledge of production, etc. These might significantly impact on TE and TFPCH.

3. Data and methodology

3.1 Research site

Ninh Thuan located in the south central coast in the central area of Vietnam. There are some favourable conditions for development of agriculture following GAP standards especially grape and apple plantation, such as appropriate climate for cultivating grape and apple; most farmers with long-time experiences of these fruit plantations. At the year of 2016 Ninh Thuan ranked the third province in number of farmer groups that have invested in developing grape and apple productions following VietGAP standards, with grape area of 280 ha and apple area of 47.2 ha. However, there are several difficulties in sustainable agriculture development here namely poor livelihoods, low education levels and limited capital sources of farmers, having located far from economic centers and big cities. Solving these barriers would make theoretical and practical contributions to GAP agriculture in developing countries generally and in Vietnam particularly.

3.2 Data collection

Data in this research was gathered through surveying 200 farmer households in Ninh Thuan province with using structured questionnaires.

Primary data was collected using random and leveling methods in Ninh Thuan with sample size of 200 farmer households in which 100 households cultivating with VietGAP standards who represented for 88 GAP linkage groups of farmers and 100 farmer households without VietGAP agricultural production. Leveling was based on terms of locations and linkage groups. There are total 88 GAP linkage groups of farmers in Ninh Thuan province (Vietgap.com.vn) with total 1.272 farmer households, in which 27 groups at Phan Rang - Thap Cham city, 26 groups in Ninh Hai district, 20 groups in Ninh Phuoc district, 10 groups in Ninh Son district and 5 groups in Thuan Nam district. The research based on sizes of linkage groups of farmers to select farmer groups for survey, after that, selected randomly households in the surveyed groups of farmers.

3.3 Data analysis methods

According to DEA, the ML (Malmquist) formula to calculate TFPCH can be decomposed into two components: technical change and efficiency change (Grosskopf et al., 1994). The efficiency change can further be decomposed into pure efficiency change and scale efficiency change. The "technical change" component measures the shift in the frontier over time and can be interpreted as providing evidence of innovation for the province considered. The "pure efficiency change" component measures the extent to which observed production is moving toward (or away from) the frontier, which is constructed by the best practice provinces based on the variable returns to scales (VRS) technology. The pure efficiency change component, therefore, captures the performance relative to the best practice in the sample and can be interpreted as the catching-up effect. The "scale efficiency" in a given period captures the deviations between the VRS technology and the CRS technology at observed input levels. So the TFPCH formula can be written as follows:

$$TFPCH = (TECH) \times (EFFI) = (TECH) \times (PUREFF) \times (SCAL)$$

$$\text{where } TECH = \left[\frac{d_c^t(x^{t+1}, y^{t+1})}{d_c^{t+1}(x^{t+1}, y^{t+1})} \times \frac{d_c^t(x^t, y^t)}{d_c^{t+1}(x^t, y^t)} \right]^{1/2},$$

$$EFFI = \frac{d_c^{t+1}(x^{t+1}, y^{t+1})}{d_c^t(x^t, y^t)},$$

$$PUREFF = \frac{d_v^{t+1}(x^{t+1}, y^{t+1})}{d_v^t(x^t, y^t)}, \text{ and}$$

$$SCAL = \frac{\frac{d_c^{t+1}(x^{t+1}, y^{t+1})}{d_v^{t+1}(x^{t+1}, y^{t+1})}}{\frac{d_c^t(x^t, y^t)}{d_v^t(x^t, y^t)}}.$$

This research uses the method of Data Envelopment Analysis (DEA) for criteria of maximizing Variable Returns to Scales (VRS) to measure Technical Efficiency (TE) and Total Factor Productivity Change (TFPCH). According to Cobb-Douglass production function, outputs depend on four factors of capital, labour, natural resources and technology. The research uses four input factors namely annual production costs/ha/year, initial investment costs/ha, number of labour and cultivating area, and three outputs namely average yield/ha/year, average profit/ha/year và average revenue/ha/year to measure total efficiency.

The research uses methods of compare means and Difference in Differences (DID) to Assessing the effectiveness of development investement in agricultural production applying GAP standard of farmer households' investment in agricultural development,

4. Results and discussion

4.1 Current status of investment in agricultural production development of farm households

Table 4.1. The average investment of farm households with GAP and non-GAP production

	Target	Non-GAP production (million VND/ha)	Structure (%)	GAP production (million VND/ha)	Structure (%)
A	Initial investment				
1	Certificate registration GAP			Supported by the Government	
2	Initial technical training			Supported by the Government	
3	Initial infrastructure investment	145.53	14.64%	330.41	26.99%
B	Basic construction investment	484.42	48.73%	468.66	38.28%
C	Average investment of 3 crops/year	364.19	36.63%	425.08	34.72%

Source: Results collected from the survey of 200 households in Ninh Thuan

Total investment to infrastructure preparation to harvest was 799.1 million VND / ha, more than non-GAP 169.1 million VND / ha. The initial infrastructure investment was 330.41 million VND / ha, the investment to agricultural materials and labor was 468.66 million VND / ha. The investment period lasts about 9 months to 1 year depending on climatic conditions, soil,... and growth ability of trees. Each year, the farmers invest 3 crops, the investment with GAP is about 425.08 million VND / ha, while investment without non-GAP is just 364.19 million VND / ha. It can be seen that the structure of investment is mainly focused on basic construction investment. Thus, during this period, farmers should focus on searching financial resources so as not to affect the investment progress.

Table 4.2: Difference -in -Differences regression results for investment performance with GAP of farm households in Ninh Thuan Province in 2016

Unit of account: *million VND/ha*

	Target	Difference		Diff-in-diff	
		$X_i(s)-X_i(t)$	Sig.	$\Delta X_i(\text{GAP}=1)-\Delta X_i(\text{GAP}=0)$	Sig.
1	Investment capital (GAP)	542.56	0,000	160.71	0,000
	Investment capital (non-GAP)	381.85	0,000		
2	Asset investment cost (GAP)	250.68	0,000	180.03	0,000
	Asset investment cost (non-GAP)	70.65	0,000		
3	Average production cost (GAP=1)	207.71	0,000	47.67	0,000
	Average production cost (non-GAP)	160.04	0,000		
4	Average profit (GAP)	249.95	0,000	135.46	0,000
	Average profit (non-GAP)	114.49	0,000		

Source: Calculated results from 200 surveyed households in Ninh Thuan

The results show that compared with non-GAP producers, GAP participations have increased the total investment capital 160.71 million VND/ha, the fixed asset investment cost was 180 million VND/ha, the annual average production cost was 47.67 million VND/ha/year with a significance level of 99%. Participating GAP has also contributed to increasing profit by 135.46 million/ha/year with significance level of 99%. Thus, it can be concluded that participation in GAP production will increase the initial investment and the annual investment but the profit is higher in comparison with non-GAP productions. So in case farmers have favorable production conditions and can mobilize additional capital investment as the amount of capital investment, they should be investing in the production according to the GAP because it will generate higher profit than non-GAP production.

4.2 Investment efficiency of agricultural production development of farm households

Analysis DEA of two groups of GAP and GAP-based on 1 data envelopment for both producer groups, for the maximization of output in case of scale change (VRS), the results are as follows:

Table 4.3: TE technical efficiency table under DEA model results in 2016

	Non-GAP production				GAP production			
	Mean	Max	Min.	Std. Dev.	Mean	Max	Min.	Std. Dev.
TE	0.8704	1	0.7205	0.0647	0.861	1	0.6775	0.0885
TFPCH	0.8576	1.2037	0.6472	0.119	0.977	1.4493	0.7449	0.1564

Source: Results collected from the survey of 200 households in Ninh Thuan

Table 4.4: Table comparing the difference between the two groups of households about the change in aggregate productivity by index Malmquist index 2016

number	Target	Difference	
		Xi (GAP=1) - Xi (GAP=0)	Sig.
1	TE	-0.0094	0.395
2	TFPCH	0.1195	0.000

Source: Results collected from the survey of 200 households in Ninh Thuan

Through analysis results in table 4.3, the average technical efficiency of both groups are quite high, in which group of non-GAP production is higher than group applying GAP. This suggests that, due to the burden of inputs sizable group GAP while not increased commensurate output technical efficiency lead to inferior technical performance than the remaining group. In addition, the standard deviation of the group according to GAP higher than non-GAP group, this shows the degree of dispersion of effective value of investment group under the GAP is quite high. However, according to results of testing the differences in technical efficiency between the two groups of production, there is lack of empirical evidence to conclude that non-GAP production is technically more effective than the remaining group with the 90% significance level (Table 4.4).

Estimated result in Table 4.3 also shows the decline in aggregate productivity growth (TFPCH) of the following period in comparison with the previous period in both groups. In particular, the group produced under GAP reduced 2.29% while the non-GAP decreased to 14.24%. This due to multiple reason, namely due to increased levels of inputs such as capital investment, labor ... of a later stage compared with the previous period, while the increase of the output again lower. According to the results of the comparison in Table 4.4 shows the investment group under the GAP created increased aggregate productivity levels than before joining GAP higher than the remaining group with a significance level of 99% is 11.95%. This suggests, the GAP has a positive impact to improve the productivity of farm households investing in the production of grapes and apples in Ninh Thuan, however the group produced under GAP must also get a higher level of risk because the dispersion aggregate productivity growth is larger (the production team under the GAP has a standard deviation is higher than the rest team: 0.0374).

4.3 The problems and reasons

- Besides the achievement on the development of agricultural production according to the GAP of the farmers, there still many problems to be solved:

Firstly, the proportion of farm households joined the investment with GAP is limited. In Ninh Thuan, in total 6360 households producing of grapes and apples, there were only 1272 GAP investment producers.

Second, in the households according to the investment GAP, the scale and investment area but have increased but not significantly. It demonstrates in Ninh Thuan agriculture investment by GAP has not yet truly attractive to farmers.

- Although Ninh Thuan is a place where development of grape and apple production is possible, further, more developed agricultural production under GAP is an inevitable trend in Vietnam as well as in the world, but why farmers have not really interested in investment to agricultural production according to GAP? That is due to several causes:

Firstly, the production in Ninh Thuan is spontaneous, although the local planning has developed but not paid attention to the organization of the implementation of the plan, which affects the attracting farmers to invest in development under the GAP.

Second, the understanding of the farm households about the GAP are limited, so they do not understand the benefits of GAP production and therefore have not paid much attention to the development of GAP production.

Thirdly, the consumer market is also spontaneous and fragmented, so it has not built the confidence of customers, so the farmers have not seen the economic effect so they do not stimulate investment according to GAP.

Fourthly, there is no association between the government closely, farmers, businesses and scientists. So not to promote the efficiency of investment in production according to GAP should farmers not really confident in investing in GAP.

5. Conclusions

Investment in agricultural development following GAP standards is an indispensable way to develop sustainable agriculture, contributing to the safety of producers, meeting the increasing demands of consumers and protecting the environment. The farmer's agricultural production with GAP is still limited. The study based on data of 200 farmer households cultivating grape and apple stated that adoption of GAP has positively impacted on the efficiency of agricultural investment, and this result supports to points of view of Hobbs (2003), Fan and Pardey (1997) and Fan et al. (2004). However, increase in TFP (compared with TFP before adoption of GAP) is still under potential. The reason is that application of GAP are not effective as expected. Thus, it is necessary to find out appropriate solutions to speed up agricultural production with GAP in terms of both quantity and quality.

In our point of view, it is necessary to implement following solutions: (1) Planning and organizing areas of safety agricultural production that are appropriate to each local province. This will create conditions and orientations for famer household to invest in agricultural production with different GAP standards driven by market demands. (2) Enhancing knowledge and skills of GAP production for famer households. This help them understand efficiency of adoption of GAP and know how to invest in agricultural production with GAP standards. (3) Developing markets for agricultural products certified GAP standards. This is the crucial condition to ensure sustainability of adoption of investing in GAP of famer households. (4) Implementing linkages between 4 shareholders of farmers, firm state managers and scientists. In development of GAP agriculture, small famers could not do themselves separately. Positive participation of related shareholders is very important for development of GAP agriculture.

References

- Asfaw, S. (2007), "Does EurepGAP standard marginalize poor farmers? Evidence from Kenya", *Entwicklung and Landlicher Raum*, Vol. 1
- Fan, S., Pardey, P.G., (1997), "Research, Productivity, and Output Growth in Chinese Agriculture", *Journal of Development Economics*, 53, 115-137.
- Fan, S., Zhang L., Zhang, X., (2004), "Reforms, Investment, and Poverty in Rural China", *Economic Development and Cultural Change*, 52, 395-421.
- Fan, S., Zhang, X., (2002), "Production and Productivity Growth in Chinese Agriculture: New National and Regional Measures", *Economic Development and Cultural Change*, 50, 819-838.
- Graffham, A. (2006), *European standards affect African growers*. Pesticide news 71, Developing country initiative
- Graffham, A., & MacGregor, J. (2007). *Impact of EurepGAP on small-scale vegetable growers in Zambia*. Fresh insights.
- Graffham, A., Karehu, E., & MacGregor, J. (2007), *Impact of EurepGAP on small-scale vegetable growers in Kenya*, Fresh insights.
- Grosskopf, S., Färe, R., Norris, M., Zhang, Z., (1994), "Productivity Growth, Technical Progress, and Efficiency Change in Industrialized Countries", *American Economic Review*, 84, 66-83.
- Henson, S. J., Masakure, O., & Boselie, D. (2005), "Private food safety and quality standards for fresh produce exporters: The case of hortico agrisystems, Zimbabwe", *Food Policy*, vol. 30, pp. 371-384.
- Henson, S., & Northen, J. (1998), "Economic determinants of food safety controls in supply of retailer own-branded products in United Kingdom", *Agribusiness*, vol. 14, issue 2, pp. 113-126.
- Hobbs, J.E. (2003), *Incentives for the Adoption of Good Agricultural Practices (GAPs)*, Background paper for the FAO consultation on Good Agricultural Practices, Rome
- Holleran, E., Bredahl, M. E., & Zaibet, L. (1999), "Private incentives for adopting food safety and quality assurance", *Food policy*, vol. 24, issue 6, pp. 669-683.
- Janvry, A.D. and Sadoulet, E. (2000), "Making Investment in the Rural Poor into Good Business: New Perspectives for Rural Development in Latin America", *Conference on Development of the Rural Economy and Poverty Reduction in LAC*, at the Annual Meeting of the Inter-American Development Bank, New Orleans
- Jiao, W., Fu, Z., Mu, W., Mclaughlin, N. và Xu, M. (2010), "Influence of supply chain model on quality and safety control of table grape and performance of small-scale vinegrowers in China", *British Food Journal*, Vol. 114 Issue: 7, pp. 978-996
- Jin, S., Huang, J., Hu, R., Rozelle, S., (2002), "The Creation and Spread of Technology and Total Factor Productivity in China's Agriculture", *American Journal of Agricultural Economics*, 84, 916-930.
- Kleih, U., Ssango, F., Kyazze, F., Graffham, A., & MacGregor, J. (2007), *Impact of EurepGAP on small-scale fruit and vegetable growers in Uganda*, Fresh insights 10
- Lin, J.Y., (1992), "Rural Reforms and Agricultural Growth in China", *American Economic Review*, 82, 34-51.

- Mao, W., Koo, W.W., (1997), "Productivity Growth, Technological Progress, and Efficiency Change in Chinese Agriculture after Rural Economic Reforms: A DEA Approach", *China Economic Review* ,8, 157-174.
- Minton, B., Randrianarison, L., & Swinnen, J. F. M. (2007), "Global supply chains, poverty and the environment: Evidence from Madagascar", In J. F. M. Swinnen (Ed.), *Global supply chains, standards, and the poor: How the globalization of food systems and standards affects rural development and poverty*, Wallingford, UK: CABI, pp. 147–157
- Mungai, N. (2004). *EU rules could destroy horticulture: The protocol on good agricultural practices will have a profound impact on both large and small-scale farmers, although the biggest impact will be on the latter*. Daily nation 7, Nairobi.
- Mushobozi, W.L. (2010), *Good Agricultural Practices (GAP) on horticultural production for extension staff in Tanzania*, Food and Agriculture organization of the United Nations, Rome.
- Okello, J. J., & Swinton, S. M. (2007), "Compliance with international food safety standards in Kenya's green bean industry: Comparison of a small- and a large-scale farm producing for export", *Review of Agricultural Economics*, vol. 29, issue 2, pp. 269–285.
- Po-Chi, Chen, Y. U. Ming-Miin, Ching-Cheng Chang, and H. S. U. Shih-Hsun (2008), "Total factor productivity growth in China's agricultural sector", *China Economic Review*, 19, no. 4 580-593.
- Reardon, T. and Farina, E. (2001), "The rise of private food quality and safety standards: illustrations from Brazil", *International Food and Agribusiness Management review*, vol. 4, pp. 413-421.
- Wannamolee, W. (2008), "Development of Good Agricultural Practices (GAP) for Fruit and Vegetables in Thailand", *Good Agricultural Practices (GAP) and Benchmarking: Global GAP for Fruit and Vegetable*, Sheraton Subang Hotel and Tower, Kuala Lumpur, Malaysia, 14-23 July 2008, Science and Education Publishing.

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The Role of Public Procurement in Enhancing Growth of Small and Medium Sized- Enterprises: Experince from Mbeya Tanzania

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Abstract

This empirical study examined the role of public procurement towards the growth of SMEs in Mbeya, Tanzania. The study was guided by three specific objectives: To examine the role of preferential among SMEs in accessing public procurement opportunities, to ascertain the competency of SMEs towards public procurement performance, and to identify the challenges facing SMEs in accessing public procurement. The study adopted descriptive research design and purposive sampling to collect data from 72 SMEs and 37 procuring entities in Mbeya region. The output of the study was achieved through descriptive statistics with the help of Statistical Package for Social Sciences (SPSS). The study revealed that, 43% of the respondents reported having given no of preference at all in public procurement, compared to 4% who argued that are given preference treatment to a great extent. SMEs are competent to enhance public procurement performance to a moderate extent ($3.45 \leq \text{mean} \leq 3.86$). Furthermore, the study revealed that bureaucratic process, lack of fairness in public procurement, insufficient fund, complex legal requirements, lack of policy that support SMEs access public procurement opportunities and corrupt practices in public procurement are the key challenges that hinders SMEs to access public procurement opportunities and their growth. The study recommended on the need to strengthen internal and external legal framework to combat corrupt and nepotism practices, enhance entrepreneurial training and education among SMEs owners, the need to enhance joint bidding among SMEs owners and large firms. It is concluded that public procurement play significant role toward the growth of SMEs by providing market for SMEs' products and services.

Keywords: Procurement, Public Procurement, SMEs, growth of SMEs, and Mbeya Tanzania.

1.0 INTRODUCTION

Worldwide, public procurement plays a vital role in the growth and stability of small and medium sized enterprises (SMEs). About 35% of developed and 70% of developing countries' budget is procurement related spending (Saxena, 2012; World Bank, 2016). The government is therefore regarded as the main purchaser of goods, works and services particularly from SMEs. On the other hand, SMEs play a fundamental role in the social and economic development of the public and the government at large. SMEs create new jobs and contribute significantly to the growth of GDP in most countries (Kazungu, Ngugi, Rotich and Odhiambo, 2018; Kazungu and Panga, 2015; Ngugi, 2012). Almost 99% of businesses in China are SMEs, employing more than 80% of country's workforce which contribute about 60% of total GDP. SMEs present about 99% of business enterprises and employ around 75 million people in European Union Member states. In Nigeria, SMEs account for 95% of total firms, 65% of total employment and contribute to almost 55% of government GDP (Chen, 2013; Pephrah, Mensah, and Akosah, 2016; WB, 2016; EC, 2015). Almost 98% of all businesses in Kenya are SMEs which create 30% of all jobs annually and contribute about 3% to Kenya's GDP. In Tanzania particular, 95% of all businesses are SMEs employing about 4 million people, contributing almost 35% to the country's GDP (World Bank, 2016; Chen, 2013; Hansen, Kimeria, Ndirangu, Oshry, and Wendle, 2012).

There have been consistent pressure and reforms in many governments to restructure their business and procurement policies to strengthen the role, contribution and involvement of SMEs in public procurement service delivery and economic development and promote SMEs growth. In order to achieve these objectives, an important strategy is to formulate public procurement policies that create a preferential treatment and recognition of local firms and SMEs in public procurement proceedings (Sanchez, 2011; Obanda, 2011). The Chinese Government Procurement Law No. 9 (2009) and SMEs Promotion Law No. 34 (2002) prescribe the conditions and margins of preferential for SMEs in public procurement. In Ghana, preferential treatment to local firms and SMEs over foreign competitors when tendering for the same goods, works and services is based on Section 60 of the Public Procurement Act No. 663 (PPA, 2003). These frameworks require government procurement help, develop and promote SMEs by giving them first consideration and preference by purchasing commodity or service from SMEs (Pephrah, *et al.*, 2016; Kazungu and Panga, 2015).

In Tanzania, section 34 of the Public Procurement Regulation (PPR, 2013) requires public entity to grant a margin of preference of up to ten percent to local firms or association between local and foreign firms. However, the preferential treatment is limited only to competent, experienced and pre-qualified SMEs in terms of resources, equipments, capability, performance, that is procurement timely delivery, quality standards, cost effective of procurement goods, works and services (URT, 2013). Despite the establishment of legal frameworks that provides first consideration and preferential treatment to promote participation of SMEs in public procurement and their growth, SMEs are not given a required maximum preferences and consideration during public procurement proceedings. On the other hand, SMEs are faced with a number of challenges including poor production equipments, poor infrastructure, inadequate capital to support their operations, uncoordinated institutional and legal support, poor market access and delayed payments especially in public service delivery (Hamisi, 2011; Basheka and Cornelia, 2009). These in turn results into ineffective participation of SMEs in public procurement opportunities, insignificant growth of SMEs' size, number of employees and profitability (Barclay, 2012).

The government and business owners look for reliable market, service innovation, job creation and growth of SMEs, particularly through procurement opportunities. On the other hand, the government strive for best performance under public financed procurement so as to achieve the desired cost, quality and timely delivery benefits (Sanchez, 2011; Saxena, 2012). The URT (2013) provides the framework and procedure for participation of service providers in accessing public procurement opportunities, with a preferential treatment to local firms and SMEs. It is therefore important that SMEs should possess the required skills, competency and resources in terms of modern production equipments, experience in a particular field, financial capability, for effective participation and guaranteed better performance in public procurement (Nicholas and Fruhmann 2014; Bashekaand Cornelia, 2009).

Despite the adopted framework to provide preferential treatment to SMEs access and harness public procurement opportunities, public procuring entities are not effectively implementing the framework as SMEs are given a little consideration and preference during public procurement process (Peprah *et al.*, 2016; Hamisi, 2011). Large sized local enterprises and foreign firms mostly access and implement public procurement contracts despite the fact that they should collaborate with local firms and SMEs at a margin of preference of up to ten percent. Among others, Kazungu and Panga (2015), Pressey *et al.*, (2009) and Ankunda (2010) posited that lack of capital, access to market, legal requirements, inflation and taxes are the key challenges that hinders the growth of SMEs. In turn, these inefficiencies results into decline of SMEs, their profitability and overall government GDP. It is estimated that SMEs contribute about 35% to GDG which is significantly low compared to 52% in Uganda. The study sought to examine the role of public procurement towards the growth of SMEs, taking Mbeya region in Tanzania as a case in point.

2.0 LITERATURE REVIEW

Procurement means buying, purchasing, renting, leasing or acquiring of goods, works or services by a procuring entity and includes all functions that include description of requirements, selection and invitation of tenderers, preparation and award of contracts (URT, 2011; Lysons and Farrington, 2012). Azeem (2007) defines procurement as the acquisition of goods, works or services from external source at the best possible cost to meet the needs of the organisation in terms of quality and quantity, time, and location. On the other hand, public procurement is the process of acquisition of goods, works and services by public bodies (Odhiambo and Kamau, 2003). SMEs are taken to mean micro, small and medium sized business entities whose personnel members and assets fall below a certain limits (Barclay, 2012). SMEs engage themselves in formal activities, particularly in consultancy services, construction activities and supply of goods to the public and private owned organisations. In Tanzania, the SMEs Development policy of 2003 provides a clear classification of SMEs basing on the number of staffs and assets of a particular business entity as presented in table 1.

Table 1: Classification of SMEs in terms of investment

Business category	Number of staffs	Amount of capital invested
Micro Enterprises	1 – 4	Up to 5 millions
Small Enterprises	5 - 49	Above 5 to 200 mill
Medium Enterprises	50 - 99	Above 200 – 800 mil

Source: Tanzania SMEs Development Policy (2003)

Tanzania, like other developing countries keeps into consideration about the growth of SMEs and their contributions to economic development. The International Trade Centre (ITC) posited that SMEs contributes to country's GDP, enhances flexibility and innovation in trade, offers service at lower cost, and it creates employment to the public. The government of Tanzania established Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA, 1988) and Small Industrial Development Organisation (SIDO, 1973) under the ministry of industry, trade and investment to assist and address the need of SMEs for sustainable growth and development. Furthermore, the government as the main purchaser in the country provides preferential treatment to local firms and SMEs in harnessing public procurement opportunities as a measure to promote and enhance their growth. The URT (2013) prescribe the framework for SMEs to collaborate among themselves or with foreign or large firm up to ten percent margin of preference in public procurement. These measures strengthen SMEs technical and financial capability, entrepreneurial abilities into toward self employment and country's development (Abor and Quartey, 2010; Barclay, 2012).

Worldwide, the role of public procurement toward the growth of SMEs is momentous (Hamisi, 2011; Kidalov and Snider (2011). Several studies (e.g. Kazungu, Matto, and Massawe, 2017; Kazungu and Panga, 2015; Ngugi, 2012) have found that SMEs are the main engines for growth and economic development of a county. SMEs significantly contribute to County's GDP. It is therefore important that the government should create a conducive and favourable environment competitive environment for SMEs, with regards to their capability and capacity. Peparhet *al.*, (2016) in their study on SMEs accessibility to public procurement posited that when operating environment for SMEs is very favourable to have access to public contract, the contribution to economy are enormous. However, the study found that SMEs are not given preferential treatments as prescribed in the public procurement act. Kazungu and Panga (2015) analysed the importance of empowering SMEs to harness public procurement opportunities in Tanzania. Among other, they found that that SMEs participating in public opportunities benefit in terms of amplifying their production capacity and marketing of goods and services, cash flows , innovation and creativity thus boost their contribution to the national economy.

Competiveness of SMEs in accessing public procurement opportunities depends on their competency service delivery (Kidalov and Snider, 2011; Chen, 2013). Past experience, production capability and financial capability are the key drivers that enhance competitiveness of a particular SME toward improved public procurement performance and overall service delivery. For the purpose of this study, competitiveness of SMEs means ability to deliver the required service in public procurement at a reasonable cost, within agreed time limits and accepted quality standard of procured goods, works and services. Hansen, *et al.*, (2012) posited that complex legal requirements and lack of access finance to support operation of SMEs and future expansion hinders SMEs growth and their participation in public procurement as the result, 60% of SMEs fail within the first five years of their operation. Kazungu and Panga (2015) recommended on the need to ensure effective implementation of public procurement regulations and SMEs promotions framework to support and enhance their growth.

3.0 METHODOLOGY

The study was carried out in Mbeya, one of Tanzania's 31 administrative regions. Mbeya is located in the Southern West of Tanzania. It is divided into seven (7) administrative districts namely Chunya, Mbeya rural, Kyela, Mbarali, Mbeya City, Rungwe, and Busokelo District councils (URT, 2012). The Mbeya City Council is considered for this study as it has a large number of registered SMEs, estimated to be 381 which is larger number compared to other councils (MRCO, 2016). The target population were the owners of SMEs and head of procurement departments in Mbeya City Council. Procurement practitioners from public

entities in Mbeya region were interviewed to give key information and experience on the participation of SMEs in public procurement bidding process. The study adopted purposive sampling technique in selecting SMEs owners from the target population. Respondents were selected based on their knowledge, experience and judgement on running their business and participation in public procurement bidding process. Business entities that have been existed for more than five (5) years, having awareness on participation in public procurement were selected for the study. Basing on these criteria, the study therefore involved a total of 72 SMEs owners from Mbeya City District Council.

Semi-structured survey questionnaire were used to collect quantitative and qualitative data from business owners. A set of self-administered questionnaire was given to respondents through 'drop and pick later' method and were collected after respondents have filled them. Survey was considered appropriate since it minimises researcher's biasness during data collection, while on the other hand it covers a large number of respondents. A face to face structured interview was used to collect primary data from key informants (public buyers from Mbeya region). The responses were recorded using notebook and tape – recorder to record the information collected. Pilot study was conducted to test the reliability and validity of the research instruments used. Content validity was determined by seeking expert's opinion before the actual data collection. The feedback from the experts helped in modifying the questionnaires, and changes were made where necessary. Cronbach's Alpha coefficient was used to check the reliability of research questions. The rule of thumb is, instruments are reliable when Cronbach's Alpha scale of 0.7 and above is obtained (Miller, 2003). In this study, the average Cronbach's Alpha value was 0.725, therefore the research instruments were reliable.

4.0 RESULTS AND DISCUSSION

4.1 Preferential Treatment of SMEs in Public Procurement

The study examined the role of preferential of SMEs in accessing public procurement opportunities. Respondents were asked on the extent to which they are given preferential treatment in public procurement as stipulated in the PPA (2011) and the PPR (PPR, 2013). A point five scale where 5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Less extent, and 1 = Not at all were used to collect the responses from service providers. Despite the requirement to provide preferential treatment to local firms and SMEs, the 30 (42%) respondents reported that SMEs are not given any preferential treatment in harnessing public procurement opportunities. Furthermore, 21 (29%) reported having given less preference, 11 (15%) are given moderate consideration. Unfortunately, it was revealed that only 4% and 10% are given a very great and great preference respectively in harnessing public procurement opportunities. These findings reveal a violation of PPA and its related regulations in executing procurement functions. These findings agree with Peprahet *al.*, (2016), Kazungu and Panga (2015) findings who argued that SMEs are not effectively harnessing procurement opportunities since they are not given adequate preferential treatment.

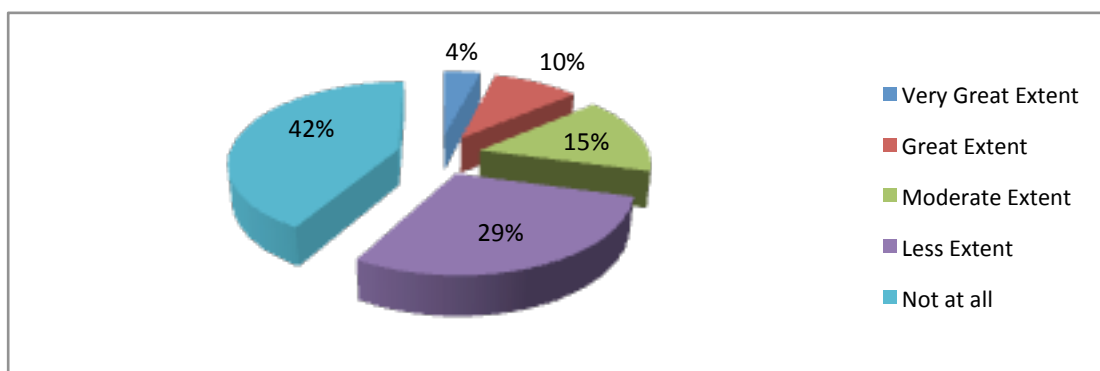


Figure 1: SMEs preference in public procurement

4.2 SMEs Competency and Public Procurement Performance

The study also looked at the competency of SMEs towards the performance of procuring entities when access procurement opportunities. A point five scale where 5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Less extent, and 1 = Not at all were used to collect responses from procurement management units in Mbeya region and indicate a significant competency of SMEs in enhancing procurement performance. Results of descriptive analysis are presented in table 2 revealed SMEs are competent to enhance public procurement performance a moderate extent ($3.45 \leq \text{mean} \leq 3.86$). The findings further revealed that SMEs ensures timely delivery in a course of procuring goods, works and services in public procurement (mean = 3.56), SMEs achieve quality standard of procured goods, works and services in public procurement (mean = 3.86), SMEs ensures cost effective of procured goods, works and services in public procurement (mean 3.55). It was further revealed that, to a moderate extent SMEs are qualified to participate in public procurement service delivery (mean = 3.76), and that SMEs are able to compete for contract award in public procurement to a moderate extent (mean = 3.45). These findings are indication that SMEs are competent to deliver better service in public procurement with overall mean 3.67. These findings therefore support Barclay (2012), Abor and Quartey (2010) findings who posited that competent and qualified business entities play a significant role in enhancing public procurement performance.

Table 2: Descriptive Analysis for SMEs competency (N = 37)

Aspects related to SMEs competencies	Mean	Std. Deviation
SMEs ensures timely delivery in a course of procuring goods, works and services in public procurement	3.56	0.88
SMEs achieve quality standard of procured goods, works and services in public procurement	3.86	0.94
SMEs ensures cost effective of procured goods, works and services in public procurement	3.55	0.79
Pre – qualification of SMEs to participate in public procurement	3.76	0.95
Ability of SMEs to compete in public procurement contract for supply of goods, works and services	3.45	0.87
Overall Mean	3.67	0.886

The key informants reported that lack of competency is a typical challenge that hinders SMEs from harnessing and accessing public procurement opportunities. One of the key informants argued that:-

...“Public procurement opportunities are open to all bidders, provided he/she is capable of competing with other bidders basing on the evaluation criteria given to them. As we all know that, the purpose of public procurement is to provide better service to the public, while achieving cost, time and quality benefits. The problems with SMEs is that they are less competitive to achieve the desired benefits, they are not qualifies enough to deliver the required procurement performance. In most cases we evaluate tenders based on the criteria published, and the responsive bidder, regarding the size of their business is awarded a contract...” (Interview field data, Mbeya, July14th, 2018).

4.3 Challenges Facing SMEs in Accessing Procurement Opportunity

The study also sought to examine the challenges that face SMEs in accessing public procurement opportunities. Respondents were asked if they have encountered any challenge(s) while trying to secure procurement opportunity in public entities for supply of goods, works and services. Binary responses (Yes/No) were used to collect the data from the target respondents and the data were analysed using descriptive statistics. The study found 70.2% have encountered challenges when securing procurement opportunities. However, 29.8% respondents reported that they have not encountered any challenges in a course of securing public procurement opportunity. These findings indicate that SMEs faces a numbers of challenges in accessing public procurement opportunities for supply of goods, works and services. Furthermore, the respondents were asked to indicate extent to which the identified challenges have been hindering them in accessing public procurement opportunities. The responses were collected using five pint scale, where 5 = Very Great Extent, 4 = Great Extent, 3 = Moderate Extent, 2 = Less extent, and 1 = Not at all was used. Descriptive statistics was used to establish means and standard deviations as presented in table 3.

The findings revealed that to a great extent (mean = 4.00) bureaucratic process in public procurement hinders SMEs participation in procurement opportunities. Public procurement is subjected into a numbers of bureaucratic processes, resulting into additional and unnecessary procurement costs. This in turn discourages potential SMEs owners from participating in public procurement and service delivery (Sanchez, 2011, Leach, 2011).The findings also revealed that lack of fairness in public procurement proceedings to a great extent hinders SMEs access public procurement opportunities (mean = 4.32). Public procurement should be conducted in a manner that promotes fairness among service providers (URT, 2013).Nepotism practices in public procurement discourage bidders, particularly SMEs owners from participating and accessing public procurement opportunities. It was further revealed that to a great extent (mean = 4.25) SMEs suffers from insufficient fund as the basis for processing and guarantees public procurement performance and service delivery. This implies that lack of fund hinders SMEs participation in public procurement opportunities.

Furthermore, the findings revealed that legal requirements for bidders to participate in public procurement proceedings hinders SMEs access procurement opportunities to a great extent (mean = 3.95). Public procurement requires service providers to register their business and secures business license as one of the required criteria to participate in public procurement opportunities. This specifically forces SMEs owners to operate their business informally, without getting registered, and therefore become unable to access an opportunity to supply goods, services and works in public organisations (EC, 2008; Basheka and Cornelia, 2009).The respondents argued that to a great extent (mean = 4.05) there is no effective policy that support SMEs access public procurement opportunities. SMEs have fewer resources as the results they less competitive compared to large sized organisations, and therefore they are less likely to win contract for the supply of service in public procurement (Ankunda, 2010; Leach, 2011). On the other hand, the study found that corrupt practices in public procurement proceedings hinders SMEs in accessing procurement opportunities (mean = 4.02). Corruption eliminates a sense of

fairness practices in public procurement, which in turn results into the loss contract for the lowest evaluated service providers (Kazungu and Panga, 2015; Pressey *et al.*, 2009). Moreover, it was found that to a great extent (mean 4.15) lack of education in public procurement among SMEs owners hinders them in accessing procurement opportunities. Leach (2015) and IISD (2015) Posited that most of the SMEs owners lack knowledge in public procurement proceedings, they submit token and irregular bids, resulting into disqualification and loss of procurement opportunities.

Table 3: Descriptive Analysis Challenges facing SMEs (N = 72)

Challenges in accessing public procurement opportunity	Mean	Std. Deviation
Bureaucratic public procurement process hinders SMEs participation in/access procurement opportunities	4.00	0.98
Lack of fairness during public procurement proceedings hinders SMEs access public procurement opportunities	4.32	1.05
Insufficient fund to process and guarantees public procurement performance and service delivery hinders SMEs participation in public procurement	4.25	0.99
Legal requirements to participate in public procurement proceedings hinders SMEs access procurement opportunities	3.95	1.03
Lack of effective government policy to support SMEs access public procurement opportunities	4.05	0.97
Corrupt practices in public procurement proceedings hinders SMEs in accessing procurement opportunities	4.02	0.98
Lack of education on public procurement proceedings hinders SMEs access procurement opportunities	4.15	1.20
Overall Mean	4.11	

4.4 Growth of SMEs

The study sought to ascertain how public procurement influences the growth of SMEs. Respondent were asked to indicate how their business have been performing in terms of:- Profitability, number of employees and a particular SME's number of branches as the results of participating in public procurement. Three point scale, where 3 = Increased, 2 = the same and 1 = decreased were used to seek responses from the target respondents. In order to establish the extent to public procurement enhances the growth of SMEs. From table 4, the majority of the respondents, 59 (81.9%) responded that public procurement have resulted into increased SMEs profitability, however, 13 respondents equivalent to (18.1%) argued that their business profitability was the same. These findings are in line with those of Kazungu and Panga (2015) who posited that empowering SMEs through public procurement opportunities enhances the growth of SMEs in terms of profitability and cash flows due to increased market size. The findings also revealed a significant growth in the number of employees in 66 (91.7%) SMEs compared to 8.3% equivalent to 6 SMEs which reported static growth in the number of employees. The findings therefore concurs with Nicholas and Fruhmann (2014) and Hansen *et al.*, (2012) who argued that increases in the size of the organisation in term of tasks and functions, the business entity are more likely to increase labour forces to handle and implement additional tasks. Furthermore, 64 (88.8%) SMEs reported that the sizes of their business entities (branches) are the same as before. This is significantly large compared to 5 (6.8%) and 3 (4.4%) who argued that the size of their business entities have increased and decreased respectively.

Thus, it is worth saying that SMEs which are inclined to public procurement opportunities they are more likely to enhance their growth in term of profitability and size of the business (Kazungu and Panga, 2015; IISD, 2014; Pressey *et al.*, 2009).

Table 4: Growth of SMEs under public procurement opportunities (N = 72)

Aspects related to the growth of SMEs	Percentage		
	Increased	The same	Decreased
Level of your business entity's profitability as the results of participating and accessing public procurement opportunities	59 (81.9%)	13 (18.1%)	0 (%)
Number of your employees as the results of participating and accessing public procurement opportunities	66 (91.7%)	6 (8.3%)	0 (%)
Number of your business entities as the results of participating and accessing public procurement opportunities	5 (6.8%)	64 (88.8%)	3 (4.4%)

5.0 CONCLUSIONS

The study sought to investigate the role public procurement toward the growth of SMEs. Therefore, the conclusion made under this study is based on the adopted study objectives. Despite the legal requirements to provide preferential treatment to SMEs access public procurement opportunities, the study revealed and concluded that SMEs are not given required preferential treatment in participating and accessing public procurement opportunities as prescribed by the public procurement regulation (URT, 2013). To a very less extent SMEs are given consideration to access procurement opportunities. On the other hand, the study found and hereby concludes that SMEs do not possess the required skills, competency and capability to compete and enhance public procurement performance. It was revealed that SMEs influence public procurement performance, timely delivery, quality standard and cost effective to moderate extent. The study concluded that bureaucratic process, lack of fairness in public procurement, insufficient fund, complex legal requirements, procurement corrupt practices, lack of policy that support SMEs are key challenges that hinders SMEs from access public procurement opportunities and their growth. Furthermore, the study concluded that public procurement results into significant growth of SMEs in terms of profitability, employees and business size.

6.0 RECOMMENDATIONS

The recommendations made under this study are based on the study findings and the conditions in the current business environment in which SMEs operates. First, the study recommends on the need of public procuring entities to observe the established legal frameworks, including adoption of fairness and anti – corrupt practices while ensuring that SMEs are given the required maximum preference in public procurement process. The study too recommended the need to review the existing current SMEs development and promotion policies and frameworks to identify the weakness hindering their growth and conducive environment to participate and access public procurement opportunities. This will help SMEs harness public procurement opportunities for sustainable growth and development. Government fiscal policy makers should focus on formulating policies that offers tax incentives to SMEs, specifically in a short run. This will strengthen SMEs financial capacity, and therefore enhances their operations. On the other hand, governments can create conducive operating environment for SMEs which will be effective in the long run such as imparting entrepreneurial

training and education for effective and sustainable development and growth of SME. Furthermore, SMEs are recommended collaborate themselves under joint bidding so that they will be able to compete with large sized firms in access public procurement opportunities. Lastly, SMEs clusters are recommended to attend regular public procurement training as a means of enhancing their knowledge and understanding on public procurement proceedings.

REFERENCES

- Abor, J. and Quartey, P. (2010). Issues in SME Development in Ghana and South Africa. *International Research Journal of Finance and Economics*, 39(3), pp.1450-2887.
- Ankunda, O. (2010). Uganda: SMEs sector forms the engine for growth. Retrieved from [http://www.aares.info/files/smes_growth/2017/ankunda.pdf] site visited on 20/02/2018.
- Azeem, V. (2007). *Impact of the Public Procurement Act, 2003 (Act 663) Accra, Ghana integrity initiative*. Retrieved from [<http://www.sciepub.com/reference/16079>] Site visited on 10/02/2017.
- Barclay, C. (2012). Preferential Procurement in the South African Context. Retrieved from [<http://whoswholegal.com/news/features/article/29829/pdf>] Site visited on 22/03/2018.
- Basheka, B. and Cornelia, S. (2009). Compliance to public procurement reforms in developing countries: An exploratory study of Uganda's experience of the critical challenges. Oestricht, Germany: 18th IPSERA Conference,
- Chen, W. C. (2013). The extensive and intensive margins of exports: *The role of innovation*. *World Economy*, 36(5), 607–635.
- European Commission, (2015). *European code of best practices facilitating access by SMEs to public procurement contracts*. Brussels, Belgium: European Commission.
- Hamisi, S. (2011). Challenges and opportunities of Tanzanian SMEs in adapting supply chain management. *African Journal of Business Management*, 5(4), pp.1266-1276.
- Hansen, A., Kimeria, C., Ndirangu, B., Oshry, N., and Wendle J. (2012). Assessing Credit Guarantee Schemes for SME Finance in Africa: Evidence from Ghana, Kenya, South Africa and Tanzania. AFD Working Paper no. 123.
- Kazungu, I. and Panga, F. (2015). Empowering small and medium enterprises (SMEs) to harness public procurement opportunities. *International Journal of Economics, Commerce and Management*, 3(3), pp.112-131.
- Kazungu, I., Matto, G., & Massawe, H. (2017). Social Media and Performance of Micro Enterprises in Moshi Tanzania, *International Journal of Academic Research in Business and Social Sciences*, 7(5), 144-157.
- Kazungu, I., Ngugi, P. K., Rotich, G., and Odhiambo, R. O. (2018). Dynamics of Marketing Support Services and Performance of Handicraft Exporting Micro and Small Enterprises in Tanzania, *International Journal of Economics, Commerce and Management*, 6(2), 54-78.
- Kidalov, M. and Snider, K. (2011). US and European Public Procurement Policies for Small and Medium-Sized Enterprises (SME): A Comparative Perspective. *International Business and Politics*, 13(4), pp.1-43.
- Leach, A. (2011). South Africa SMEs Dismiss Public Procurement Opportunities. Retrieved from [www.supplymanagement.com/news/2011] Site visited on 10/03/2018.

- Lysons, K. and Farringtons, B. (2006). *Purchasing and supply chain management, 7th edition*. London: Prentice Hall.
- Ngugi, P. K. (2012). Challenges hindering sustainability of small and medium family enterprise after the exit of the founders in Kenya. PhD thesis Jomo Kenyatta University of Agriculture and Technology.
- Nicholas, C. and Fruhmann, M. (2014). Small and medium-sized enterprises policies in public procurement: Time for a rethink. *Journal of public procurement*, 14(3), pp.328-360.
- Obanda W. (2011). *Small and medium enterprises (SMEs) and public procurement contract in developing countries*. Kampala: Longhorn publishers.
- Peprah, A., Mensah, O., and Akosah., B. (2016). Small and medium sized enterprises accessibility to public procurement: SME entity perspective in Ghana. *European Journal of Business and Social Sciences*, 4(11), pp.25 – 40.
- Sanchez, A. (2011). *Public Procurement and the EU Competition Rules*. Oxford, UK: Hart Publishing.
- Saxena, S. (2012). Value for Money: Theoretical Framework and Practical Challenges in Implementation. [<http://tscpl.com/wpcontent/uploads/2012/12/TSCPL>]. Site visited on 12/04/2018.
- URT, (2013). *Public procurement Regulations 2013 (Goods, works, non-consultancy service and disposal of public assets by tender)*. Procurement Regulatory Authority: Dar es Salaam.
- World Bank, (2016). *Procurement report in investment project financing Goods, Works, Non-Consulting and Consulting Services*. Washington, DC: World Bank.



Revealed Comparative Advantage of Textile and Clothing Industry of Bangladesh in the North American Market

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Abstract

This paper attempts to investigate the long4 term patterns of revealed comparative advantage of the textile and clothing industry of Bangladesh among leading textile and clothing exporting nations in the North American market. A revealed comparative advantage index is employed to evaluate the comparative advantage of the top 5 competitors in the North American market over 38 years period. The analyze results exhibit tremendous ups and downs of comparative advantage of the selected competitors during 19804 2017 in North American textile and clothing market. In overall analysis during the mentioned period, it shows that Bangladesh revealed the highest comparative advantage over the selected top 5 competitors in the market. Established trade theories remain a useful but limited guide to understanding the dynamics of comparative advantage in the context of the changing global business environment and geopolitical transformation. Deeper understanding of the patterns of change could assist strategic planning for the concern stakeholder in the industry.

Keywords: International trade, Textile and Clothing, North American Market, Comparative advantage

Introduction

Because of falling trade barriers and technological innovation, cheaper and faster transportation, and mass production, trade has grown remarkably, completely transforming the global economy over the last two centuries. Trade transactions include both goods (tangible products that are physically shipped) and services (intangible commodities, such as tourism and financial services) has increased between the countries. In 2017, world trade was \$34 trillion. That3s \$17 trillion in exports plus \$17 trillion in imports (AMADEO, 2018). According to the newly released World Trade Statistical Review 2018 by the World Trade Organization

(WTO), the current dollar value of world textiles and apparel exports totaled \$296.1bn and \$454.5bn respectively in 2017, increased by 4.2% and 2.8% from a year earlier (Organization, 2018). Asia recorded the highest increase in trade volume with growth of 8.1%.

Bangladesh is the second largest ready-made garment exporter in the world, has emerged as a key player since 1978. Textiles & Clothing account for about 85% of total export of Bangladesh. Out of which 86% comes from the apparel sector which covers the major products of knit & woven shirts, blouses, trousers, skirts, shorts, sweaters, sportswear's & many more casual & fashion items (Hasan, Mia, Rahman, Ullah, & Ullah, 2016). Bangladesh's main export partners are the European Union, the North America and Emerging countries in Asia, South America and Africa (Comtrade, 2018). Textile & clothes, raw jute and its derived products, leather, fish and frozen seafood are the main export products of Bangladesh (Comtrade, 2018).

This multi-billion dollar industry of Bangladesh which is playing a major role in economic and infrastructure development of Bangladesh is facing stringent competition from India, Vietnam, Cambodia and China. According to the provisional data of the Export Promotion Bureau (EPB), Bangladesh's apparel export was growing significantly in previous years, but in 2016-2017 FY, the growth rate declined drastically, which has created an anxiety over the whole industry (Bangladesh). According to Export Promotion Bureau (EPB) data, Bangladesh's export earnings from the RMG sector stood at \$30.61billion, posting 8.76% growth in the last fiscal year. The figure is 1.51% higher than the target of \$30.16 million for FY18.

In FY17, Bangladesh's export earnings registered a 0.2% growth to \$28.15 billion, the lowest in the last one and a half decade (Ovi, 2018). The total amount, Knitwear products earned \$15.18 billion, which is 10.40% higher than the \$13.76 in the same period a year ago. Woven products earned \$15.42 billion, up by 7.18%, compared to \$14.39 billion a year ago. Meanwhile, Bangladesh's overall export earnings rose about 5.8% to \$36.66 billion, which was \$34.65 billion in financial year 2017 (Ovi, 2018).

Bangladeshi clothing industry, which mainly depends on the foreign buyers, now has to face a new term called competitiveness. Competitiveness is an indicator of the ability to supply goods and services at the location and in the form and at the time sought after by buyers, at prices that are as good as or better than those of potential suppliers, while earning at least the opportunity cost of returns on resources employed. Thus, a competitive firm or industry or country have the ability to satisfy the consumers with a product of the right price, right quality, right packaging, etc. (Ilyas, Mukhtar, & Javed, 2009). Bangladesh needs a strong double digit growth in export earnings to meet the expenses of development projects. Slower growth in export performance would widen the balance of payments gap, said the economist. With the present growth rate, Bangladesh would not be able to reach the target of \$60 billion export earnings by 2021, said by Policy Research Institute (PRI) executive director Ahsan H Mansur (Mansur, 2015).

In 2017, Bangladesh exported goods worth US \$ 1.1 billion to Canada, more than 95 per cent of which was readymade garment item. The total two-way trade between the two countries was worth US \$ 1.87 billion in 2017. "Of the total export to Canada from Bangladesh, majority of products are clothing items, as this North American country has been giving duty-free trade benefit for all goods to Bangladesh since 2004. Garment shipment to the US, the country's single largest export destination, declined 7.47 percent year-on-year to \$5.2 billion in 2016-17 largely because of higher duty, longer lead-time, and lower prices (Today, 2017). Apparel exporters also blamed the appreciation of the local currency against the American greenback, less imports by US retailers and inefficient port operations in Bangladesh are the reasons behind this decline

in garment exports. According to the latest data of Bangladesh Export Promotion Bureau, apparel exports to the US during July-Sep 2018 amounted to over USD 1.5 billion, a 3 percent growth from the USD 1.45 billion worth of shipment during the first three months of fiscal 2017-2018 (Today, 2018). Bangladesh relies heavily on the United States, European Union, and Canada for exporting clothing. The comparative advantage of a country in clothing changes as factor endowments, technology, factor prices, and levels of income change. Accordingly, it is necessary to pay attention to changes in comparative advantages of countries in various categories of clothing. Textile and clothing industry is a labor intensive industry. Each country should end up specializing in the production of the good for which it has a comparative advantage, resulting in an increase in world output, efficiency gains and potential welfare gains. Country has a comparative advantage in textile production (i.e. a large pool of low-skilled, cheap and docile labor force), this specialization in turn would have led to an increase in demand for these low-skilled workers and to a reduction in inequality due to increasing wages.

Therefore this study analyses comparative advantage of textile and clothing sector through This study aims to analyze the comparative advantage of Bangladesh textile and clothing industry export in the North American market comparing with its nine other top competitors. In this context the revealed comparative advantage (RCA) Balassa index (1965) at Harmonized System HS 2-digits levels was used to observe the trade patterns and changes (Balassa, 1977). Balassa developed the 'Revealed Comparative Advantage' (RCA) index concept in order to analyses international trade (Balassa, 1965, 1977). The RCA index identifies the success in exporting of a country compared to the world or a group of countries (Siggel, 2006). This study aims to provide a picture relative position of textile and clothing sector of Bangladesh in the North American markets where few researches have been conducted before that illustrate the value of this research.

However, the objectives of this research are as following;

- (i). To explore the overall status of the competitors in North American Market.
- (ii). To investigate the challenges faced by Bangladesh's textile and clothing industry in North American Market.
- (iii). To uncover the untapped potentiality of Bangladesh's textile and clothing industry in North American Market.
- (iv). To confer a sustainable growth of textile and clothing industry of Bangladesh in North American Market.

Literature Review

Theoretical foundation and empirical measures of comparative advantage have long been analyzed by trade economists. In particular, Ricardian comparative advantage has long been perceived as a useful pedagogical tool: a country should produce (and export) relatively more in those industries in which it is relatively more productive (Leromain & Orefice, 2014). Indeed, the Balassa Index of Revealed Comparative Advantage (RCA) as proposed by Bela & Balassa (1965) has been widely used to approximate countries' sectorial specialization⁴ but suffers both theoretical foundation and empirical distribution weaknesses (Balassa, 1965). The theoretical foundation of the Balassa Index has long been debated in the literature since it does not really match the original Ricardian idea of comparative advantage (Bowen, 1983; Vollrath, 1991). Ricardian comparative advantage, indeed, is based on the intrinsic (ex-ante) nature of the country in being relatively more efficient in the production of a certain good. Unfortunately, Balassa index fails in fitting this idea since it is based on the actual (ex-post) realization of

bilateral sector's trade flows, mixing up exporter with importer and sector specific factors affecting trade (Leromain & Orefice, 2014).

However, Imre fertő and lionel j. (2002) Hubbard investigates the competitiveness of Hungarian agriculture in relation to that of the EU where the findings revealed that the pattern of revealed comparative advantage has remained fairly stable in EU market (Fertő & Hubbard, 2003). Moreover, Studies by (Bhuyan & Ray, 2006), (Siriwardana & Yang, 2007), and (Rahman, Khan, Nabi, & Paul, 2011) they all have made major contribution made valuable contributions in evaluating comparative advantage of Bangladesh at bilateral and regional level. Their study was mainly focused against SAARC countries.

Selim Raihan et al. (Mr. Selim Raihan, 1999) used data on the RCA for the selected countries reveal the pattern that as a country becomes more advanced economically, its comparative advantage in clothing changes. In their findings it's illustrated those countries such as Bangladesh and Sri Lanka which did not have comparative advantages in most of the categories of clothing in 1980, managed to achieve the advantages for most categories by 1996. However, the comparative advantages of these countries are still concentrated on low-value added categories. China is at a higher level with comparative advantages in all categories of clothing. By contrast, South Korea, a relatively advanced developing country, has lost comparative advantages in most categories of clothing

Moreover, former studies do not facilitate detailed assessment of Bangladesh's comparative advantage in world market. Moreover, studies that apply Balassa index do not enable to uncover changes in comparative advantage patterns over time. Richardson and Zhang (2001) estimated export patterns variation over time for different sectors and region of USA by using Balassa index. This study found that patterns differ across countries and time for different level of exports. These differentials are due to geographical immediacy of trading partners and due to per capita income (Richardson & Zhang, 2001). In a study Bender, Siegfried Li and Kui-Wai found that export pattern changes with the change in comparative advantage of Asian and Latin American regions (Bender & Li, 2002). Karakaya, Etem Ozgen and Ferhat has done some research on the effect of trade creation and trade diversion by using Revealed Comparative Advantage and recognized the fact that export structure are different among EU and Turkey (Karakaya & Ozgen, 2002).

Furthermore, Hanif, Muhammad Nadim Jafri and Sabina Khurram conducted a study to discuss the role and importance of external finance in the textile sector of Pakistan to increase the competitiveness of export. The finding indicates that access to external finance increases the export competitiveness and comparative advantage (Hanif & Jafri, 2008). Akhtar, Naseem

Zakir, Nadia and Ghani, Ejaz used RCA to measure the performance of footwear industry of Pakistan and further compared the RCA of footwear industry of Pakistan with the footwear industries of India and China. Covering the period of 1996 to 2006 this study revealed that at HS 2-digit level Pakistan's footwear industry faced shift in comparative advantage. Though India and china have comparative advantage since 1990 but it decreased over time (Akhtar, Zakir, & Ghani, 2008). Ruma Bhattacharyya investigated comparative advantage and competitiveness for horticultural products of India and compared the advantage in these commodities with major rivals of these commodities such as North American, Asian and EU markets and concluded that India had a comparative advantage in fruits and vegetable sectors (Bhattacharyya, 2011).

Additionally, Shahab, Sadaf Mahmood and Muhammad Tariq estimated revealed comparative advantage of leather industry and various leather products of Pakistan, China, India and Iran, by using Balassa index (1965) for the period of 2002 to 2009. This study found increasing trend of comparative advantage movement of leather industry of Pakistan. The study indicates that Pakistan has significant potential of growth in this sector (Shahab & Mahmood, 2012).

Furthermore, Lalit Mohan Kathuria calculated RCA of export performance of clothing sector of India and Bangladesh. This study used Harmonized System (HS up to 4-digit level) to analyze competitive advantage of various clothing products for the period of 1995 to 2003 for both countries. This study revealed that comparative advantage in clothing products of India increased from 23 products to 25 products and comparative advantage of the same products of Bangladesh increased from 21 to products to 29 products in this period (Mohan Kathuria, 2013).

Research has been done by (Siriwardana & Yang, 2007), and (Bhuyan & Ray, 2006) to measure comparative advantage of Bangladesh at regional as well as bilateral level to fill-up the study gap because previous study did not make detailed analysis of comparative advantage.

N Ratkorm used RCA to compare the competitiveness of trade between Thailand and Australia during Thai-Australia Free Trade Agreement period and summarized that Thailand had comparative advantage in five business sectors over Australia and those are parts and accessories vehicles, cultured or natural precious stones, articles of iron and steel, plastic, and air-conditioning machines (Ratkorm, 2008).

Serin, Vildan Civan and Abdulkadir analyzed competitiveness in export of Turkish to EU and mentioned that Turkey has comparative advantage in almost all the traded sector to EU (Serin & Civan, 2008). In a study of comparative advantage of bilateral trade between China and Australia, Yu Sheng and Ligang Song found that bilateral trade is advantageous for both in the main commodities like agricultural products, petroleum products, textile and clothing products (Sheng & Song, 2008).

However, few researches has been conducted on the comparative advantage or competitiveness analysis of Bangladesh's textile and clothing industry in the North American Market that motivated this research to be conducted.

Research Methods and Data Sources

This study analyzed the revealed comparative advantage (RCA) Balassa index for textile and clothing sector of the top exporters respectively Bangladesh, Cambodia, China, India, and Vietnam in North American market (United States of America and Canada). For this purpose annual export data has been taken from the website of World Trade Organization (WTO) and World Integrated Trade Solution (WITS) from 1980 to 2017. The mentioned 37 years data of textile and clothing industry trade has been analyzed by using Microsoft Excel program (Organization, 2018; WITS, 2018).

Balassa explored the possibility of relying on various theoretical explanations of international trade to determine patterns of comparative advantage (Balassa, 1965, 1977, 1979). In this research we used the Balassa index to explore the comparative advantage of the textile and clothing industry of Bangladesh with other top nine competitors of this industry in North American market.

The Balassa index is explained as following; $RCA(BalassaIndex) = X_{ij} / X_{in} \div X_{wj} / X_{wn}$

Where X_{ij} is the export of country i , for, j commodity and n is a set of all exported commodities of country i , while X_{wj} represents the export of world for same commodity j and X_{wn} is a world export of all n commodities. According to the results of this index if $RCA > 1$ then a country has comparative advantage, if $RCA < 1$ then a country has comparative disadvantage in that commodity or industry.

Based on Balassa index we developed the following equation from 1-10 to analyze the RCA of the mentioned top 10 competitors in North American market for their export of goods in Textile and Clothing industry.

$$RCA_{BD} = X_{BDTC} / X_{BDTEX} \div X_{WTC} / X_{WTEX} \dots\dots\dots (1)$$

Here, RCA_{BD} indicates the revealed comparative advantage of Bangladesh, X_{BDTC} demonstrates the export of Bangladesh in Textile and Clothing industry, X_{BDTEX} demonstrates the total export of Bangladesh in that concern year, X_{WTC} indicates the global export value in textile and clothing industry and X_{WTEX} indicates the total global export in all products on that concern year.

$$RCA_{KH} = X_{KHTC} / X_{KHTEX} \div X_{WTC} / X_{WTEX} \dots\dots\dots (2)$$

Here, RCA_{KH} indicates the revealed comparative advantage of Cambodia, X_{KHTC} demonstrates the export of Cambodia in Textile and Clothing industry, X_{KHTEX} demonstrates the total export of Cambodia in that concern year, X_{WTC} indicates the global export value in textile and clothing industry and X_{WTEX} indicates the total global export in all products on that concern year.

$$RCA_{CN} = X_{CNTC} / X_{CNTEX} \div X_{WTC} / X_{WTEX} \dots\dots\dots (3)$$

Here, RCA_{CN} indicates the revealed comparative advantage of China, X_{CNTC} demonstrates the export of China in Textile and Clothing industry, X_{CNTEX} demonstrates the total export of China in that concern year, X_{WTC} indicates the global export value in textile and clothing industry and X_{WTEX} indicates the total global export in all products on that concern year.

$$RCA_{IN} = X_{INTC} / X_{INTEX} \div X_{WTC} / X_{WTEX} \dots\dots\dots (4)$$

Here, RCA_{IN} indicates the revealed comparative advantage of India, X_{INTC} demonstrates the export of India in Textile and Clothing industry, X_{INTEX} demonstrates the total export of India in that concern year, X_{WTC} indicates the global export value in textile and clothing industry and X_{WTEX} indicates the total global export in all products on that concern year.

$$RCA_{VN} = X_{VNTC} / X_{VNTEX} \div X_{WTC} / X_{WTEX} \dots\dots\dots (5)$$

Here, RCA_{VN} indicates the revealed comparative advantage of Vietnam, X_{VNTC} demonstrates the export of Vietnam in Textile and Clothing industry, X_{VNTEX} demonstrates the total export of Vietnam in that concern year, X_{WTC} indicates the global export value in textile and clothing industry and X_{WTEX} indicates the total global export in all products on that concern year.

We used the Harmonized System (HS) HS 1988/92 and SITC Revision 2 of international nomenclature for the classification of products in 2 digits levels to analyze the comparative advantage for the whole industry (UNSTATS, 2018; W. I. T. S. WITS, 2018).

Table 1: Textile and Clothing Industry Products according to Harmonized System (HS)

Harmonized System (HS) Product Code	Product Description
HS 50	Silk.
HS 51	Wool, fine/coarse animal hair, horsehair yarn
HS 52	Cotton.
HS 53	Other vegetable textile fibres; paper yarn & w
HS 54	Man-made filaments.
HS 55	Man-made staple fibres.
HS 56	Wadding, felt & nonwoven; yarns; twine, cordage
HS 57	Carpets and other textile floor coverings.
HS 58	Special woven fab; tufted tex fab; lace; tapes
HS 59	Impregnated, coated, cover/laminated textile f
HS 60	Knitted or crocheted fabrics.
HS 61	Art of apparel & clothing access, knitted or c
HS 62	Art of apparel & clothing access, not knitted/
HS 63	Other made up textile articles; sets; worn clo

Source: World Integrated Trade Solutions, accessed in December 2018; (W. I. T. S. WITS, 2018)

Table 2: Textile and Clothing Industry Products according to Standard International Trade Classification (SITC) Revision-2

SITC Revision 2 Product Code	Product Description
SITC 26	Textile fibres (except wool tops) and their wastes
SITC 65	Textile yarn, fabrics, made-upart., related products
SITC 26	Textile fibres (except wool tops) and their wastes
SITC 65	Textile yarn, fabrics, made-upart.,related products
SITC 84	Articles of apparel and clothing accessories

Source: UN Trade Statistics, accessed in December 2018; (Statistics, 2018)

Results and Discussion

The analyzed results (fig. 1 and table. 3) exhibit tremendous ups and downs of comparative advantage during 1980-2017 for the selected competitors in North American textile and clothing market. During these four decades the pattern of trade and competitiveness of textile and clothing industry of the mentioned countries faced significant transformation.

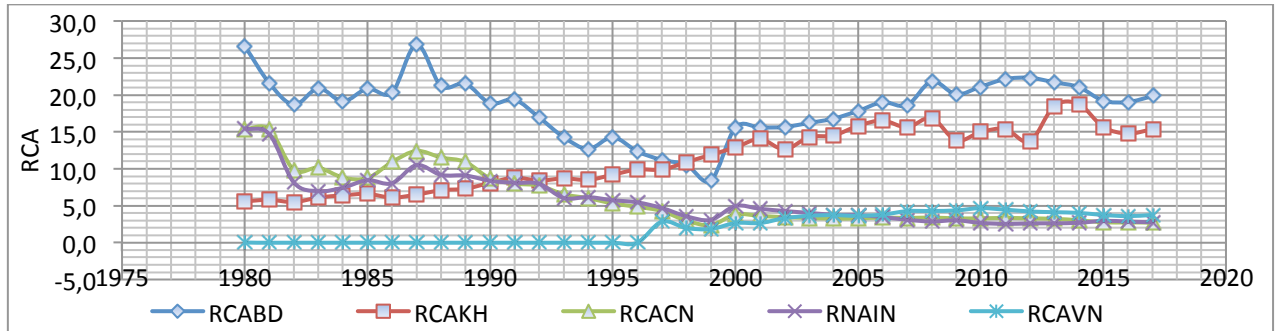
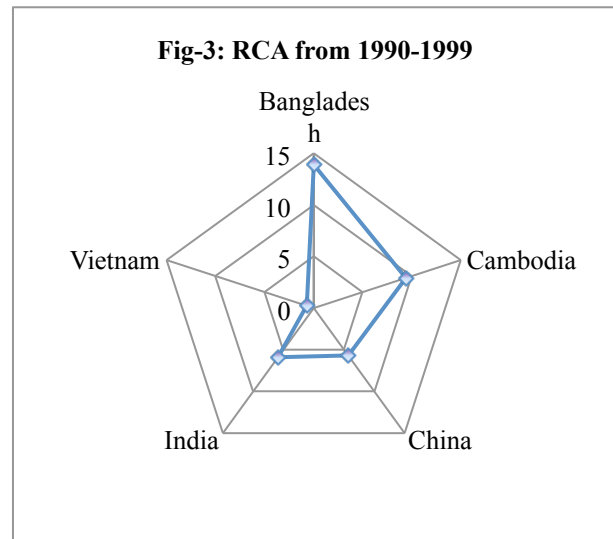
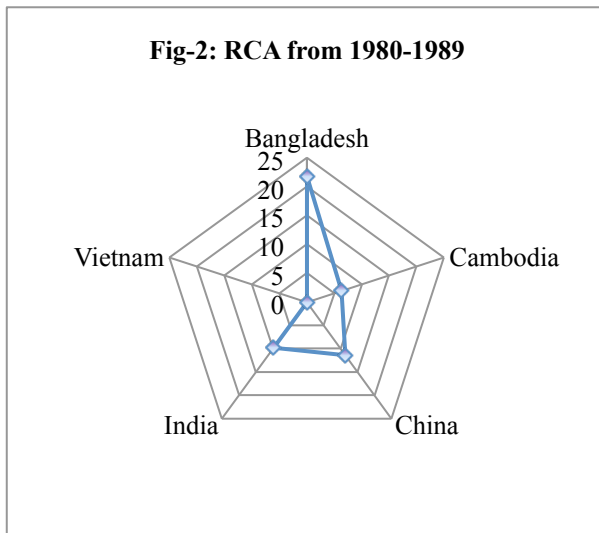


Figure 1: Analyzed RCA value of the selected countries during 1980-2017

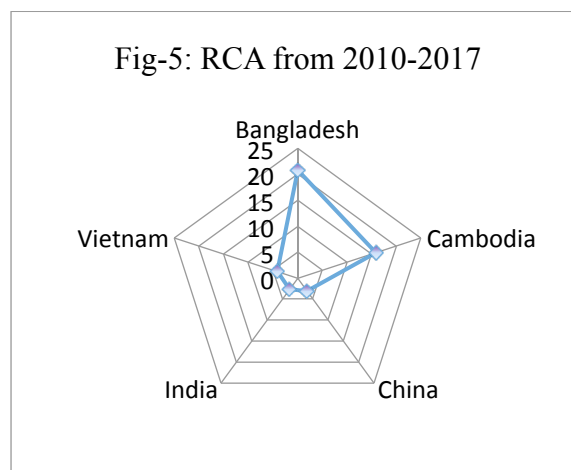
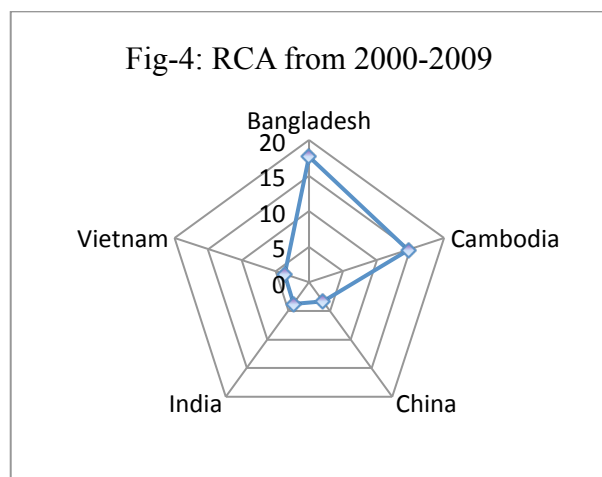
Table 3: Analyzed RCA of the Top 5 Competitors

	1980-85	1986-90	1991-95	1996-00	2001-05	2006-10	2011-15	2016-17
RCABD	21.3	21.8	15.5	11.6	16.4	20.1	21.3	19.5
RCAKH	0.5	0.7	0.8	2.6	14.3	15.6	16.4	15.1
RCACN	11.4	10.9	6.7	3.7	3.4	3.3	3.1	2.7
RCAIN	10.2	9.0	6.8	4.4	4.1	3.0	2.7	2.8
RCAVN	1.3	1.1	1.4	1.9	3.4	4.3	4.1	3.7

In 80 decade Bangladesh was the remained the top one having average RCA value 21.8 while China and India positioned the second and third consequently having average RCA value 11.4 and 9.4 while Vietnam didn't possess any comparative advantage during this period for its export of textile and clothing industry goods (fig. 2 & 3).



However, the RCA value of the selected countries dropped significantly during the 90 decade especially at the end of the 90 decade it's because of the global financial recession at that period. In this decade Bangladesh kept its top position having average RCA value 13.9 while India lost its 2nd position dropped to 5.9 in the third position. On the contrary Cambodia came to the second competitor's position having RCA value 9.4 in this decade. China also lost its 3rd position to 4th having average RCA value 5.7 and Vietnam kept its last position increasing a bit in its average RCA 0.7 during this period.



In the decade of 2000, the countries gradually gained their comparative advantage since the countries had been overcoming the global economic recession. In this period there also happened significant transformation of competition in textile and clothing in the global market. During this period Bangladesh kept its top position having average RCA 17.7 while Cambodia emerged as the 2nd positioned country for its revealed comparative advantage having the value of 14.7 and India kept its 3rd position. Another change took place during this period that's Vietnam achieved the 4th position overcoming China (fig. 4 & 5).

Furthermore, in the 2010th decade some of the competitors gained higher comparative advantage than the previous decade and some other's comparative advantage decreased during this period. Consequently, Bangladesh kept its top position having the revealed comparative advantage average value 20.8 while Cambodia kept its 2nd position having average RCA value 15.9 in this decade. Another indicative transformation took place during this decade that revealed Vietnam as the 3rd top country in terms of comparative advantage in its textile and apparel industry export. While China and India kept the 4th and 5th position respectively during this period.

However, after European Union, North American market is the second largest (20%) market for Bangladesh's textile and apparel export (MIT, 2018). Bangladesh's export volume in textile and clothing to North America accounted around 6 billion US\$ in 2017 (appendix 4) that's indicate the importance of this market for Bangladesh's export as well as for the economy. It's very important for the industry to keep its growth up as well as stable in the North American market. In 2017 total import of North American market in the textile and clothing accounted 126 Billion US\$ (appendix 2) where the analyzed 5 countries are the top competitors in this market. In this research although China revealed lower comparative advantage than Bangladesh, it showed the largest absolute difference between potential and actual exports in value terms in the North American Market of textile and clothing.

According to the analysis of the ITC's export potential map, China is the biggest player in North America having 59.9% share of textile and clothing import of the region. Amounting 44.3 billion US\$ export to North America, China revealed 73.6 billion US\$ future export potential to this market. Having \$29.5 billion untapped potential remaining for China in North American Market which is the biggest amount for this top competitor in this market (ITC, 2018). Vietnam revealed itself as the second largest exporter to the North American market having US\$12.1 Billion and it stated \$608.1 million untapped export potential in this market. India revealed \$10.4 billion export potential where \$3.5 billion remaining untapped potential having their

current export of \$7.6 billion. Bangladesh stated the 3rd top exporter in this market having current export of \$6.7 billion and revealing \$2.9 billion of untapped export potential in North American Market according to the export potential map of ITC. Furthermore, Cambodia also revealed \$3.8 billion export potential having \$946.2 million untapped export potential in the North American Market.

However, in this research the attempt was to explore the overall status of the competitors in North American Market as well as to uncover the untapped potentiality of Bangladesh's textile and clothing industry in North American Market. The concern authorities and the industry stakeholders should take proper steps to confer a sustainable growth of textile and clothing industry export of Bangladesh in the North American Market overcoming all the challenges grabbing the untapped potential of Bangladesh's industry over the other competitors in this market.

Conclusions and Recommendations

Textile and clothing sector has emerged as the main industry within a few decades that appeared to be crucial for the economy as a source of export earnings and employment generation. Since higher income nations generally remain stronger in more capital-intensive sectors, while lower income countries have emerged to dominate labor-intensive sectors. Nevertheless cheap labor, preferential access, low investment and energy cost will no more considered to be the basis of competitive advantage for the industry at this era of multi-functional competition in the global market including the North American market since Bangladesh's graduation from the LDC's country status.

By embracing a long-term time frame, a broad array of nations and a vertical complex industry perspective to identify shifting patterns of comparative advantage, this paper highlights the key dynamics of revealed comparative advantage of Bangladesh with its major competitors in the North American market. The empirical findings from this paper stated that Bangladesh has higher comparative advantage over the other major competing countries in the North American market. This result also revealed that the some emerging competitors e.g. Cambodia and Vietnam could grab larger market share of textile and clothing in the North American market if Bangladesh fails to keep or upraise its comparative advantage factors e.g. the extent of specialization and diversification, technological development, natural resource endowment, international political diplomacy, destination countries' trade facilitation policies (GSP) and the effects of economic integration and so on in the coming years.

However, further research could be conducted on the product specialization and diversification which could reveal more insights of the industry for its export diversification in the North American Market. Moreover, inclusion of a more complex array of variables is necessary to obtain a fuller understanding of comparative advantage among the competitors.

REFERENCES

- Akhtar, N., Zakir, N., & Ghani, E. (2008). Changing revealed comparative advantage: A case study of footwear industry of Pakistan. *The Pakistan Development Review*, 695-709.
- AMADEO, K. (2018). International Trade, Its Pros, Cons, and Effect on the Economy. from <https://www.thebalance.com/international-trade-pros-cons-effect-on-economy-3305579>
- Balassa, B. (1965). Trade liberalisation and "revealed" comparative advantage 1. *The Manchester School*, 33(2), 99-123.
- Balassa, B. (1977). 'Revealed' comparative advantage revisited: An analysis of relative export shares of the industrial countries, 1953–1971. *The Manchester School*, 45(4), 327-344.
- Balassa, B. (1979). The changing pattern of comparative advantage in manufactured goods. *The Review of Economics and statistics*, 259-266.
- Bangladesh, E. P. B. E. o. Statistic Data-2016-2017. from <http://www.epb.gov.bd/site/files/51916ae6-a9a3-462e-a6bd-9ef074d835af/Statistic-Data-2016-2017>
- Bender, S., & Li, K.-W. (2002). The changing trade and revealed comparative advantages of Asian and Latin American manufacture exports.
- Bhattacharyya, R. (2011). *Revealed comparative advantage and competitiveness: a case study for India in horticultural products*. Paper presented at the International Conference On Applied Economics–ICOAE.
- Bhuyan, A., & Ray, S. (2006). Feasibility study on bilateral FTA within SAARC region. *ACE Report*(2).
- Bowen, H. P. (1983). On the theoretical interpretation of indices of trade intensity and revealed comparative advantage. *Weltwirtschaftliches Archiv*, 119(3), 464-472.
- Comtrade, U. (2018). UN Comtrade Database. from <https://comtrade.un.org/>
- Fertő, I., & Hubbard, L. J. (2003). Revealed comparative advantage and competitiveness in Hungarian agri–food sectors. *World Economy*, 26(2), 247-259.
- Hanif, M. N., & Jafri, S. K. (2008). Financial development and textile sector competitiveness: A case study of Pakistan. *South Asia Economic Journal*, 9(1), 141-158.
- Hasan, K. F., Mia, M. S., Rahman, M. M., Ullah, A. A., & Ullah, M. S. (2016). Role of textile and clothing industries in the growth and development of trade & business strategies of Bangladesh in the global economy. *International Journal of Textile Science*, 5(3), 39-48.
- Ilyas, M., Mukhtar, T., & Javed, M. T. (2009). Competitiveness among Asian exporters in the world rice market. *The Pakistan Development Review*, 783-794.
- ITC. (2018). Export Potential of Bangladesh Textile and Clothing. Retrieved December, 2018, from <http://exportpotential.intracen.org/#/markets/geo-map?fromMarker=i&exporter=50&whatMarker=ls&what=13&toMarker=j>
- Karakaya, E., & Ozgen, F. (2002). Economic Feasibility of Turkey's Economic Integration with the EU: Perspectives from Trade Creation and Trade Diversion.
- Leromain, E., & Orefice, G. (2014). New revealed comparative advantage index: dataset and empirical distribution. *International Economics*, 139, 48-70.
- Lu, S. (2018). WTO Reports World Textile and Apparel Trade in 2017 (Vol. August 16, 2018). USA: Department of Fashion & Apparel Studies, University of Delaware.
- Mansur, A. H. (2015). Financial Market Developments and Challenges in Bangladesh. *Policy Research Institute of Bangladesh. Prepared as a Background paper for the Seventh Five Year Plan. Available: http://www.plancomm.gov.bd/wp-content/uploads/2015/02/9_Financial-Market-Developments-and-Challenges-in-Bangladesh.pdf*
- MIT, A. (2018). The Observatory of Economic Complexity. Retrieved December, 2018, from https://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/bgd/all/show/2016/

- Mohan Kathuria, L. (2013). Analyzing competitiveness of clothing export sector of India and Bangladesh: Dynamic revealed comparative advantage approach. *Competitiveness Review: An International Business Journal*, 23(2), 131-157.
- Mr. Selim Raihan, R. F., CPD (1999). *The Textile and Clothing Industry of Bangladesh in a Changing World Economy* (C. D. C. Ms Ayesha Banu, CPD Ed.): Centre for Policy Dialogue.
- Organization, W.-W. T. (2018). World Trade Statistical Review 2018. from www.wto.org
- Ovi, I. H. (2018). RMG exports saw 8.76% growth last fiscal year, *DhakaTribune*. Retrieved from <https://www.dhakatribune.com/business/2018/07/05/rmg-exports-saw-8-76-growth-last-fiscal-year>
- Rahman, M., Khan, T. I., Nabi, A., & Paul, T. K. (2011). Bangladesh's export opportunities in the Indian market: Addressing barriers and strategies for future. *South Asia Economic Journal*, 12(1), 117-141.
- Ratkorm, N. (2008). Comparative Advantage of Thailand's export product in Australia During Free Trade Agreement Thailand-Australia.
- Richardson, J. D., & Zhang, C. (2001). Revealing comparative advantage: chaotic or coherent patterns across time and sector and US trading partner? *Topics in Empirical International Economics: A Festschrift in Honor of Robert E. Lipsey* (pp. 195-232): University of Chicago Press.
- Serin, V., & Civan, A. (2008). Revealed comparative advantage and competitiveness: a case study for Turkey towards the EU. *Journal of Economic and Social Research*, 10(2), 25-41.
- Shahab, S., & Mahmood, M. T. (2012). Comparative advantage of leather industry in Pakistan with selected Asian economies. *International Journal of Economics and Financial Issues*, 3(1), 133-139.
- Sheng, Y., & Song, L. (2008). Comparative Advantage and Australia-China Bilateral Trade. *Economic Papers: A journal of applied economics and policy*, 27(1), 41-56.
- Siggel, E. (2006). International competitiveness and comparative advantage: a survey and a proposal for measurement. *Journal of Industry, Competition and Trade*, 6(2), 137-159.
- Siriwardana, M., & Yang, J. (2007). Effects of proposed free trade agreement between India and Bangladesh. *South Asia Economic Journal*, 8(1), 21-38.
- Statistics, U. T. (2018). SITC Classification Commodity Code and Commodity description. Retrieved 2018, from United Nations <https://unstats.un.org/unsd/tradekb/Knowledgebase/50262/Search-SITC-code-description>
- Today, T. (2017). Why Bangladesh apparel exports to US is declining. from <https://www.textiletoday.com.bd/bangladesh-apparel-exports-us-declining/>
- Today, T. (2018). Bangladesh's apparel export to US pushes up in Jul-Sep 2018. from <https://www.textiletoday.com.bd/bangladeshs-apparel-export-us-pushes-up-jul-sep-2018/>
- UNSTATS. (2018). Harmonized Commodity Description and Coding Systems (HS). Retrieved 2018, from UNSTATS <https://unstats.un.org/unsd/tradekb/Knowledgebase/50018/Harmonized-Commodity-Description-and-Coding-Systems-HS>
- Vollrath, T. L. (1991). A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage. *Weltwirtschaftliches Archiv*, 127(2), 265-280.
- WITS. (2018). *North America Textiles and Clothing Imports By Country and Region 2016*. Retrieved from: https://wits.worldbank.org/CountryProfile/en/Country/NAC/Year/2016/TradeFlow/Export/Partner/all/Product/50-63_TextCloth
- WITS, W. I. T. S. (2018). Harmonized System 1988/92. Retrieved 2018, from World Bank <https://wits.worldbank.org/product-metadata.aspx>

Appendix:

Appendix 1: Top 10 Exporters in Global Markets of Textile and Clothing, (Value in Billion USD)

Exporters	Value		Share in world exports (%)				Annual percentage change (%)			
	2017	2000	2005	2010	2017	2010-17	2015	2016	2017	
China	290	28.6	46.9	67.2	72	8	-8	-13	5	
European Union (28)	199	65.4	65.9	55.4	52	4	-26	5	17	
Extra-EU (28)	52	16.3	16.6	14.3	13.9	5	-28	0	17	
India	35	6.6	7.2	8.3	9.9	11	-3	-8	8	
Bangladesh	34	2.6	2.5	4.2	6.5	10	8	8	2	
Vietnam	34	1.1	2.1	4.1	8.4	27	15	24	27	
Turkey	26	5.7	7.8	7.2	7.2	6	-21	0	5	
USA	20	11.5	7.9	6.1	5.8	5	-3	-15	6	
Korea Republic	10	8.2	5.1	4.4	3.3	-2	-11	-6	-2	
Taiwan	9	7.7	4.8	3.9	3.1	-1	-6	-7	3	
Pakistan	8	2.9	3.5	3.1	2.7	0	-9	-7	4	
Indonesia	8	2.4	1.8	1.9	1.8	3	-1	-2	10	
Cambodia	7	0.5	0.8	0.9	1.6	13	11	12	8	

Source: Dr. Sheng Lu, University of Delaware, (Lu, 2018); compiled by the Authors in 2018

Appendix 2: Top 10 Importers of Textile and Clothing in Global Markets (Value in Billion USD)

Importers	Value		Share in world imports (%)				Annual percentage change (%)			
	2017	2000	2005	2010	2017	2010-17	2015	2016	2017	
European Union (28)	261	76.3	80.9	73.1	61.8	2	-21	3	0	
Extra-EU (28)	130	29.5	33.4	34.1	30	4	-17	1	8	
USA	116	42.8	39.2	30.9	27.1	4	9	-9	-5	
China	43	8.4	7.8	7.3	7	16	1	-14	15	
Japan	36	12.7	10.8	10	8.4	3	-16	-2	4	
Vietnam	14	0.8	1.6	2.6	4.3	10	6	1	5	
Canada	10	1.8	2.1	2.2	2.1	3	-2	-3	6	
Korea Republic	9	0.6	1	1.2	1.9	11	1	1	8	
Bangladesh	9	0.8	1.1	1.7	3	11	21	7	7	
Turkey	7	1.3	2.1	2.5	2.2	1	-12	-2	12	
Australia	7	1.6	1.6	1.4	1.4	3	-8	6	13	
Russian Federation	7	0.1	0.3	2	1.5	-1	-34	3	26	
Mexico	6	3.6	2.8	1.9	2	3	2	-4	1	
Indonesia	6	0.8	0.4	1.6	1.9	5	-2	3	4	

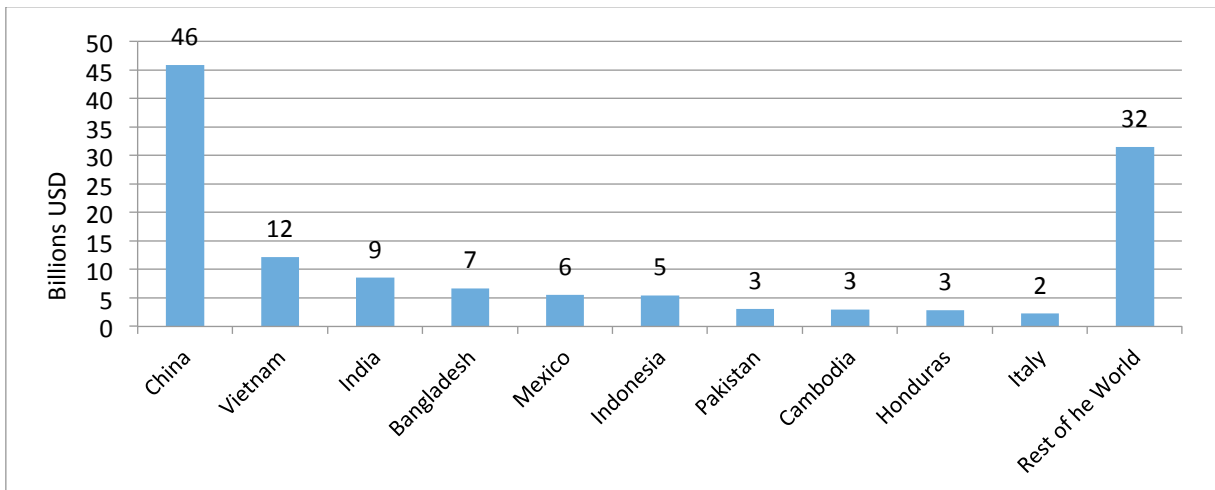
Source: Dr. Sheng Lu, University of Delaware, (Lu, 2018); compiled by the Authors in 2018

Appendix 3: Share of the top 10 Import Partners of North America in Textile & Clothing (Share %)



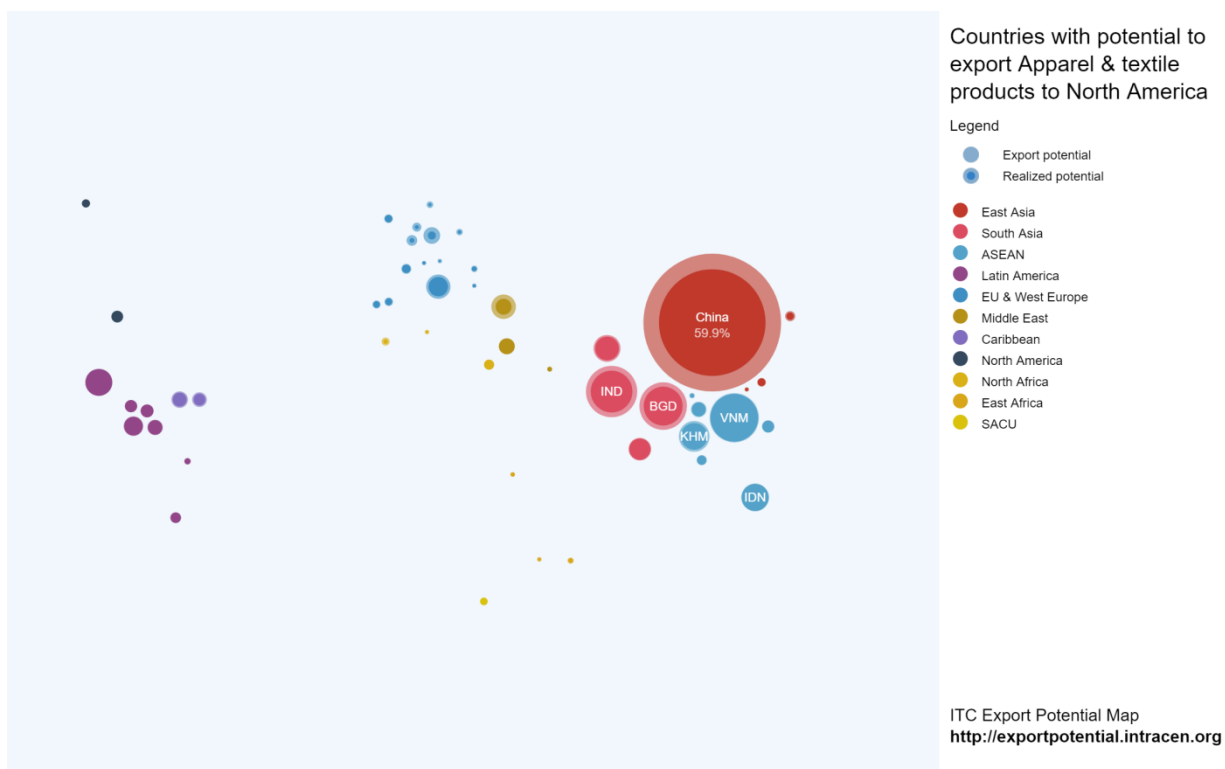
Source: World Integrated Trade Solutions, (WITS, 2018); Compiled by the Authors in 2018

Appendix 4: Top 10 Import Partners of North America in Textile and Clothing in 2016 (Value Billion USD)



Source: World Integrated Trade Solutions, (WITS, 2018); Compiled by the Authors in 2018

Appendix 5: Export Potential of Bangladesh's Textile and Clothing Industry in North American Market



Source: Export Potential Map of ITC; Accessed in 2018; (ITC, 2018)