Volume 17 Issue 44
Originally issued as E6



Global Journal of HUMAN-SOCIAL SCIENCE: E
Economics
Volume 17 Issue 6 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460x & Print ISSN: 0975-587X

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By Angelica Maddawin

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GJHSS-E Classification: *FOR Code: 149999*



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Chapter I

I. Introduction

a) Background

The Philippine garment industry has gone through transformations as the world goes through the evolution of international trade policies. Before the large factories of garments were constructed in the country, home sewing has been famous in the 1950s. It has beena typical source of livelihood of a low-income family with the mother usually the seamstress who purchase fabric and make it into uniforms, dresses, pants etc. and sell to the market. In the succeeding years, dressmaking in homes have shifted to garment production in the big factories that are located in some areas in Metro Manila and in export processing zones. Over the years, these companies employed many labourers and trained them with necessary skills in manufacturing of clothes. To some extent, companies provided housing to their migrant workers. To this date, some companies still exist and have sustained their operations while some have ventured into other type of businesses and others have totally closed their operations.

But despite a number of companies leaving the industry, today, the industry as a whole remains resilient and still keeping up from the global competitive pressures. Actions toward the improvement of the industry's performance are necessary to increase the industry's contribution to the economy through the jobs that it creates and growth in its exports contribution. Strategies toward competitiveness are necessary especially now thatthe garment firm owners are facing challenges and showing threats of moving out of the country due to international competitive pressures.

b) Objective of the Study

In the light of the revival of the Philippine garment industry, the study may provide support to the improvement of the industry's performance and competitiveness towards employment creation and export growth. Specifically, the study aims to:

1. Provide background of garment industry covering its historical events, cross country literature reviews of other countries' linkage of export and employment and the theoretical foundation (*Chapter I*)
2. Provide information on the Philippine garment industry's economic contribution *(Chapter II)*
3. Discuss the characteristics of the garment and textile industry using the World Bank Enterprise Survey and identify the factors affecting employment generation of the industry (*Chapter III*)
4. Perform regression analysis on the factors affecting employment generation and see the relationship of these factors affecting employment (*Chapter IV*)
5. Provide summary of key informant interview conducted with the representative from the Garment

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Business Association, a first-hand information on the industry's historical and present situation (*Chapter V*)

6. Provide conclusion and policy recommendation (*Chapter VI*)

i. *Multifiber Arrangement (MFA), 1974-1994*

In 1974-1994, the international trade in textiles and apparel industries were regulated by the Multifiber Arrangement (MFA), an agreement that was created under the system of the General Agreement on Tariffs and Trade (GATT). It was created to regulate the rapid imports of industrial countries on textile and apparel products that come from the developing countries. It was a protectionist measure of the industrial countries to keep their domestic apparel and textiles industries away from possible damages particularly on the cotton textiles, man-made fibers and wool. In order to protect these sensitive products, the import growth rate was capped to a certain level only at 6% annually, lower than the import growth rate prior to the MFA which is 15%. However, the MFA type of regulation is discriminatory in practice as it violates GATT rules. This had led to its termination starting 1995and creation of the WTO Agreement on Textiles and Clothing (ATC) as a replacement. The MFA's effect to the global trade includes altering of location of production, fragmentation of supply chain, increased in cost through quota rents, increased in production prices by taxing consumers, creation of market inefficiencies and discrimination to the other countries' comparative advantage (Vollrath and Gehlhar, 2008).

ii. *Voluntary Export Restriction*

What happened during the MFA was that each of the developed and developing countries went into an agreement called Voluntary Export Restrictions (VER) agreement. VER is a quota on trade committed by an exporting country as an assurance to continuously supply the foreign market each year while the MFA is in effect. Rather than completely losing their foreign market, VER has become the best option for the developing countries. Furthermore, the VER arrangement has proven with distortionary effect arising from income transfer from importing country to exporting country. Literature suggests that VER is beneficial for the exporter countries.

iii. *The Case of Cambodia*

In the case of Cambodia, bilateral trade agreements proved to be an effective mechanism in enhancing their garment sector's exports especially in the end of the MFA. Cambodia's bilateral agreements that were instrumental in their garment sector were GSP agreement with EU and the agreement with US we resigned in 1996 and 1997, respectively. Probably taking advantage of the rule of VER, US imposed quota on 12 product categories of Cambodian garments exports as Cambodia is performing stronger in exports to US. Cambodia's garment exports grew by more than 100 percent where majority of the exports, approximately 90 percent, was absorbed by the US market. Despite quotas imposed to Cambodian exports, exports continued to rise because garment factories produced more of the items that were not included from the restricted categories. Aside from concentrating on other product classification, Cambodian garment industry attracted FDI through relatively low labor cost. The garment industry's labor force is mostly composed of young and unskilled women who are migrants from the rural areas. Cambodian garment industry is characterized by foreign ownerships from mainland China, Hong Kong, Taiwan, Malaysia, Singapore, United Kingdom (UK), and Korea. These offshore owners also have subsidiary factories in other countries in the region, such as Vietnam, Sri Lanka, and China.

Besides lack of skilled labor, Cambodian garment industry is also characterized by shortage of raw materials for high-value production. Cambodia's garment industry is confined with "cut-make-trim" signifying minimal gain from the value chain. Their garment industry has not yet diversified fully into upstream production because their textile manufacturing faces the same problem like that of the Philippine garment industry. They suffer from high cost of electricity and problems with physical infrastructure leaving few companies investing in the textile sector, such as Manhattan Textile Company, owned by American-Taiwanese investors. Despite inability to invest in high-value production, Cambodia garment industry is not at a competitive disadvantage. The benefits from the cut-make-trim became enough for Cambodia's garment industry to be competitive. Apart from international competitiveness, Cambodia's garment industry also contributes to poverty reduction through remittances. Garment factories are dominant employers of rural migrants where 13 percent of total household income from the rural areas is covered by remittances of garment factory workers in the urban. The way remittances helped the rural household is through investments in the agricultural sector considering that the families of the migrant workers are mostly farmers. The remittances are usually used to buy seeds, pesticides, fertilizers and pumping machines for irrigation. As a result, famers can raise income and may afford to send their children to school.

iv. *Agreement on Textiles and Clothing (ATC), 1995-2004*

The period of 1995-2004 was a progressive implementation of the ATC. The process went on four stages of integrating the products that have been previously restricted by quota into the list of GATT products that are turning to be quota-free. Integration process is therefore a process of removal of quota for the products that are listed in the GATT. Some of the

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examples of the products that are subject to the removal of quota are tops and yarns, fabrics, made-up textile and clothing. The procedure was done in a gradual process to give time to both the importers and exporters to adjust in the process since they have been restrained by the MFA for 20 years long. Table 1.1 illustrates a step by step increase of import growth rate limit on each stage of the integration process and its corresponding percentage of products that are to be integrated into the GATT list. This integration process is applicable to developed countries such as EU countries, US and Canada. This means that they can now import relatively more products at a higher import limit from developing countries as the integration process goes on.

Table 1.1: Transition of MFA to ATC, 1995 – 2005

STEP	Percentage of products integrated in GATT	Import limit per year
Step 1: Jan 1, 1995 to Dec 31, 1997	16% (taking 1990 imports as base)	6.96%
Step 2: Jan 1, 1998 to Dec 31, 2001	17%	8.7%
Step 3: Jan 1, 2002 to Dec 31, 2004	18%	11.05%
Step 4: Jan 1, 2005	49% (maximum)	No quotas left

Source: World Trade Organization (WTO)

v. *Developing Countries Trade in Garment duringthe Transition Period*

While the world trade in garment is under the transition period of slowly removing the quota restriction over the years from the developing countries, the developing countries' world trade of garment shows that the countries have exported garment more than imported. Figure 1.1 shows the garment export dominance over imports for Bangladesh, China, Vietnam, Philippines, Cambodia and Sri Lanka. Philippines follows the usual trend for developing countries, that is, they export more than they import garment, however, when compared with the magnitude of trade export in garment, Philippines relatively export less than Bangladesh, China and Vietnam. This implies that Philippines has been efficient in absolute terms but relative to other countries like Bangladesh, China and Vietnam, it has not been competitive. If it was not only because of the quota restriction, the country could not have the chance to flourish its exports. Also Philippine export trend is declining during the MFA to ATC transition while Vietnam export trend was increasing in that period. Looking at Cambodia's and Sri Lanka's exports, it seems that Philippines has comparative advantage in garments during the MFA to ATC transition period.

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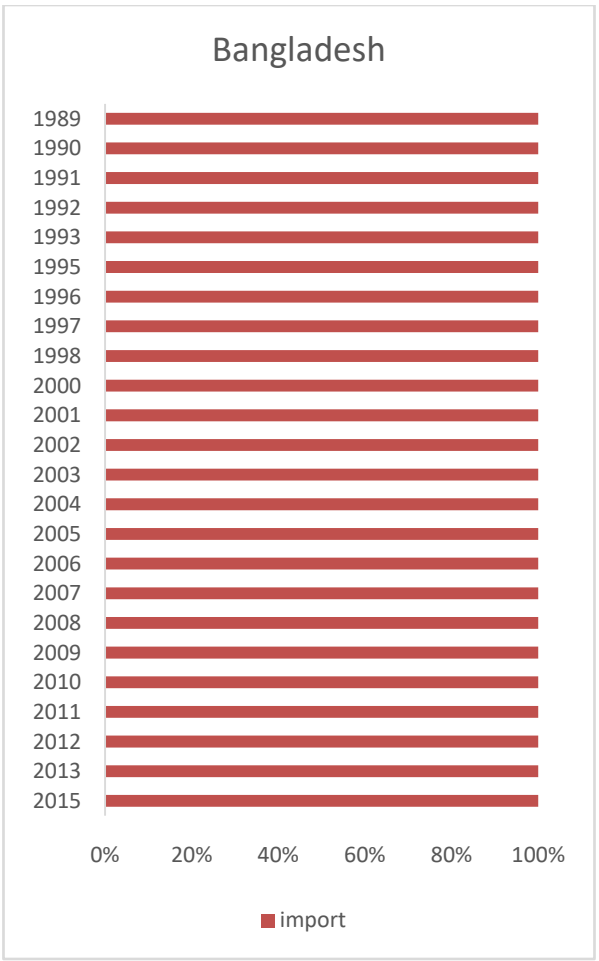

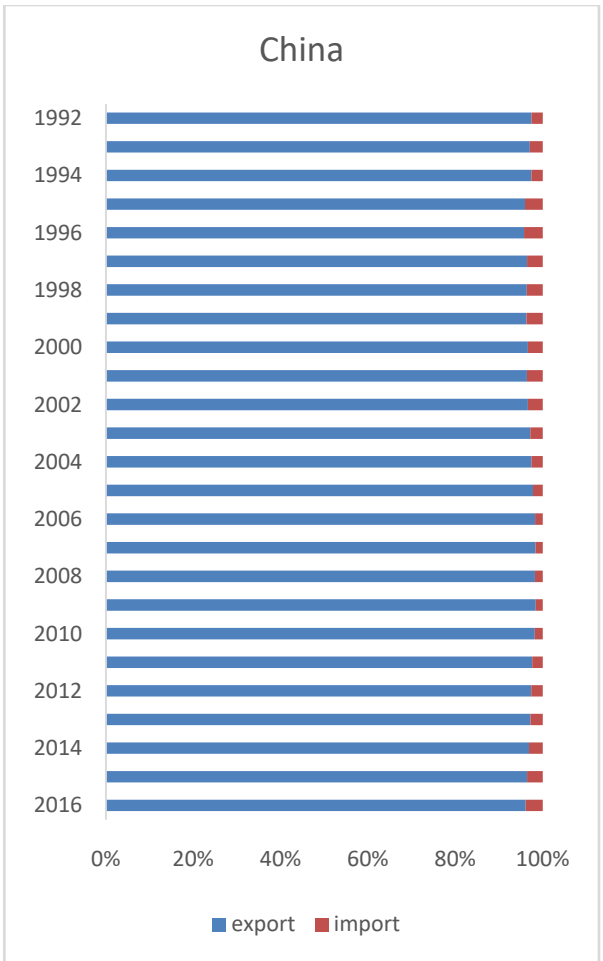



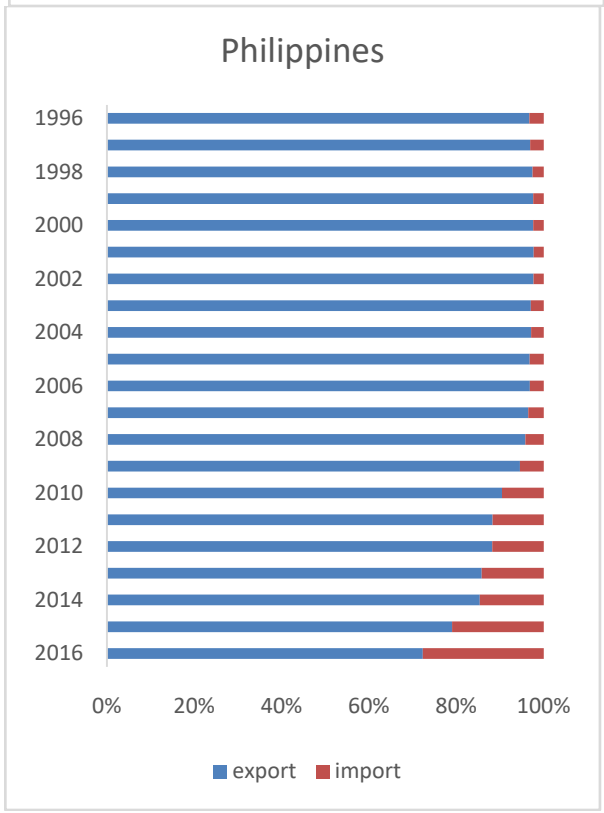

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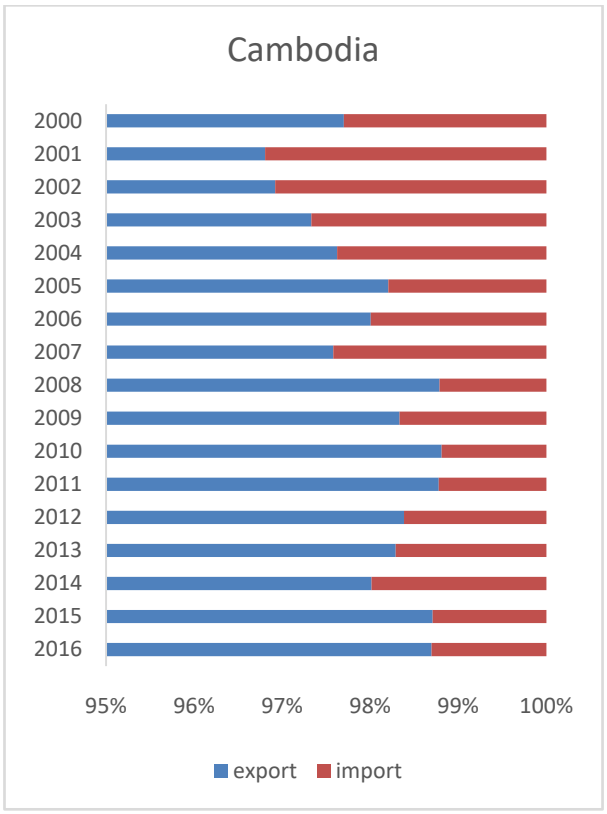

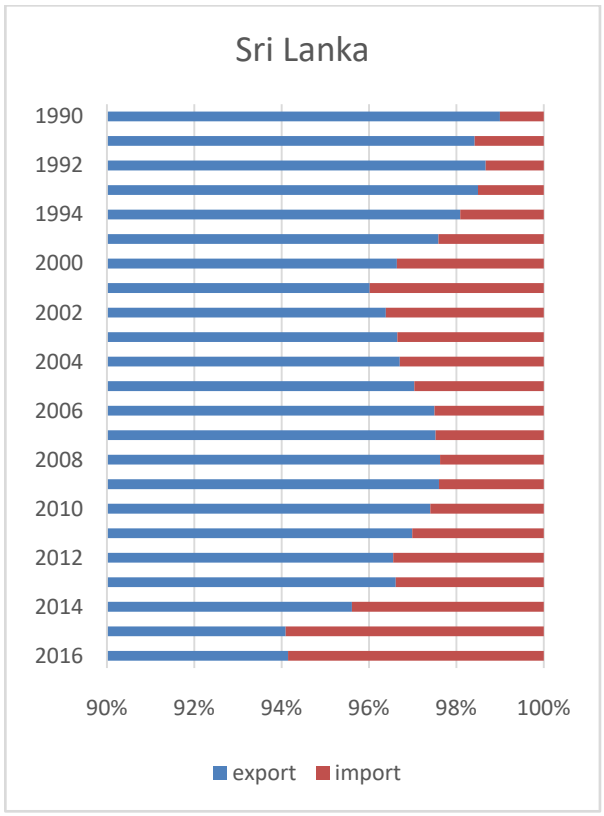

Source: UN COMTRADE

Note: Exports and Imports of HS codes 61 and 62. 61 – Articles of apparel, accessories, knit or crochet, 62 – Articles of apparel, accessories, not knit or crochet

Figure 1.1: Trade Distribution in Garment Sector in Selected Countries

vi. *Garment and Textile Export Board (GTEB) in the Philippines, 1982 – 2004*

While the international trade is transitioning from the MFA to ATC, there were also domestic initiatives designed to ensure that the Philippine garments and textile industries remain competitive internationally as it evolved. The country has created a Garment and Textile Export Board (GTEB) in 1982 through an Executive Order (EO) No. 823 with functions such as negotiation, administration, allocation and monitoring of the garments and textile export quota. But the GTEB came to an end as the MFA also ended. After more than two decades, it was eventually phased-out through EO 285 in 2004. During its existence, an enhancement plan was laid out which embodies a strategy towards the industries' competitiveness in the international market. The plan includes four components targeted to maximize the opportunities of the industry's export and at the same time ensures transparency and respect for law. The four components are the following:

1. The Responsible Apparel Production Principles or the GTEB Accreditation Program
2. The Quota Rule Enhancement
3. Administrative reforms or the partial re-organization of the GTEB
4. The Foreign Policy Orientation program

Quota allocation of the GTEB to the garment manufacturersis given on the basis of the size of the firm that is also based on 3-year sales performance. However, from the analysis of GTEB, the most valued garment product categories have the most highly critical quota restrictions. These product categories are (1) *Knit Shirts Made of Cotton,* (2) *WG Trousers/Slacks/Shorts Made of Cotton,* (3) *MB Trousers/Slacks/Shorts Made of Cotton*and(4) *MB Shirts (Blouses) Not Knit Made of Cotton.* To be able to earn revenues, GTEB offered quota of these product categories through a public bidding. To conclude, quota allocation was not efficient because the existing supply of quota is not sufficient to meet the demand of the whole industry.

vii. *Philippines – US Save Our Industry Act, 2008*

In the succeeding years, various initiatives have been proposed to continue and encourage trading activities in the garment industry. In 2008, a preferential trade bill for textiles and apparel between the US and the Philippines, called "Save Our Industry Act" was proposed at the US congress. It describes an innovative win-win trade legislation because of the jobs that it could create to both the US and Philippines. The agreement basically allows the Philippine apparel products that are manufactured domestically to enter to the US market with duty free market access but on a condition that the apparel products should be made

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with US fabrics. This could also mean creation of jobs in US textile sector giving pressure to the US textile manufacturers to export fabrics in the Philippines.

viii. *Philippines – EU Generalised Scheme of Preference Plus (GSP+), 2014*

In December 2014, a Generalised Scheme of Preference Plus (GSP+) by the European Union was formally announced to take place. It is a special incentive trade arrangement which offers zero duties for the Philippine exports to any of the 28 member countries of the EU. This covers more than 6,000 products including coconut and marine product, processed fruit, prepared food, animal and vegetable fats and oils, textiles, garments, headwear, footwear, furniture, umbrellas and chemicals.

c) Review of Literature

Several studies have been conducted on the relationship of export-oriented industry to industry's employment most especially in China because of its remarkable transformation to world's industrial powerhouse. A compilation of the studies that are significant to the analysis this paper varies in time periods and the industry coverage. One empirical analysis is done by Mao (2009) who showed the significant impacts of FDI and export on employment in the manufacturing industries in China based on the panel data of 329 manufacturing industries from 1999 to 2007. Hu and Liu (2007) also did an empirical study on industry-wide impact of trade on employment in China from 1998 to 2003. Using samples of 32 industries, the impact analysis suggests that a 1% increase in the share of export results to increase in the labor demand by 0.19%. Yu (2012) focused specifically on labor-intensive industries covering 24 sub-sectors of manufacturing industries in Wenzhou economic and technological development zone and proved that exporting results to positive impact on labor income and employment. While Wei (2011) specifically focused on textile industry's export and employment in China for 1980-2007 and provided long-term and short-term estimates of export relationship to textile industry's employment. The results are 0.68% increase in employment in the long-run and 0.48% increase in employment in the short-run for 1% increase of export in the textile industry. Yu (2008) made an empirical study that looked into the whole employment effects of manufacture product trade and as well as sect oral employment effect based on 34 industries panel data from 1996-2006. The author found out that export has positive effect on employment as a whole but import has negative effect on employment.

Based on CGE model, a simulation analysis was done by Lu and Li (2011) to show the effects of change in the China exports on the employment under the scenarios of global economic growth and China's economic stimulus plan to international financial crisis in the second half of 2008. The results show that one percentage increase in the exports leads to employment growth in the non-agriculture by 0.08 percentage. While L in (2013) used the input-output table for 1988-2007 and analyzed China's foreign trade influence on domestic employment. In this study, the author analyzed the net trading effects to employment of labor-intensive and labor-capital intensive industries separately. The results show a difference between the two types of industries' trade on employment. The net influence of labor-intensive commodities trade on domestic employment has the most absolute quantity and proportion while the net influence of labor-capital intensive commodities trade on employment has the minimum absolute quantity and proportion. A quite similar study is also done by Turco and Maggioni (2013) who investigated the impact of importing and exporting or two-way trade of Turkish manufacturing to employment. The authors concluded that larger employment expansion is experienced by high trade intensity firms and the employment creation effect further leads to large positive impact on firm production scale. Also, they said that high intensity, with emphasis on exporting firms, promotes workforce skill upgrading.

In a macro setting, Felbermayr, Prat and Schemer (2011) did empirical study on the association of trade openness and structural rate of unemployment and checked the robustness of their estimates using both panel data from 20 OECD countries and cross-sectional data of set countries. The regression for the panel data controls for the unobserved time variant variables whereas in the cross-section regression, openness variable is instrumented by geographical variable. For both regressions, business cycle effects, institutional and geographical variables were added. The regression results are robust to various definitions of unemployment rates and openness measures and at the benchmark, their result suggests a 10-percentage point increase in total trade openness reduces aggregate unemployment by about three quarters of one percentage point.

Gender equality-related studies are gaining popularity and significance in trade and industry development policy research. When it comes to women employment effect of the export-oriented industries, literatures suggest that women employment effect of export is more evident in countries like Turkey and Bangladesh. One example is Basle vent (2004) who analyzed the impact of export-oriented growth strategy on female labor force participation and employment in the urban Turkey and found out that long-term economic growth driven exportation has significant positive effect on both labor force participation and employment of women. Ozler (2000) also investigated the relationship of export orientation to female share of employment in the Turkish manufacturing sector on the onset of export-led industrialization policies in 1983-85

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and found out that female share of employment increases with the export-total output ratio while controlling for workers' skill. Majumder and Begum (2000) evaluated gender differences in conditions of employment and work environment among export-oriented garment industry and concluded that in Bangladesh, women's employment in export-oriented industry has narrowed the gender gap in labor force participation, social prestige, control over income and decision making.

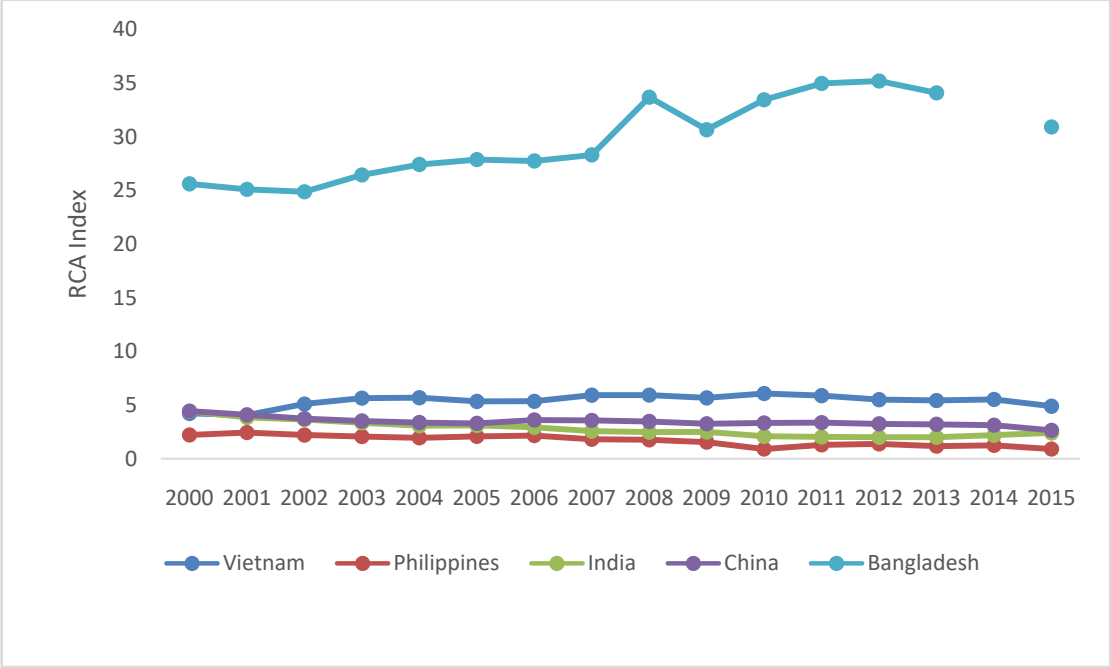
d) Theoretical and Conceptual Framework

Based on David Ricardo model of comparative advantage, countries could gain from trade if they export the commodity in which they have comparative advantage. Balassa (1965) introduced an index of revealed comparative advantage computed as the ratio of a product's share of exports in country's total exports to its share in world exports. RCA indices can be calculated at any degree of disaggregation. In this paper, we follow the RCA index formula below:

$$RCA_k^i = \frac{X_k^i / X^i}{X_k / X}$$

where X_k^i is country *i*'s exports of garment*k*, $X^i = \sum_k X_k^i$ its total exports, $X_k = \sum_i X_k^i$ world exports of garment*k* and $X = \sum_i \sum_k X_k^i$ total world exports. The selected country *i*'s are world's strongest producers of garments such as China, Bangladesh, India and Vietnam. Their RCA indices will be compared to the Philippine RCA index (Figure 1.2). A value of RCA above one in good (or sector) *k* for country *i* means that *i* has a revealed comparative advantage in that sector.

Since the transition period of MFA to ATC to the present times, China, India, Bangladesh, Philippines and Vietnam have demonstrated comparative advantage in the garment sector as illustrated by their RCA index (Figure 1.2). Bangladesh has the highest RCA index among those countries.



Note: RCA Index for sum of products with HS codes 61 and 62.
61 - Articles of apparel, accessories, knit or crochet
62 - Articles of apparel, accessories, not knit or crochet

Source: UN COMTRADE

Figure 1.2: RCA Index for Selected Countries, 2000-2015

Chapter II

II. Economic Contribution

a) Gross Value Added Share

The gross value added (GVA) share of wearing apparel in the manufacturing sector ranged from 2% - 6 % since 1998 to 2015 (Figure 2.1). In 1998, wearing apparel have reached 5.9% GVA which is the highest recorded within the period of 1998-2015.The GVA trend is declining in the transition period of MFA to ATC. From 1998, the GVA had dropped down to a little less than 2% after 7 years. Although there are observable peaks in the post MFA such as years 2008 and 2012, these peaks could be attributable to the effects of post MFA and some to other factors.

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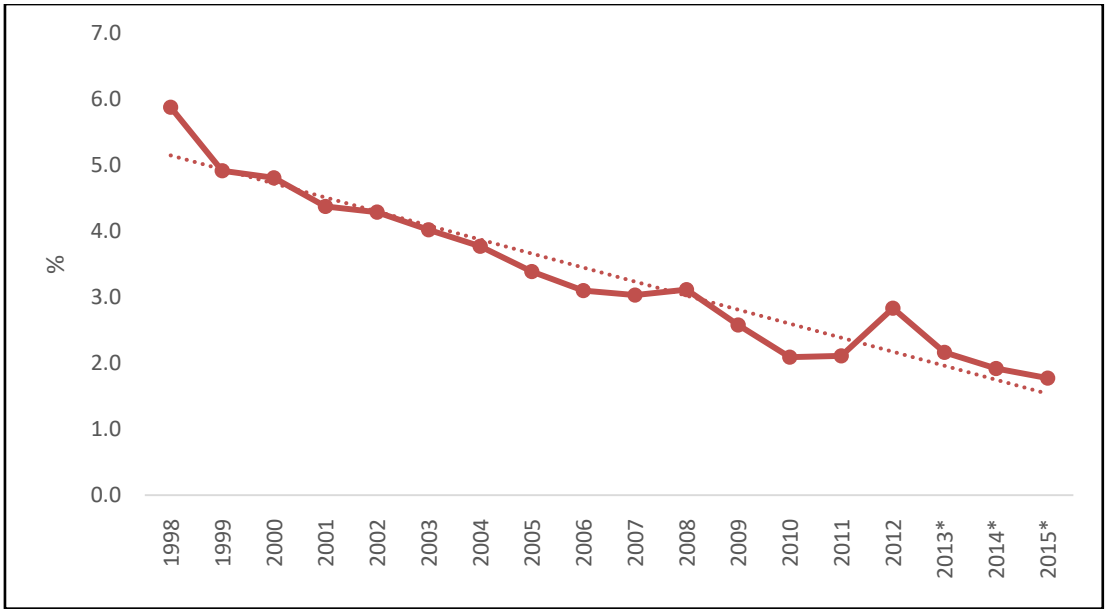

*as of June 2016
Source: Philippine Statistics Authority

Figure 2.1: Wearing Apparel Gross Value Added in Manufacturing (1998-2015)

b) Establishments and Employment

In terms of the number of establishments, wearing apparel has the second largest number of establishments among the manufacturing industries according to the 2010 Annual Survey of Philippine Business and Industry (ASPBI), see Figure 2.2.This demonstrates sustainability to several garment investors operating in the county. Whether some establishments are new entrants, or some other establishments expanded or that other have sustained their operations for long a time, this proves high priority of investments and preference for the garment sector.

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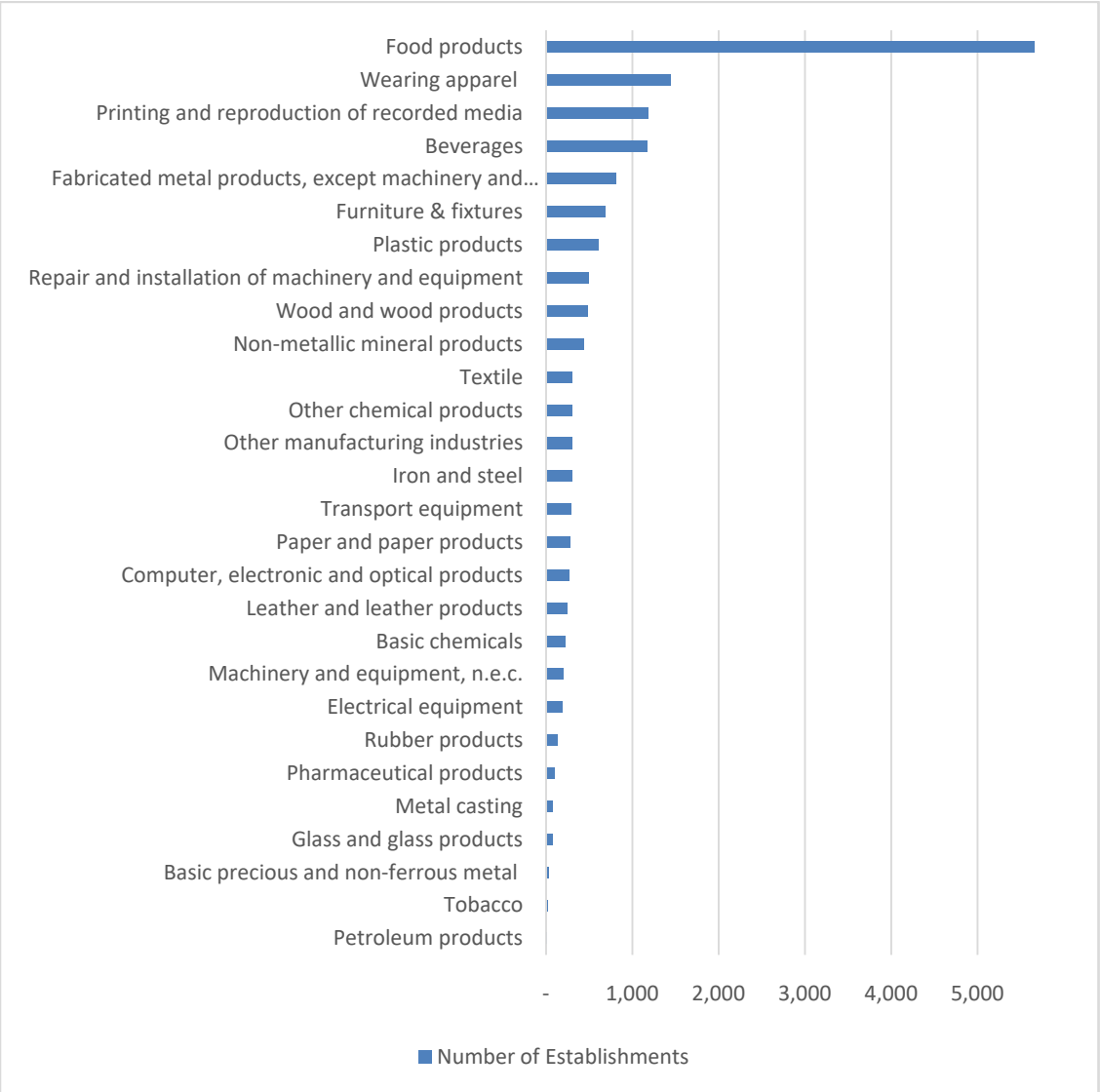

Source: 2010 Annual Survey of Philippine Business and Industry, Philippine Statistics Authority

Figure 2.2: Number of Establishments by Industry

Wearing apparel has also ranked high at 3rd in the highest number of employees next to the food industry (Figure 2.3). This implies a labor intensive industry acquiring more labor in the production process. As with the computer, electronic and optical products, manufacturing of garments also requires abundant manpower to sew the fabric/cloth to make it as a dress, trousers, shirts, etc.

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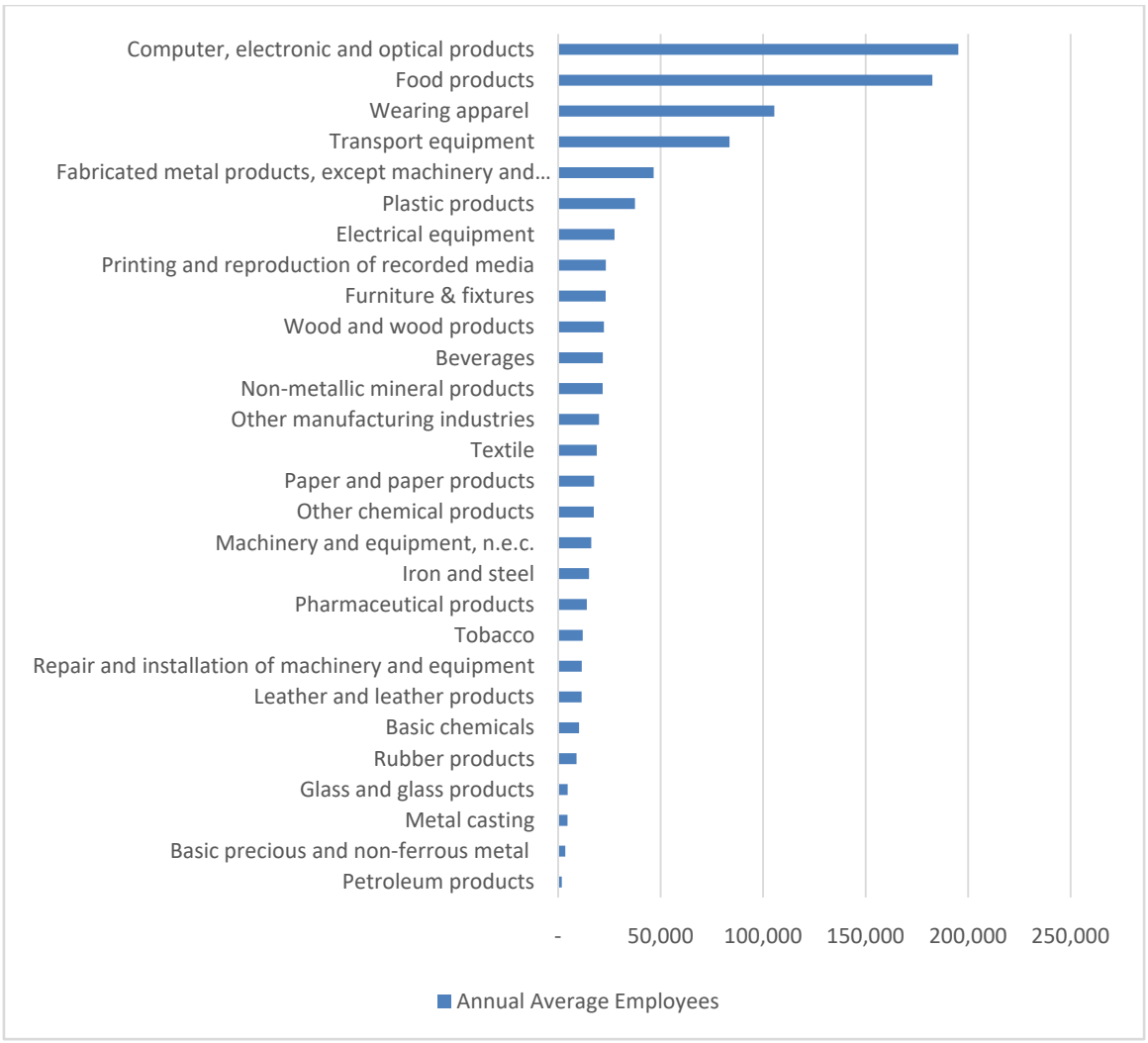

Source: 2010 Annual Survey of Philippine Business and Industry, Philippine Statistics Authority

Figure 2.3: Number of Employees by Industry

c) *Investments*

Some parts of garment production come from domestic production of textiles. Textile industry is noted with significant investments on durable equipment. This is because textiles machineries are specialized machineries that depends on product designs that the marketplace is asking for. Data on the gross domestic capital formation which consists of gross fixed capital formation[1] and change in stocks[2] for the 2008-2013 is shown in Table 2.2. The gross domestic capital formation for textiles machinery is increasing from 2008 to 2013.

[1] Refers to outlays on construction, durable equipment and breeding stocks, orchard development and intellectual property products.
[2] Refers to the difference between ending and beginning inventories.

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Table 2.2: Gross Domestic Capital Formation in Durable Equipment
(In million pesos: at constant 2000 prices)

Type of Equipment	2008	2009	2010	2011	2012	2013
Durable Equipment	476,092	452,560	567,833	583,225	624,112	720,937
Machinery specialized for particular Industries	119,248	99,824	130,776	150,788	158,872	165,113
1. Agricultural machineries	958	942	1,226	1,652	2,161	2,460
2. Tractor other than steam	298	193	167	195	332	383
3. Mining and construction machineries	13,596	11,393	13,550	14,511	23,616	25,721
4. Textile machineries	1,297	1,136	1,281	1,417	1,504	1,577
5. Sawmill & logging machineries	0.3	93	12	4	2	-
6. Sugarmill machineries	9,203	63	160	68	165	319
7. Pulp and paper machineries	1,457	1,063	1,880	1,832	2,005	1,832
8. Metal working machineries	5,151	4,451	5,305	7,751	8,327	7,716
9. Telecommunications & sound recording/reproducing equipment	57,480	57,952	75,050	83,279	70,794	73,090
10. Other special industrial machineries	29,808	22,541	32,145	40,079	49,965	52,015

Source: Philippine Statistics Authority

d) Exports

Garment export is the third top exports in the manufacturing industries, next to electrical and electronic equipment and machinery and transport equipment which are definitely high in terms of FOB value in million USD. Table 2.3 shows exports by commodity group in 2009 to 2015.

Table 2.3: Philippine exports by major commodity group 2009 to 2015
(F.O.B. value in million U.S. dollars)

	2009	2010	2011	2012	2013	2014	2015
Agro-Based Products	1,612	2,212	3,159	2,771	3,300	3,535	2,842
Other Agro-Based Products	529	710	856	808	948	1,125	845
Forest products	33	28	50	58	92	86	48
Mineral products	1,470	1,929	2,840	2,337	3,412	4,038	2,853
Petroleum products	293	371	648	465	843	446	314
Manufactures	33,058	44,694	39,320	44,260	47,025	51,607	50,808
Elect. & elect'l equipment/parts & telecom	23,600	32,552	25,243	25,037	20,121	29,767	32,066
Machinery & transport equipment	1,945	2,568	2,806	5,310	3,763	5,318	5,150
Garments	1,525	1,701	1,896	1,573	1,580	1,854	1,459
Textile yarn/fabrics	147	169	184	170	188	247	199
Footwear	22	8	12	16	34	35	33
Travel goods and handbags	66	71	40	60	176	266	429
Wood manufactures	821	1,029	1,683	2,159	3,086	2,963	2,805
Furniture and fixtures	138	152	165	180	251	370	324
Chemicals	969	1,567	1,924	1,937	2,852	2,754	1,878

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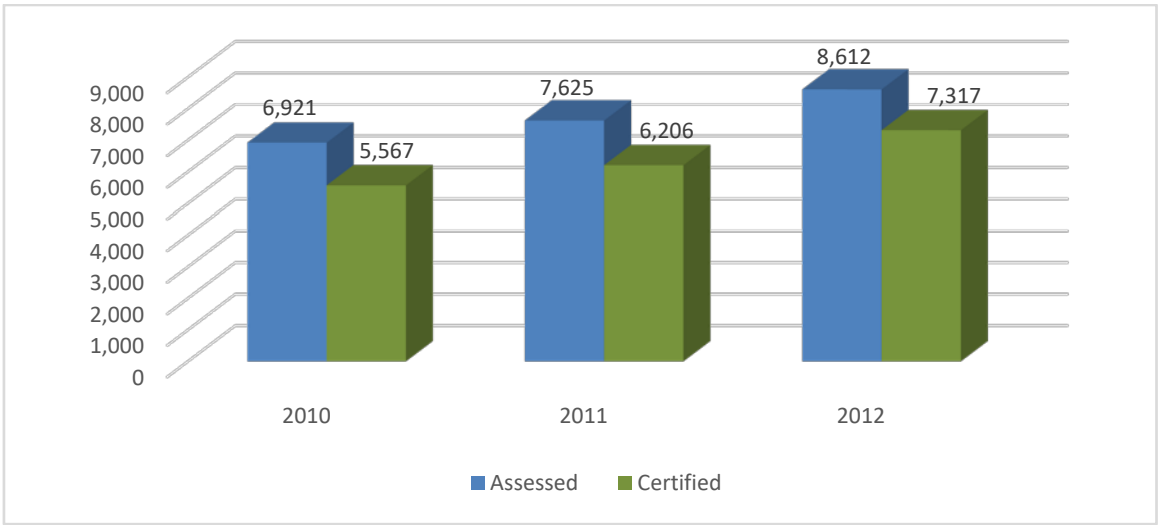
Non-metallic mineral manufactures	156	162	177	145	204	327	176
Processed food and beverages	851	932	1,035	1,104	1,482	1,449	1,163
Iron and steel	119	155	200	253	159	108	99
Baby carr., toys, games and sporting goods	128	168	188	239	329	291	321
Basketwork, wickerwork & oth articles of plaiting mat'ls	38	43	46	43	50	49	57
Misc. manufactured articles, nes	291	337	423	1,534	558	688	603
Others	2,244	3,079	3,298	4,500	5,659	5,121	4,044
SPECIAL TRANSACTIONS	1,440	1,553	1,432	1,401	1,077	1,265	1,116
RE-EXPORTS	688	612	672	369	194	282	143
TOTAL EXPORTS	38,436	51,498	48,305	52,100	56,698	62,102	58,827

Source: Philippine Statistics Authority

e) Skilled Labor

Skilled labor in the garments sector is also gaining significance over the years as illustrated by Figure 2.4. The number of persons assessed and certified for skills in the garments sector is increasing at 80.4 percent in 2010 to 85 percent in 2012 according to Technical Education and Skills Development Authority (TESDA).



Source: Technical Education and Skills Development Authority

Figure 2.4: Number of Persons Assessed and Certified for Skills in Garments Sector

f) Backward and Forward Linkages

The computed indices of the backward and forward linkages of the textile and wearing apparel based from the 120x120 Input-Output table 2006 are 1.08 in textiles and 1.13 in wearing apparel for forward linkages and 1.70 in textiles and 0.61 in wearing apparel for backward linkages. IO table describes the technological relations between the physical inputs and outputs in the production process expressed in money terms. It gives the amount the industries purchase from the other industries. In this paper, the backward and forward indices were computed from the given sector inverse matrix by first getting the sum of every rows and columns of the sector and the overall sum of the sector in its inverse matrix form. The overall sum of the sector in its inverse matrix form is divided to the number of sectors (in this case, the number of sectors is 120). Lastly, each of the rows and columns sums was divided to the resulting ratio of the overall sum of the sector inverse matrix to the number of sector. The resulting ratios give us the indices of backward and forward linkages for each of the sectors. Refer to Table 2.4.

When the industries are ranked in terms of their indices, we can infer that the textiles and wearing apparel have high indices of backward and forward linkages. This would mean that the two industries are

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linked to other industries or to one another. High indices are observed especially for textiles manufacture which ranked 13th out of the 120 sectors according to its index for the backward linkage while the wearing apparel is at 69th. For the forward linkages, the textiles manufacture ranked 47th while the wearing apparel ranked higher at 39th (Table 2.4). High indices also mean that increase in the demand for these sectors translate to increase of investments on the industries. Moreover, the sum of every row of the sector inverse matrix gives us the output multiplier effect of the demand for each sector. This means that one percentage increase in the demand for textiles give us the increase of the total output by - 3.43 percent, other things held constant. While a one percentage increase in the demand for wearing apparel increases the total output by 1.22 percent, other things held constant.

Table 2.4: Backward and Forward Linkages

Sector	Forward Linkages	Industry Rank (out of 120 sectors)	Backward Linkages	Industry Rank (out of 120 sectors)	Increase in total output for every 1 Million increase in the demand
Textile	1.08	47th	1.70	13th	3.43 Million
Garment	1.13	39th	0.61	69th	1.22 Million

Data Source: Input Output Table 2006, Philippine Statistics Authority
Note: Computed

In terms of export shares to the total output, wearing apparel and textiles manufactures ranked 7th and 16th respectively in the 60 x 60 industry classification of the I-O table (see Table 2.5). Other industries in the higher rank are mostly from mining and quarrying and transport, storage & communication and trade and repair of motor vehicles and motorcycles.

Table 2.5: Top 20 Industry with Highest Export Shares to Total Output

Rank	Industry	Export Share to Total Output
1	Other metallics	87.89
2	Chromium mining	83.34
3	Radio, television and communication equipment and apparatus	81.95
4	Nickel mining	75.40
5	Machinery and equipment except electrical	71.09
6	Basic metal industries	69.24
7	Wearing apparel	63.70
8	Banana	62.61
9	Electrical machinery and apparatus	61.50
10	Fabricated metal products	56.11
11	Transport equipment	51.65
12	Footwear and leather and leather products	40.91
13	Miscellaneous manufactures	38.80
14	Wood, bamboo, cane and rattan articles	36.02
15	Rubber and plastic products	30.91
16	Textile manufactures	25.73
17	Non-metallic mining and quarrying	25.15
18	Furniture and fixtures	24.61
19	Petroleum and other fuel products	24.28
20	Paper and paper products	24.04

Data Source: Input-Output Table 2006, Philippine Statistics Authority

g) Foreign Trade

Looking at the country origin and destination of imported and exported garment and textile products to the regions and countries where the Philippine has engaged in integration process and partnership agreements, Figure 2.5 shows that Philippine garment and textile products mostly originates from China in 2007. In 2014, still China dominates Philippine imports of garments and textiles. But the top destination of the country's exports on garments and textiles is US since 2007 and after 7 years in 2014. The interesting progression is the more than triple increase of ASEAN' shares in the country's imports of garments and textile from 6% in 2007 to 19% in 2014.

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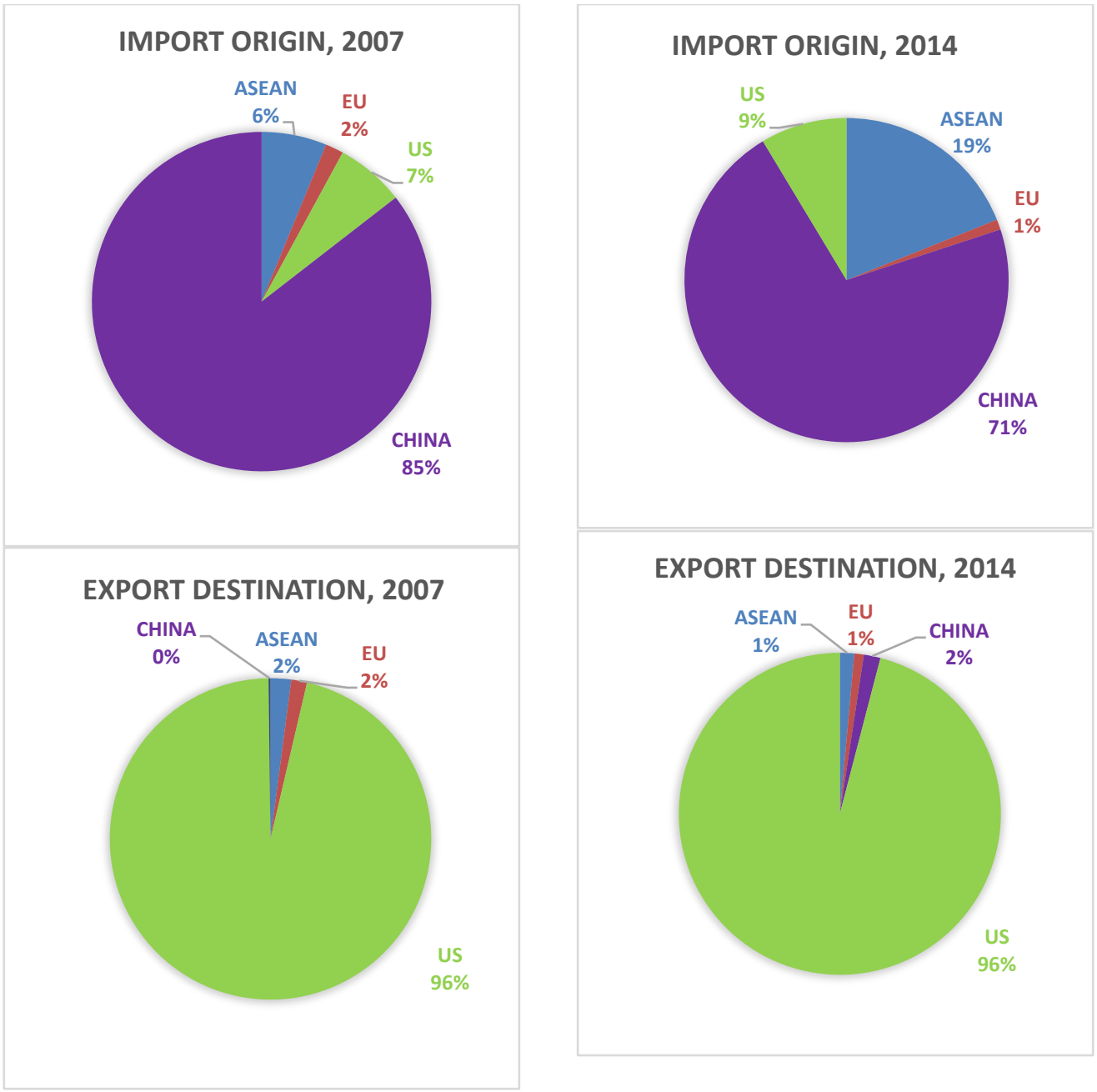

Data Source: Foreign Trade Statistics, Philippine Statistics Authority

Figure 2.5: Import Origin and Export Destination of Philippine Garment, 2007 and 2014

Figures 2.6 – 2.8 shows the trends of exports of garments and textiles by product type to ASEAN, APEC and EU. Products with increasing trend of exports to ASEAN are only few such as knitted or crocheted fabrics and apparel and clothing. For the exports to APEC, we can observe several products increasingly exported such as wool, wadding felt and nonwoven, special woven fabrics, knitted or crocheted fabrics, apparel and clothing not knitted and other made up textiles. We can see that the trends are upwards for wadding felt & nonwoven, knitted or crocheted fabrics and other made up textile exports to EU. Other products are declining in exports to EU.

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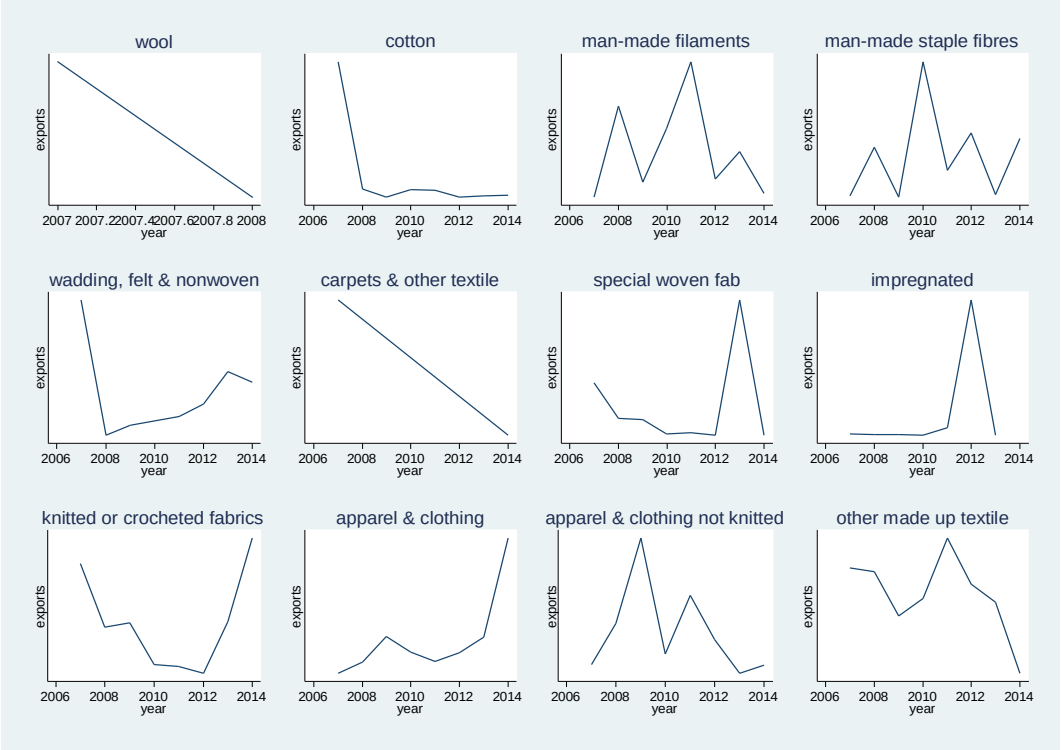
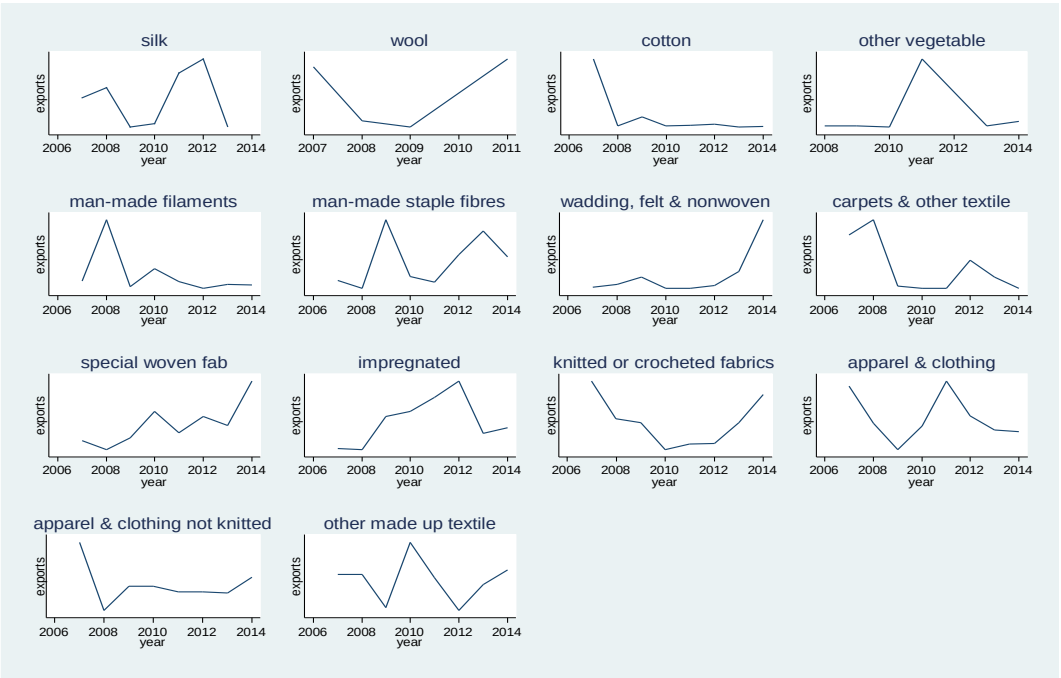


Source: Foreign Trade Statistics, Philippine Statistics Authority

Figure 2.6: Philippine exports of Garments and Textiles to ASEAN (exports value in million USD)



Source: Foreign Trade Statistics, Philippine Statistics Authority

Figure 2.7: Philippine exports of Garments and Textiles to APEC (exports value in million USD)

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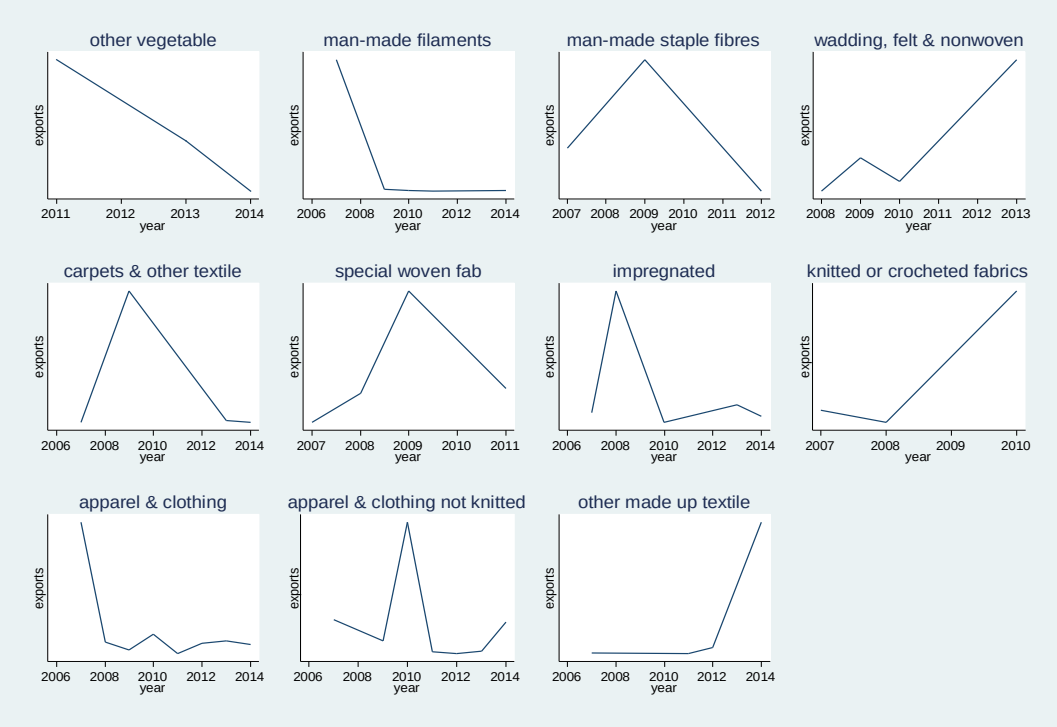

Source: Foreign Trade Statistics, Philippine Statistics Authority

Figure 2.8: Philippine exports of Garments and Textiles to EU (exports value in million USD)

Chapter III

III. Data

a) Enterprise Survey Dataset

The paper uses a nationally representative firm level data of the World Bank enterprise survey extracting only the garment firms. A total of 231 samples of garment firms are pooled from the survey years of 2009, 2014, 2015 and 2016, see Table 3.1.

Table 3.1: Number of Establishments Surveyed

Survey Year	Number of Garment Firms	% Share
2009	104	45.0
2014	14	6.1
2015	67	29.0
2016	46	19.9
Total	231	100

Source: World Bank Enterprise Survey Dataset

Table 3.2 shows that many of the garment firms (47.2%) still import raw materials directly and indirectly from the other countries instead of sourcing it domestically. This adds to some other factors explaining why textile industry is not expanding despite the country's abundance in fiber such as abaca, silk etc. Most garment firms in the country prefer to import raw materials because it is cheaper to use imported raw products than the ones that are domestically supplied by the textile manufacturers in the country.

Table 3.2: Share of Garment Firms that Import Inputs

Type of Importing Activity	% Share of Garment Establishments
Direct import	31.6 %
Indirect import	15.6 %
Total	47.2 %

Source: World Bank Enterprise Survey Dataset

According to the interview conducted with the director of the Garment Business Association, it is more expensive to produce textiles in the Philippines relative to other countries because of the high cost of electricity in the Philippines. The industry is heavily dependent on electricity in their production of synthetic fibers such as polyester and lycra which are chemically processed using specialized machines. These fibers are the ones usually used in the manufacturing of popularly known us jeggings or skin-tight denim jeans that are worn by most women in the Philippines and other countries especially in the US.

Figure 2.1 shows how power intensive the textile industry in comparison with the other sectors. Using the data on electricity cost from the survey, an indicator for power intensity is calculated by the ratio of the given electricity cost to the firm's reported sales. The calculated ratio gives the estimate of electricity cost for every 1 dollar sale of the firm. The figure below provides the mean power intensity of all firms within each of the given sectors in the manufacturing sector and some other services sector. As illustrated in the figure, textile

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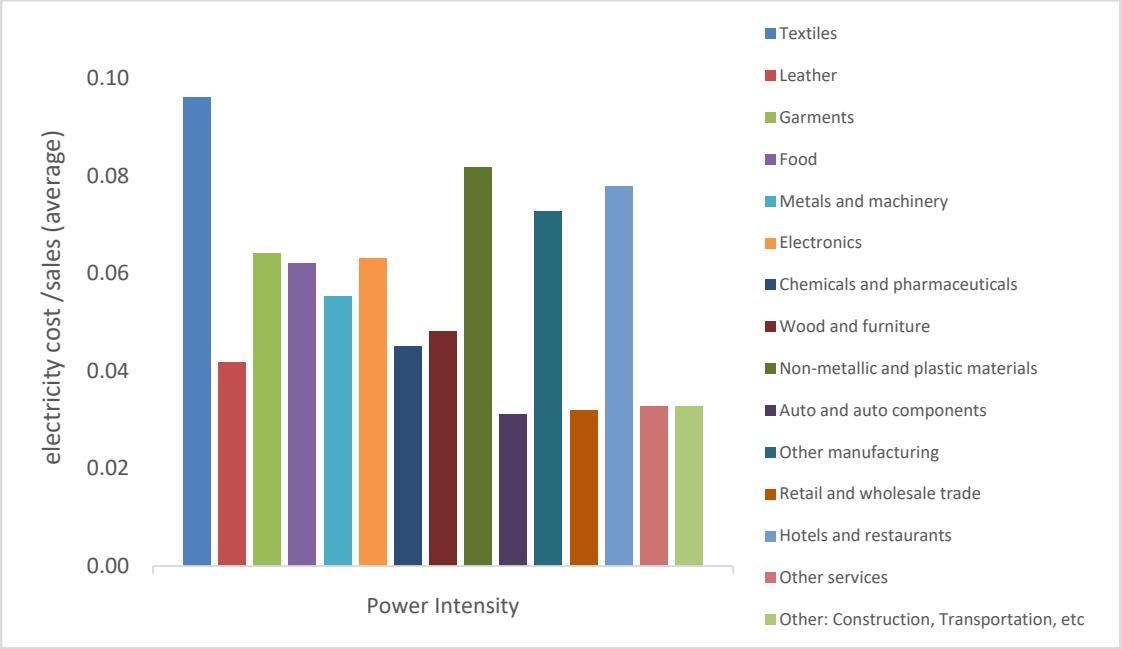
has the highest mean power intensity of 0.10 which means that for every 1 dollar sale of the average textile firms, 10 cents is invested for electricity. This is higher compared to the average mean power intensity of all firms across sectors which is 0.06. It is also higher than the other sectors having above average power intensity estimate which are also expected to be power intensive like the non-metallic and plastic materials (0.08) and hotels and restaurants (0.08).

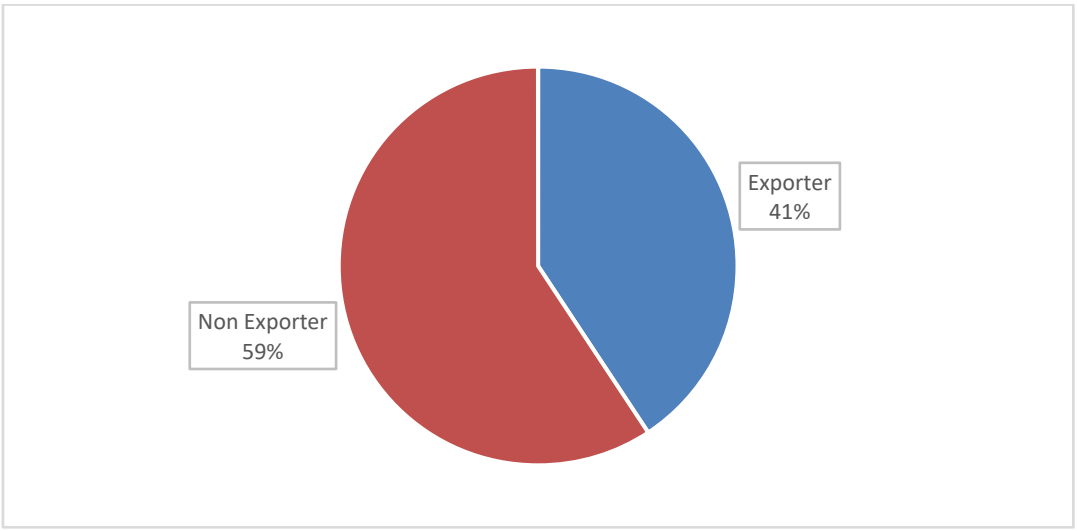


Source: World Bank Enterprise Survey Dataset

Figure 3.1: Average Firm Power Intensity by Sector

b) Exporter and Non-Exporter Firms

Looking now into the overall characteristics of the combined samples of the textile and the garment firms, the dataset tells us that there are more non exporter firms (59%) than the exporter firms (41%). See left side of the Figure 3.2. In this paper, the exporter firms are identified as those firms having a share of exports sales from the firm's total sales while the non-exporter firms are those that totally do not report sales from exports. Figure 3.2 left side shows that although the division between exporter and non-exporter firms is nearly equal, the sample is still dominated by non-exporter firms which means that most firms cater to the domestic market.



Source: World Bank Enterprise Survey Dataset

Figure 3.2: Exporter and Non-Exporter Garment Establishments

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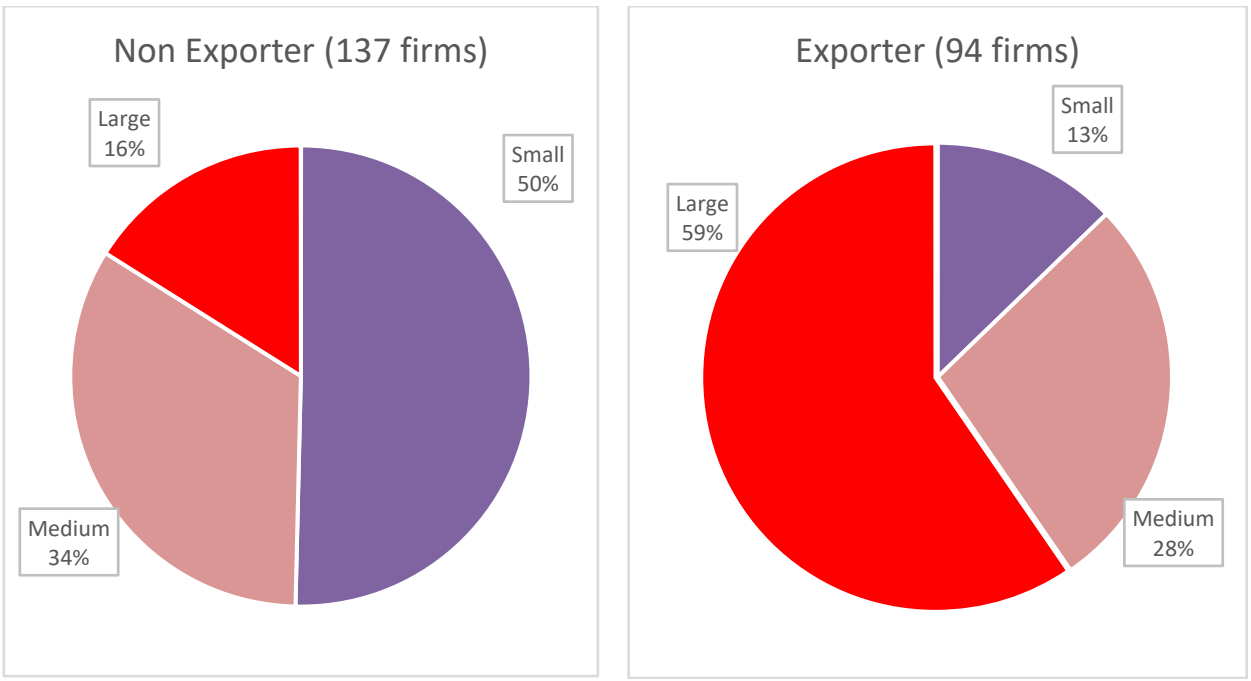
c) *Firm size as indication of exporting activity*

Examining more closely in terms of the distribution of the size of the firms separately in each exporter and non-exporter firm groups, we see in the Figure 3.3 that the non-exporters are dominated by small firms. 50% of the non-export firms are small firms. On the other hand, exporter firms are dominated by large firms, 59%. These dominances are illustrated by the huge portions of small firms and large firms in the pie chart at the left and right side of the Figure 3.3, respectively. The charts suggest that firm size can be an indication of exporting activity because small-sized and medium-sized firms are lesser in number in the exporter firm group than non-exporter firm group, whereas, large-sized firms are greater in number in the exporter firm group than non-exporter firm group.

Moreover, since firm size is categorized in terms of firm's number of employees, we can infer from the data presented in the chart below that the exporter firms employ more workers than the non-exporter firms because they are dominated by large firms. Large firm is defined as those firms having at least 100 employees and over. Medium firms have at least 20 to 99 number of employees. Small firm are those that have less than 20 employees. Therefore, large textile and garment firms are already established and more stable to employ more workers than the small and medium firms. Furthermore, they have the capacity to venture into export market more than the small and medium firms.



Source: World Bank Enterprise Survey Dataset

Figure 3.3: Firm Size of Exporter and Non-Exporter Firms

d) *Employment in Exporter vs. Non-Exporter Firms*

Exploring directly the employment composition of the exporter and non-exporter firms, Figure 3.4 shows the share of exporter and non-exporter firms to the total number of workers in the sample data. The figure below presents the sum of firms' workers distinguishing between exporter and non-exporter firms and showing comparison of their respective employment contribution. Across all types of workers such as full-time, temporary, full-time adjusted for temporary, production, female seasonal and female production workers, exporter has higher share of employment than non-exporters for all types of workers. This supports the argument mentioned above that exporter firms employ more workers than non-exporter firms. About 65%-85% share to the total employment are employed by exporter firms from full-time to temporary and seasonal workers.

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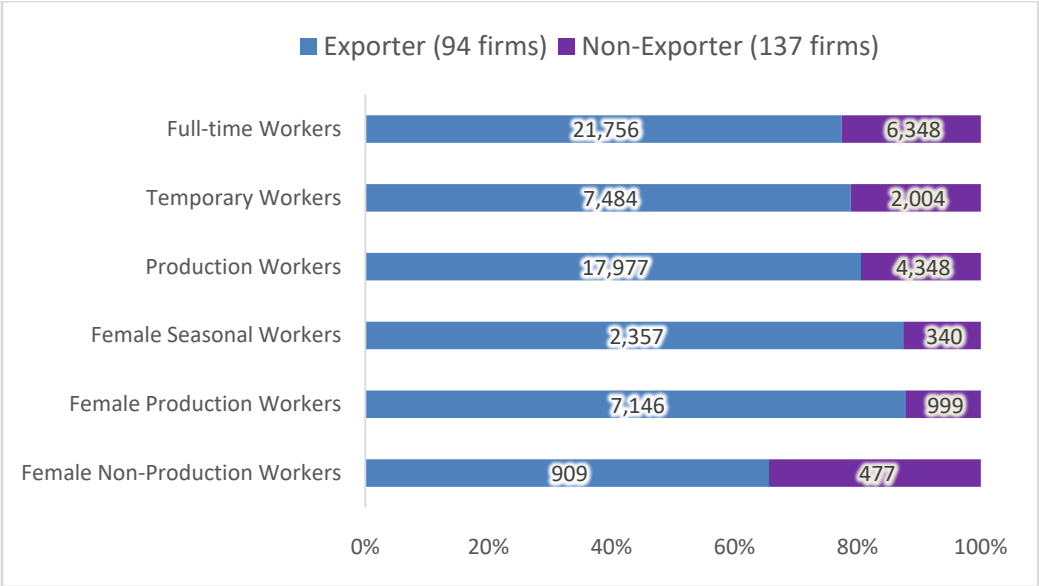


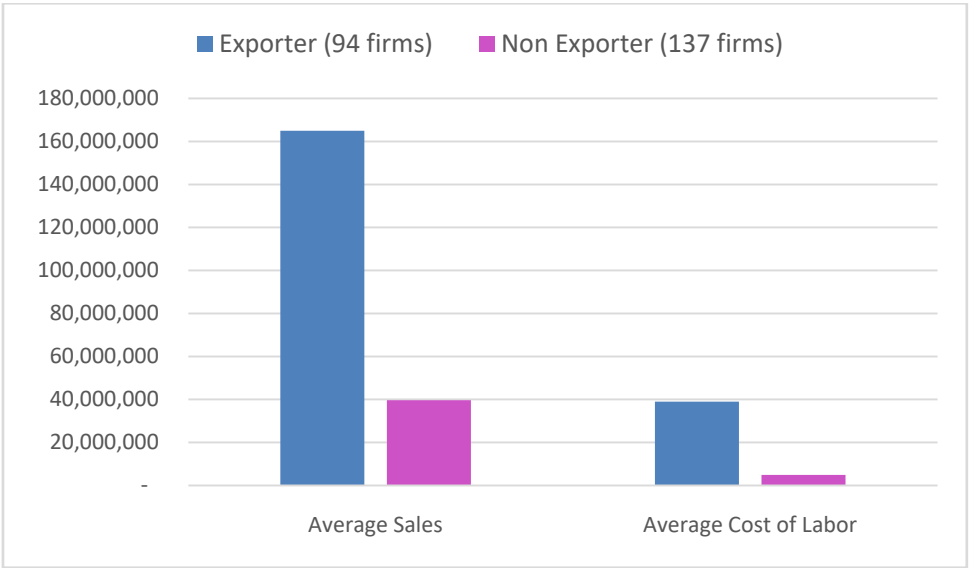
Source: World Bank Enterprise Survey Dataset

Figure 3.4: Workers in Exporter and Non-Exporter Firms
(Total number and % share)

e) Firm Performance of Exporter vs. Non-Exporter Firms

Presenting more of the difference between exporter and non-exporter in terms of firm performance and economic contribution, Figure 3.5 shows comparison of exporter and non-exporter in terms of their average sale and labor intensity. Despite smaller in number, exporter firms show greater average sales than the non-exporter firms. This is due to the fact that they have a bigger market as compared to the non-exporter which basically caters the domestic market. This leads us into assumption that however smaller exporter firms in number as compared with the non-exporter firms in our given sample, the exporter firms perform better and contributes to employment higher than non-exporters.

This is further proven by labor intensity indicator whereas exporter firms seem to be more labor intensive than the non-exporter firm based on the average cost of labor. The average cost of labor is higher in exporter firms which suggest greater employment contribution as exporter firms invest largely on labor in their production. The labor cost data covers wages, salaries and bonuses that firms provide to the workers. Higher cost of labor and number of workers indicates greater employment contribution.



Source: World Bank Enterprise Survey Dataset

Figure 3.5: Average Sale of Exporter and Non-Exporter Firms

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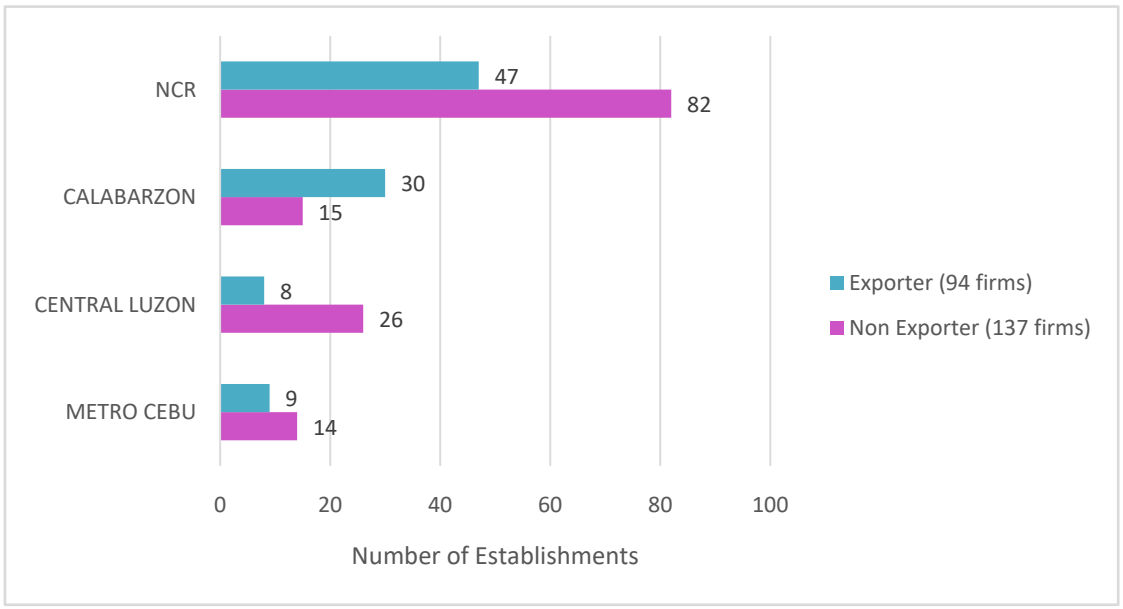
f) Location: Exporter vs. Non-Exporter Firms

In locating where the garment and textile manufacturers operate across the country, Figure 3.6 shows that the majority of the establishments are found in the National Capital Region (NCR). The figure shows the distribution of firms' location distinguishing between exporter and non-exporter firms and it shows that exporting and non-exporting firms are also highest in NCR. The other garment and textile manufacturers are located in CALABARZON, Central Luzon and Metro Cebu. We can observe from the figure that non exporters are greater in number than the exporters across all regions except for CALABARZON wherein there are more exporter firms than non-exporter firms.



Source: World Bank Enterprise Survey Dataset

Figure 3.6: Location of Garment and Textile Firms, Exporter and Non Exporters

g) Foreign Ownership

Figure 3.7 shows that foreign owned firms are mostly located in the CALABARZON and NCR. Fortunately for the foreign investors, garment industry is not included in the Philippine Foreign Investment Negative List which would mean that there are no restrictions for interested foreign investors of to invest in the Philippine garment manufacturing. One factor that might explain the preference of the foreign owned firms to operate in CALABARZON is the presence of the Export Processing Zone in Cavite where they can enjoy tax and duties exemptions. Aside from tax and duties exemptions, Export Processing Zones (EPZs) are developed areas in which transportation, power and communication facilities are readily available.

There are four EPZs in the Philippines located in the areas of Bataan, Mactan, Baguio City and Cavite. The garment and textile manufacturers has 30% share to the total enterprises of the four EPZs (Remedio, 1996). The greatest share comes from the Bataan EPZ with 43.5% share. This is followed by Baguio City (42%), Cavite (30%) and Mac tan (16%). Since EPZs are established to attract local and foreign investments in export-oriented industries like the garment sector, it is expected that EPZs would bring benefits such as creation of jobs, transfer of technology, growth of foreign exchange earnings and better competitiveness.

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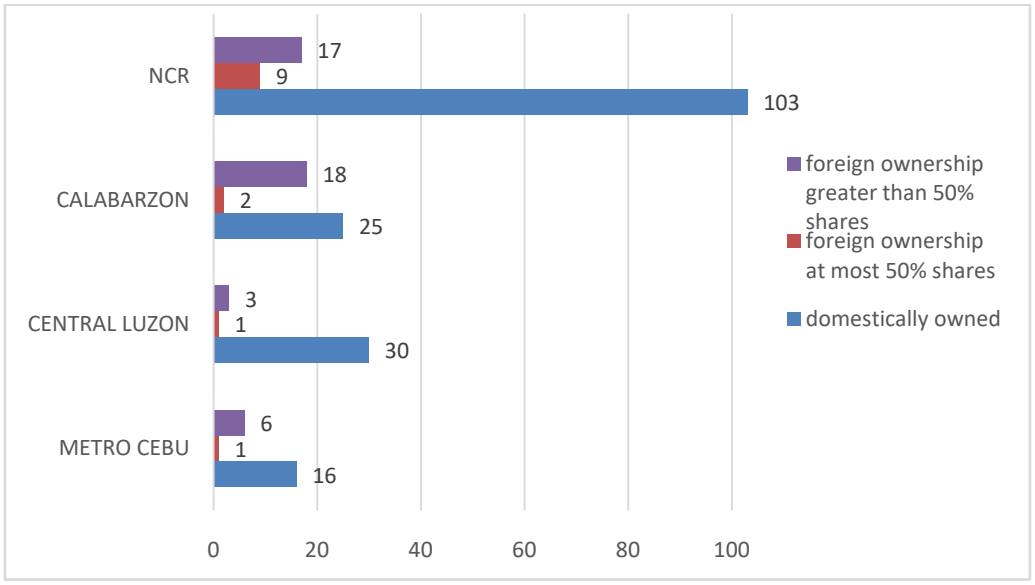


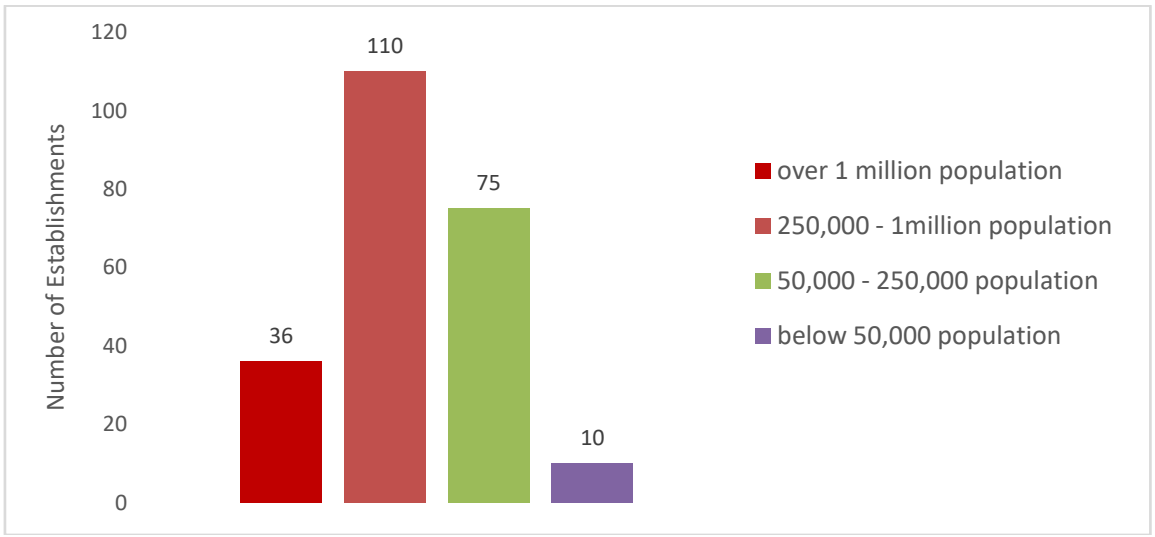
Source: World Bank Enterprise Survey Dataset

Figure 3.7: Foreign and Domestic Ownership (Number of Firms)

Export Processing Zones and Population

In addition to the developed infrastructure and investment incentives, the supply of quality labor in the areas close to the EPZs has been a consideration to the foreign investors particularly in Bataan and Cavite where some of the production process of garment manufacturing like washing, hemming and embroidery are contracted out to the workers in the community close to the zones (Remedio, 1996). This may lead us into question of whether population matters to firm's decision in putting up their business.

Figure 3.8 shows that majority of the establishments (110) are located in the cities with population of over 250,000 to 1 million. Moreover, in the most populous cities with population of over a million people, there can be found 36 establishments operating. This is numerous volume of establishments considering the congestion problem especially in Metro Manila where other businesses, offices, condominiums and migrants are also located. However, operating in a populated area could bring both negative and positive externalities. Garment factories operating in NCR could add to congestion but at the same time could be beneficial to the communities surrounding the factories if they utilize labor surplus of the community.



Source: World Bank Enterprise Survey Dataset

Figure 3.8: Establishments in Different Cities Classified by Population

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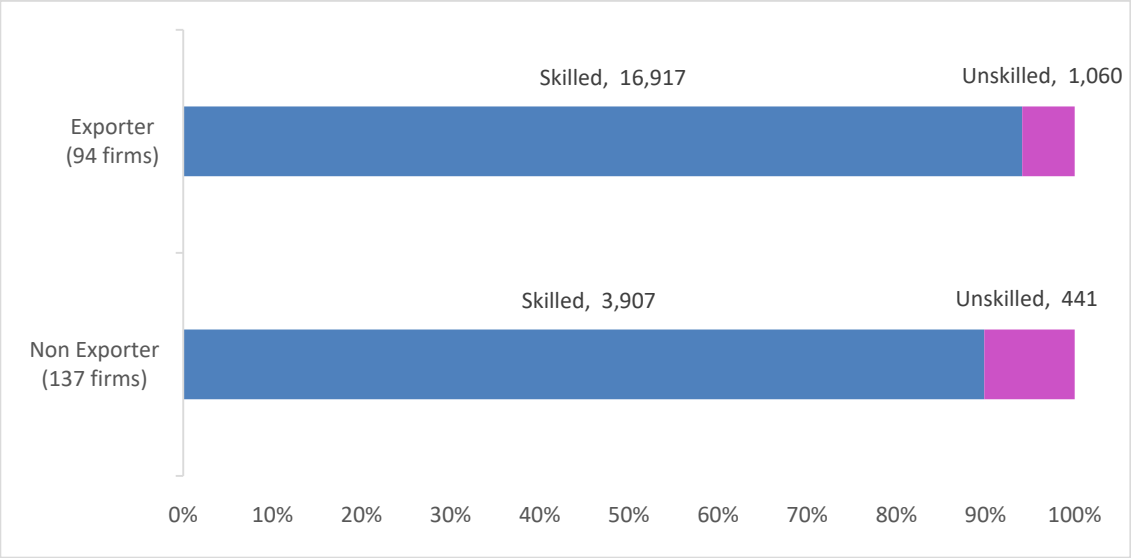
Skilled and Unskilled Worker: Exporter vs. Non-Exporters

When it comes to the skills type of the labor force that the industry attracts, both the exporter and non-exporter firms target more of the skilled in the labor force than unskilled. Figure 3.9 shows the skilled and unskilled production workers shares in the exporter and non-exporter firms. The figure illustrates higher share for skilled production workers especially for exporter firms because they are required to follow international standards.



Source: World Bank Enterprise Survey Dataset

Figure 3.9: Skilled and Unskilled Production Workers in Exporter and Non-Exporter Firms (Total number and % share)

Chapter IV

IV. Empirical Analysis

a) Model

The analysis on the employment opportunities and export earnings in the Philippine garment industry follows a model that looks into the factors affecting employment generation of the industry. The model would have a dependent variable as the number of workers and independent variables namely firms' export shares to total share, labor intensity indicator and population growth. The model controls for firm size (small, medium and large), firm location (NCR, CALABARZON, Central Luzon and Metro Cebu) and survey periods (2009, 2014, 2015 and 2016). The regression analysis will be performed for different types of workers as the dependent variables such as full-time, temporary, production, skilled production, unskilled production, female production and female seasonal workers.

$$lnY = \alpha_0 + \alpha_1 expsh + \alpha_2 lnlaborintensity + \alpha_3 lnpopgrowth + \boldsymbol{X\beta} + \varepsilon \quad (1)$$

where: $X\beta = Firm\ Size, Region\ FE, Year\ FE$

Variables: Dependent, Independent and Control

Table 4.1 gives the description of the variables used in the regression model. The dependent variables are the firms' reported number of workers at the end of the fiscal year which are expressed in natural logarithmic forms. For the independent variables, export share is expressed in percentage while labor intensity and population growth are expressed in natural logarithmic forms. Export share is the firm's share of exports sales in the firm's total annual sales in a fiscal year. It covers sales from direct and indirect exports. Labor intensity variable is the ratio of total cost of labor to the total annual sales multiplied by 100. The labor cost variable covers wages, salaries and bonuses. Population growth variable is the population growth from 2010 to 2015 which is taken from the population census data and merged with World Bank enterprise survey data. The population growth variable is generated to give population information at the regional level where the establishments are located (NCR, CALABARZON, Central Luzon and Metro Cebu). For the control variables namely firm size, region/location and survey period, the base dummies are small-sized firm, CALABARZON and 2009, respectively.

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Table 4.1: Variable Name and Description

Variable Name	Description
Dependent Variables	
lnfulltime	Log of number of full-time workers
lntempw	Log of number of temporary workers
lnprodw	Log of number of production workers
lnskiprodw	Log of number of skilled production workers
lnunskiprodw	Log of number of unskilled production workers
lnfemaleprod	Log of number of female production workers
lnfseasonal	Log of number of female seasonal workers
Independent Variables	
expsh	Export share in Total Firm's Sale
lnlaborintensity	Log of total labor cost/total sale
lnpopgr_10_15	Population growth 2010-2015 at each region NCR, CALABARZON, Central Luzon and Metro Cebu
Control Variables	
1.fsize	Small-sized firm *(base dummy)*
2.fsize	Medium-sized firm
3.fsize	Large-sized firm
1.reg	CALABARZON *(base dummy)*
2.reg	Central Luzon
3.reg	NCR
4.reg	Metro Cebu
2009.year	2009 survey year *(base dummy)*
2014.year	2014 survey year
2015.year	2015 survey year
2016.year	2016 survey year

b) Summary Statistics

The World Bank enterprise survey for the Philippines has 231 unique firm identification for garment firms which is the unit of observation for this regression. After performing data cleaning in the survey dataset, Table 4.2 gives the summary statistics of the variables used in estimating the model number of workers as a function of exporting activity by the firm, firm's labor intensity, population as an indicator labor surplus in a community, firm size and firm location.

In the data, full-time employees are defined as all paid employees that are contracted for a term of one or more fiscal years and/or have a guaranteed renewal of their employment contract and that work up to 8 or more hours per day. Production workers are workers (up through the line supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations. Employees above the working-supervisor level are excluded from this item. Skilled workers are those that have some special knowledge or (usually acquired) ability in their work. A skilled worker may have attended a college, university or technical school. Or, a skilled worker may have learned his skills on the job. Unskilled on the other hand are those who do not have special training, education, or skill to perform their job. Temporary and seasonal are those who are paid short-term (i.e. for less than a fiscal year) employees with no guarantee of renewal of employment contract) and work 40 hours or more per week for the term of their contract.

Table 4.2: Summary Statistics

Variable	Number of Observations / Firms	Mean	Standard Deviation	Min	Max
fulltime	231	121	271	2	2820
tempw	228	41	125	0	1100
prodw	222	100	238	1	2680
skiprodw	222	93	234	0	2680
unskiprodw	222	6	28	0	380
femaleprod	100	81	267	0	2400
fseasonal	55	49	124	0	800
expsh[3]	230	35.33	46.46	0	100
laborintensity	213	27.11	19.15	0.61	87.32

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popgr_10_15	232	1.54	0.81	-0.09	4.52
fsize	231	2	1	1	3
year	231	2012	.15	2009	2016

Robustness Check – Region Fixed Effects and Year Fixed Effects Estimators

The empirical analysis checks for robustness of the model to conclude that garment industry, in general, brings employment opportunity. Robustness check also illustrates how certain is regression coefficient estimates when the regression specification is modified by adding or removing one or more regressors. In this paper, region fixed effects and year fixed effects were used as robustness check. This would mean removing the effects of location and the year when the survey was conducted.

c) Regression Result

i. *Regression Result for Different Types of Workers*

The regression table below gives the result of the relationship of the variable of interests such as export share, labor intensity and population growth to the different types of workers in the dependent variable (Table 4.3). For the first variable of interest, the result gives positive and significant estimates of the *export share* variable to number of workers *across all types of workers*. This proves that firms entering into exporting market bring positive effect to employment of all status, be it full-time, temporary, production, skilled, unskilled, female production and female seasonal workers, as shown by the positive and highly significant coefficients in the table below. Firms venturing into exports create bigger market which results to greater sales out of exports. This will eventually turn to job generation expecting that the firm affords to employ more workers to produce more output that are to be exported. This takes into consideration that their market is quite big relative to non-exporter firms.

Labor intensity also gives significant and positive results to most of the regression models *except for temporary workers, unskilled production workers and female seasonal workers*. Based on this result, labor intensive firms seem to keep more full-time workers and do not encourage hiring temporary, seasonal and unskilled workers. Therefore, workers seeking for employment stability are suggested to look for work in firms that are highly labor intensive because they seem to considerably invest in skilled workers that will eventually become full-time workers making sure of their job security. Also production workers are important in labor intensive firms since they undertake majority of the tasks of the entire operation. Again, labor intensity is measured as the ratio of cost of labor to firm's total annual sales. This means that higher value translates to higher cost of labor borne by the firm which is essentially higher investments to labor for their production of garments.

After applying robustness check, population growth do not seem to provide significant coefficients. Firms tend to be selective when it comes to skills type of the labor supply in the area where the establishment is located. It would be most beneficial to the firm if the area is composed of labor force having the skills needed to perform the job efficiently. This refers to trained individuals having the required skills to perform tasks relevant to manufacturing of garments. This saves the firm from providing training to the hired workers or at the very least, firms could provide training to the hired workers to a lesser extent.

On the control variables, firm size dummy variables have highly significant results too and this supports the statistics presented in the previous chapter that firm size is also an indication of employment generation. The regression result gives positive significant coefficients of the medium and large firm size dummies to all models which means that medium and large firm size are more likely to create jobs as compared with small size firm. An exemption is observed from the relationship of medium size firm to unskilled production workers which does not give significant coefficient. But generally, this recommends creating a program that will help the firm move up to becoming large firm because of its potential outcome. It could suggest to continue an implemented government program called "Share Services Facilities" aiming at levelling up small scale firm to medium scale and eventually large enterprise by providing them the needed equipment in processing their locally produce goods.

[3] In some paper, this is defined as export intensity

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Table 4.3: Regression Result, Dependent Variable: Different Type of Workers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	lnfulltime	lntempw	lnprodw	lnskiprodw	lnunskiprodw	lnfemaleprod	lnfseasonal
expsh	0.00268**	0.00940***	0.00412***	0.00457***	0.00140	0.00676***	0.0131**
	(0.00111)	(0.00255)	(0.00128)	(0.00136)	(0.00338)	(0.00248)	(0.00486)
lnlaborintensity	0.120**	-0.0786	0.167***	0.208***	0.0347	0.165*	0.287
	(0.0484)	(0.111)	(0.0562)	(0.0598)	(0.162)	(0.0919)	(0.282)
lnpopgr_10_15	-0.0497	-0.0943	-0.0576	-0.0771	0.180	-0.298*	-0.00730
	(0.0514)	(0.130)	(0.0589)	(0.0624)	(0.192)	(0.158)	(0.222)
2.fsize – medium	1.089***	0.611**	1.148***	1.097***	1.193**	1.205***	0.697
	(0.107)	(0.260)	(0.124)	(0.132)	(0.470)	(0.233)	(0.495)
3.fsize –large	2.999***	2.231***	2.952***	2.861***	2.193***	2.986***	1.917***
	(0.122)	(0.300)	(0.142)	(0.150)	(0.509)	(0.282)	(0.562)
Observations	211	119	203	202	56	90	43
R-squared	0.840	0.603	0.807	0.784	0.487	0.759	0.598
Year FE	Y	Y	Y	Y	Y	Y	Y

Standard errors inparentheses
**** p<0.01, ** p<0.05, * p<0.1*

d) Regression Result using Indirect Export

The regression result above follows the model with total export share in one of the variables of interest. Table 4.4 shows regression result same as the baseline model above except that export shares cover only the export shares from the *indirect export* (2). The variable indirect export share is positive and significant to employment to all models except to unskilled and females seasonal production workers.

$$lnY = \alpha_0 + \alpha_1 expshind + \alpha_2 lnlaborintensity + \alpha_3 lnpopgrowth + \boldsymbol{X\beta} + \varepsilon \quad (2)$$

where: $\boldsymbol{X\beta} = \boldsymbol{Firm\ Size, Region\ FE, Year\ FE}$

Indirect export means that a third party is involved in the exporting activity. In the case of garment sector, this could refer to export consignment or a trading transaction involving a contract arrangement between the exporter firm and a distributor. The distributor is the one who handles the selling of goods for the exporter firm that is a common practice in the garment industry. Essentially in a consignment arrangement, the payment is sent to the exporter only after the goods have been sold by the distributor to the end customer. The goods that were not sold after an agreed upon time period can be returned to the exporter at a cost. Therefore, exporting on consignment in this sense is uncertain since the exporter is not guaranteed with any payment. On one hand, if consignment is successful in the sense that the supply of clothes were always sold completely. Selling on consignment basis is also becomes competitive among exporters when it comes to availability and faster delivery of the goods.

In the Philippines domestic market, clothing consignors sell mostly women's garments along with accessories, belts and handbags and its becoming ideal for start-up entrepreneur because start-up costs are small. Interested entrepreneurs just need a shop and the display furnishings like clothes racks, hangers and shelves to come up with a little clothing store. A typical store like this can be found many in Divisoria and some in the provinces. But for a start-up entrepreneur to get consignment from any stores, there's a need to establish a rapport first. Especially for export consignment, an exporter firm needs to partner with a reputable and trustworthy distributor.

There are shops or warehouses of clothes in the Philippines that are direct from the manufacturers of well-known brands where start-up of RTW get their supplies of clothes at small capital. These warehouses sell export overrun clothing which are branded with intact labels and hang tags. The clothes are export quality made from various factories in the countries and are outsourced by international clothing brands. These surplus items being sold at the warehouses are not factory rejects but are excess production items. Some of the items also come from Bangladesh, Cambodia, Vietnam, China, Laos Korea and Thailand. Resellers and distributors can get a consignment at a minimum of 10 pieces for a price as low as Php 250.00 for RTW and Php150.00 – Php180.00 for overruns. For wholesale, the minimum consignment is worth Php10,000.00 of assorted items but the bigger the quantity of purchases, the lower the price that you can get. The policy for consignment is that you only pay for your purchases and nothing more. If for whatever reason, you are

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unable to sell the products in a week's time, you can return all unsold items and can be exchanged for other / new items in stock meaning there's no refund but there's unlimited number of exchange items as the stocks change from time to time depending on the availability. The items vary from T-shirts, blouses, polo shirts, jeans, shorts, dresses, undergarments and jackets. The brands are Abercrombie & Fitch, Aeropostale, Hollister, American Eagle, Zara, Mango, Forever 21, Levis, H&M, Nike, Guess, Victoria's Secret, Old Navy, Gap, Ann Taylor, Quiksilver, Roxy, Marks & Spencer, Ralph Lauren, Hurley, No Boundaries and Ripcurl.

Table 4.4: Regression Result, Indirect Export

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	lnfulltime	lntempw	lnprodw	lnskiprodw	lnunskiprodw	lnfemaleprod	lnfseasonal
expshind	0.00351***	0.0101***	0.00495***	0.00547***	-0.000320	0.00714***	0.0140**
	(0.00118)	(0.00264)	(0.00137)	(0.00144)	(0.00408)	(0.00260)	(0.00586)
lnlaborintensity	0.111**	-0.0482	0.161***	0.203***	0.0405	0.160*	0.331
	(0.0485)	(0.113)	(0.0567)	(0.0602)	(0.166)	(0.0933)	(0.308)
lnpopgr_10_15	-0.0487	-0.118	-0.0512	-0.107	0.434	-0.157	-0.151
	(0.0725)	(0.228)	(0.0833)	(0.0880)	(0.279)	(0.209)	(0.356)
2.fsize – medium	1.069***	0.535**	1.117***	1.059***	0.987*	1.190***	0.604
	(0.107)	(0.265)	(0.126)	(0.134)	(0.501)	(0.239)	(0.526)
3.fsize – large	2.970***	2.221***	2.923***	2.820***	2.078***	3.006***	1.860***
	(0.121)	(0.298)	(0.141)	(0.150)	(0.514)	(0.285)	(0.599)
Observations	211	119	203	202	56	90	43
R-squared	0.845	0.612	0.810	0.788	0.567	0.766	0.608
Region FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses
**** p<0.01, ** p<0.05, * p<0.1*

e) Regression Result Adding Import Variable

Indirect export is therefore favorable to employment creation because there are many agents involved in the exporting activity. As mentioned above that some of the production items being sold in the warehouses come from other countries such as Bangladesh, China, Thailand etc., I incorporated import variables to the baseline model (3) to see its role in the employment generation, see Table 4.5. The variable for import are dummy variables for direct and indirect imports of raw materials. The regression gives positive and significant results for direct imports in full-time, temporary, production and skilled workers. This suggests that trading activities encourage employment as proven by positive and significant coefficients of both the exporting and importing indicators. Moreover, as mentioned in the previous chapter that majority of the firms imports raw materials because it less costly for most of them than sourcing inputs domestically, it therefore confirms that importing raw materials is beneficial to both the industry and labor force.

$$lnY = \alpha_0 + \alpha_1 expsh + \alpha_2 lnlaborintensity + \alpha_3 lnpopgrowth + \boldsymbol{X\beta} + \varepsilon \quad (3)$$

where: $\boldsymbol{X\beta} = \boldsymbol{Firm\ Size, Import, Region\ FE, Year\ FE}$

Table 4.5: Regression Result, Importing Activity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	lnfulltime	lntempw	lnprodw	lnskiprodw	lnunskiprodw	lnfemaleprod	lnfseasonal
expsh	0.00168	0.00635**	0.00321**	0.00337**	0.00222	0.00768**	0.00382
	(0.00133)	(0.00311)	(0.00157)	(0.00166)	(0.00433)	(0.00333)	(0.00660)
lnlaborintensity	0.122**	-0.0465	0.170***	0.216***	0.0241	0.159*	0.548*
	(0.0490)	(0.114)	(0.0576)	(0.0613)	(0.164)	(0.0939)	(0.320)

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lnpopgr_10_15	-0.0362	-0.0793	-0.0407	-0.0950	0.399	-0.134	-0.0777
	(0.0728)	(0.229)	(0.0839)	(0.0889)	(0.283)	(0.212)	(0.345)
1.importd – direct	0.258*	0.538*	0.215	0.243	0.220	-0.0303	1.834**
	(0.134)	(0.314)	(0.159)	(0.169)	(0.409)	(0.322)	(0.761)
2.importd–indirect	0.0522	-0.128	-0.0320	-0.0309	0.0193	-0.263	0.197
	(0.124)	(0.297)	(0.150)	(0.158)	(0.432)	(0.283)	(0.721)
2.fsize – medium	1.061***	0.513*	1.119***	1.067***	0.832	1.237***	0.724
	(0.107)	(0.263)	(0.127)	(0.135)	(0.516)	(0.244)	(0.556)
3.fsize – large	2.924***	2.066***	2.889***	2.790***	1.782***	3.000***	1.223*
	(0.126)	(0.310)	(0.148)	(0.157)	(0.550)	(0.284)	(0.683)
Observations	211	119	203	202	56	90	43
R-squared	0.846	0.624	0.810	0.788	0.579	0.772	0.666
Region FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

f) Regression Result Adding Foreign Ownership Variable

As mentioned also in the previous chapter that foreign ownership matters, regression result in Table 4.6 below shows positive and significant result to employment especially the firms that have foreign shares of greater than 50% shares. This confirms that unrestricted foreign ownership in the garment industry could be beneficial because of its promising contribution to employment generation.

$$lnY = \alpha_0 + \alpha_1 expsh + \alpha_2 lnlaborintensity + \alpha_3 lnpopgrowth + \boldsymbol{X\beta} + \varepsilon \quad (4)$$

where: $\boldsymbol{X\beta Firm\ Size, Foreign\ Ownership, Region\ FE, Year\ F\ E}$

Table 4.6: Regression Result, Foreign Ownership

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	lnfulltime	lntempw	lnprodw	lnskiprodw	lnunskiprodw	lnfemaleprod	lnseasonal
expsh	0.00173	0.00813**	0.00259*	0.00298**	-0.000969	0.00660**	0.0114*
	(0.00121)	(0.00284)	(0.00140)	(0.00149)	(0.00393)	(0.00277)	(0.00621)
lnlaborintensity	0.120**	-0.0445	0.178***	0.219***	0.123	0.141	0.201
	(0.0483)	(0.112)	(0.0561)	(0.0600)	(0.152)	(0.0921)	(0.325)
lnpopgr_10_15	-0.0264	-0.0734	-0.0210	-0.0773	0.527**	-0.169	-0.0843
	(0.0720)	(0.226)	(0.0821)	(0.0875)	(0.258)	(0.205)	(0.371)
1.fowned>50%	0.349***	0.581*	0.494***	0.462***	1.140***	0.0806	0.488
	(0.133)	(0.329)	(0.152)	(0.163)	(0.414)	(0.327)	(0.573)
2.fowned<=50%	0.355**	-0.435	0.368*	0.363*	-0.127	0.732**	-0.463
	(0.180)	(0.350)	(0.205)	(0.219)	(0.516)	(0.361)	(0.726)
2.fsize	1.095***	0.639**	1.159***	1.104***	1.199**	1.165***	0.700
	(0.106)	(0.258)	(0.123)	(0.132)	(0.475)	(0.233)	(0.534)
3.fsize	2.907***	2.160***	2.841***	2.755***	1.974***	2.850***	1.766***
	(0.123)	(0.313)	(0.144)	(0.153)	(0.494)	(0.292)	(0.633)
Observations	211	119	203	202	56	90	43
R-squared	0.850	0.634	0.819	0.794	0.649	0.781	0.662
Region FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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Chapter V

V. Key Informant Interview

This section focuses on the Philippine garment industry's performance in significant historical events for the industry. The information written in this section draws mostly on the interview conducted with the director of the Garment Business Association in the Philippines. The summary of the information that were gathered from the interview are presented with supporting facts and data to validate the information gathered from the interview and to strengthen the significance of this paper.

Embroidery Act, 1961 – Early Development

It was in the 1960-1970 when the Philippines started to develop its potential in the apparel industry from a transformation of cottage-type production or home-sewn production of clothes and tailoring shops in the 1950s to the establishment of garment factories. The established garment factories did not only cater the domestic market but also expanded to venture into the export market. This openness to the foreign market was an opportunity brought about by the formulation of Embroidery Law enacted in 1961 under the Republic Act No. 3137. The law has made a way to the growth of the industry through its stated provisions that are favorable to the local embroidery apparel manufacturers. It states a conditionally tax-free import of raw materials such as textile and leather gloves. These imported raw materials are used in processing for the finished products that are exported as Philippine-made embroideries and apparel.

Relatively Low Labor Costs – Cost advantage

Besides the duty-free import incentives, local apparel manufacturers also enjoyed the relatively lower labor cost in which some US-owned garment companies were encouraged tobuild their factories in the country. Foreign companies were attracted by the relatively low labor cost in the Philippines (Austria, 1994).Big American factories operate their businesses in the country and took advantage on the cheap labor cost. The majority of the garments products that the country produced back then were children's wear and handkerchief which were mostly produced by a Filipino-owned company named Philippine Apparel that was eventually renamed to Philippine Lingerie. According to the director of the Garment Business Association, the company was one of the leading garment companies in the Philippines and it went along with the other top US garment companies in the Philippines such as GAP Inc. Wal-Mart, May Department Stores and Gelmart.

The basic minimum wage in the Philippines in the 1950s was low. Table 5.1 shows a historical data of the basic minimum wage in 1951-1989. It shows that the basic minimum wage range from Php 6.00 – Php 8.00 per day in the non-agriculture sector across all locations (Metro Manila and outside of Metro Manila). 1951-1989 minimum wage trend illustrates a slow increase for both Metro Manila and outside Metro Manila in non-agriculture sector. The minimum wage has been the same across locations in the 1950-1970 until after 1970 when a difference in the minimum wage in the Metro Manila and outside of Metro Manila started. However, there's not much difference in the minimum wage between Metro Manila and outside of Metro Manila. As observed in the table below, minimum wage from 1976 to 1988 has minimal difference. This would mean that location does not matter considerably to the garment manufacturers' operation during those years.

Table 5.1: Minimum Wage

Effective Date	Order / Act / Decree	Minimum Wage (in Php)	
		Metro Manila	Outside Metro Manila
4 Aug 1951	Minimum Wage Law (R.A. 602)	4	4
21 Apr 1965	Minimum Wage Law Amendment (R.A. 4180)	6	6
17 Jun 1970	Minimum Wage Law Amendment (R.A. 6129)	8	8
1 Jun 1976	Presidential Decree 928	10	9
1 Jul 1978	Presidential Decree 1389	11	10
1 Apr 1979	Presidential Decree 1614	13	12
18 Aug 1980	Presidential Decree 1713	14	13
1 Jan 1981	Presidential Decree 1753	18	17
6 Jul 1983	Wage Order No. 2	19	18
1 Nov 1983	Wage Order No. 3	20	19
1 Dec 1983	Wage Order No. 3	21	20
1 May 1984	Wage Order No. 4	32	21
16 Jun 1984	Wage Order No. 5	35	34
1 Nov 1984	Wage Order No.6	37	36
1 May 1987	Executive Order No. 178	46 / 41.50*	45 / 40.50*
1 Oct 1987	Executive Order No. 178	54 / 46*	53 / 45*
14 Dec 1987	Republic No. 6640	64	64
1 Jan 1988	Executive Order No. 178	54*	53*
1 Jul 1989	Republic Act No. 6727	89	89

** Applicable to workers in establishments with less than 30 employees and with paid-up capital of P500,00 or less*
Source: National Wages and Productivity Commission, Department of Labor and Employment
http://www.nwpc.dole.gov.ph/pages/statistics/stat_wage%20rates1951-89.html

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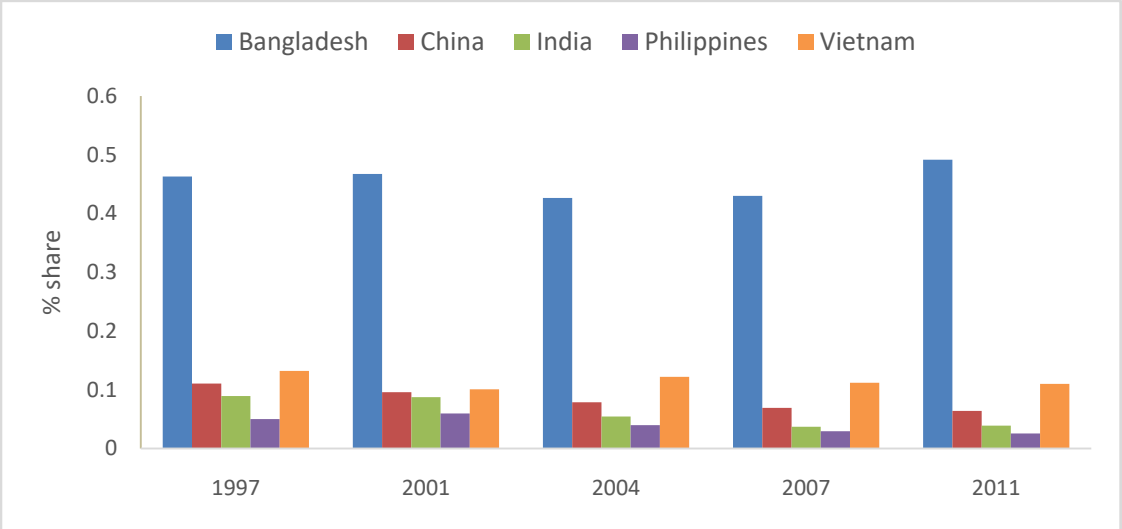
The garment industry has therefore taken advantage of the incentives brought about by the Embroidery Law and the cheap labor cost in the 1960-1980. These have resulted to mass production of garments during those times. And even after that period, the Philippine garment production still went along with the world's strongest producers of apparel like China, India and Bangladesh in 1990s to early 2000s, see Figure 5.1. Exports value added[4] trend in selected years between 1997-2011 shows that Philippine production went along with biggest producers of garment like China, India, Bangladesh and Vietnam. However, the Philippines was a little farther away from Bangladesh when it comes to exports value added mainly because Bangladesh is a country driven mostly by export earnings from the garment production. They focus mostly on the production of two main products: woven (or ready-made) garments and knitwear. For a low-income country having a growth driven by the production and exports earnings from one sector only is very unusual (Muzzini and Aparicio, 2013). Other low-income countries have diversified in production.



Source: Export Value Added Database, World Bank

Figure 5.1: Exports Value Added, 1997-2011

a) Trade Trends in the Garment Sector

The trends for imports and exports of the Philippines garments in almost the same. During the transition of MFA to ATC, the trade trend is steady. Trade dropped after the MFA which goes to show that the end of the MFA greatly affected the trade in Philippine garment industry (see Figure 5.2). Although few years after, the industry is bouncing back as illustrated by the rising of trade trend starting 2011. Also the gap between exports and imports in the garment sector is declining over the years as illustrated the converging trend lines of exports and imports. This implies that the country trade on the garment is approaching trade deficit.

[4] Share of each garment sector in total exports based on the gross value of exports.

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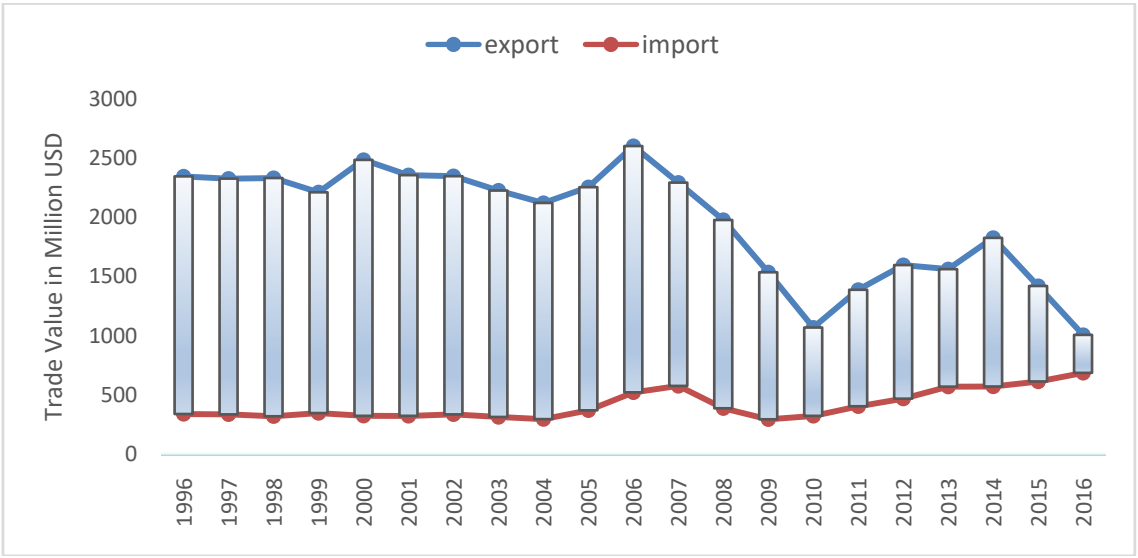
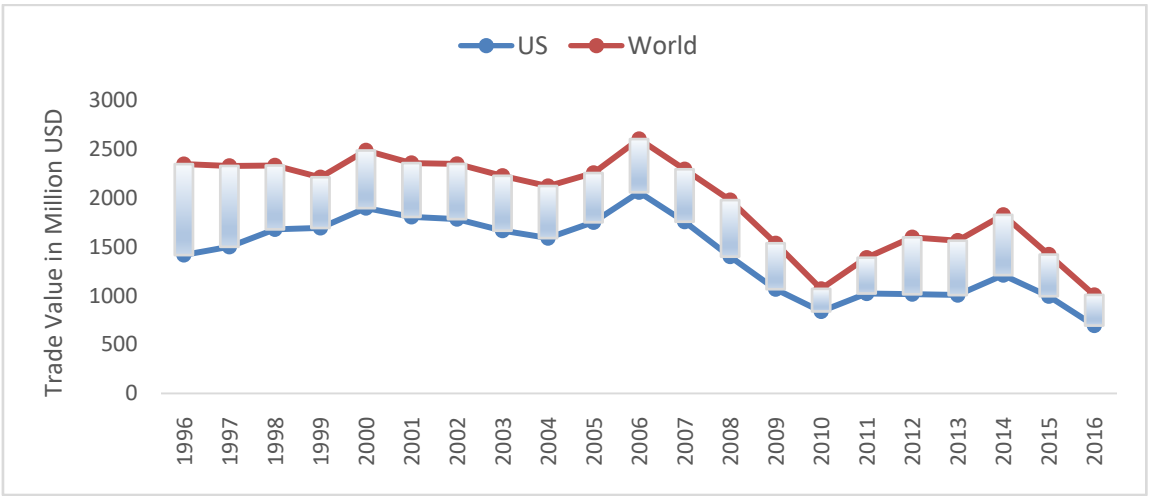


Source: UN COMTRADE

Figure 5.2: Philippine Garment Imports and Exports, 1996-2016

For the Philippine garment export trends to US and total exports to the world, the trends illustrate increasing trends during the MFA implying that the Philippines exporting activity during the MFA was flourishing. Its export trend to US and to the rest of the world has been the same. Figure 5.3 illustrates that a little gap between Philippine exports to US and to the world implying that almost everything that the garment industry has produced and exported goes to US. This further implies the significance of US market to the Philippine garment industry. After the MFA, Philippine exports to US and to the rest of the world have declined significantly. Looking at Philippine garment import trend from its leading importer China (Figure 5.4), the trend is the same with its world imports. During the MFA, the import trends were steady, went down after MFA and uprising again. This implies that the industry is reviving from the end of MFA and that it is still producing garments to be traded. This contributes to the fact that preferential treatment has played a key role in keeping the countries engaging in trading activities.



Source: UN COMTRADE

Figure 5.3: Philippine Garment Export to US, 1996-2016

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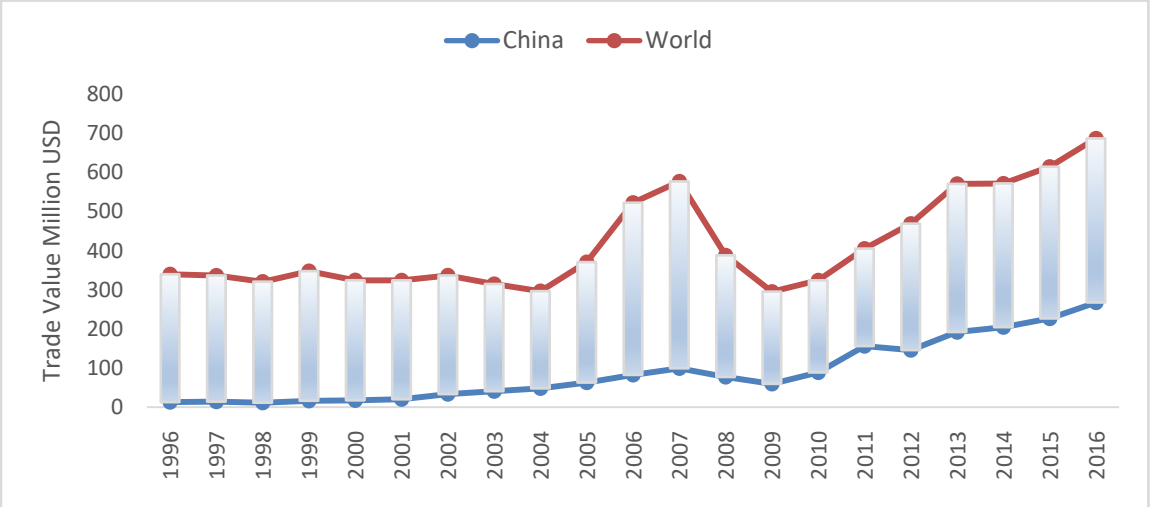

Source: UN COMTRADE

Figure 5.4: Philippine Garment Imports from China, 1996-2016

b) *Philippine Garment Industry during the Multi Fibre Agreement*

When the US and EU have imposed import quota to developing countries, Philippine has not really affected undesirably. In fact, it has become advantageous for the Philippines that the basis of quota allocation was the historical exports of countries to US and Europe. US and Europe gave priorities to countries that had previously exporting to them and luckily for the Philippine garment manufacturer, our country was one of the countries that has been previously exporting to US and Europe. Also, this quota system set by the US and EU has somehow favors the Philippines especially when the quota became insufficient for other countries' production of apparel. One example was China. The quota system has led to circumstances wherein China had to buy Philippine's quota allocation in US in order to ship China's products to US via Philippines. It has led to creation of an agreement between Philippines and China to manufacture the apparels in the Philippines that are to be shipped to US using China's raw materials particularly China's fabrics.

In the Executive Order No. 537 in May 24, 1979 the quota allocation is generally described as a fair and objective allocation for firms. It was designed in such a way that it would avoid monopoly power and considerate to new entrants in the markets to acquire equitable and tangible shares of quota allocation. However, there are what they called "reasonable fees" for the issuance of export quotas, export authorizations, export licenses and other related services. According to the director of Garment Business Association, these fees are collected for the purpose of funding the safety nets of the workers in case of industry's closure which comes in terms of separation pay. The collected fines are allocated for employment training and for the planned lobbying of bilateral trade or free trade agreement with US. Unfortunately, these funds were surrendered to the National Treasury after the GTEB was phased out.

c) *Post Multifibre Agreement*

The end of MFA then became a challenge to the Philippine garment industry as all other countries can now exports without limits to the world's major buyers of the apparel such as US and EU. At this point, the Philippines had to rely on the next stage of liberalization as the only hope to be competitive with other countries. The country has been lobbying for the removal of tariff from US and EU to remain competitive after the lift of quota allocation to all countries. In any case, the end of MFA only means the end of quota allocation and not elimination of tariffs which means that Philippines can still negotiate through bilateral trading agreements, usually through free trade agreements or FTA.

d) *Failure of Save Act and Transition to TPP*

In 2008, a preferential trade bill for textiles and apparel between the US and the Philippines, called "Save Our Industry Act" was proposed at the US congress. It describes an innovative win-win trade legislation because of the jobs that it could create to both the US and Philippines. The agreement basically allows the Philippine-made apparel products to enter into the US market with duty free market access but on a condition that the apparel products should be made with US fabrics. This would mean creation of jobs in US textile sector because it would pressure the US textile manufacturers to export fabrics in the Philippines. The Philippine government was once hopeful for the passage of the Save Act to the US congress. According to the director of the Garment Business Association, the country had a chance to make it a rider[5] to FTA bills of Colombia, Panama and South Korea but the US citizen lobbyist Hawaii Senator Daniel Inouye passed away.

[5] Rider is an informal term for a no germane amendment to a bill or an amendment to an appropriation bill

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e) Pride Bill as a Solution to Failed Save Act

In response to the impossibility of the Save Act was the creation of an alternative initiative called *Pride Bill*. Pride bill or Philippine Recovery Investment Development Export (PRIDE) bill is intended to help the survivors of the super typhoon Yolanda or internationally known as "Haiyan" to recover from their losses. The agreement is a sort of support as it provides grant of duty-free access to US for the goods made in the Visayas areas that were devastated by the super typhoon. This is an advantage for the community to spur economic development and business activity as it will attract investors and developers to venture into the affected areas. Moreover, the privilege of duty free access to US market extends to include the goods made in some of the areas in Mindanao which are not yet developed so as to speed up also their development. Finally, the bill has been designed to be of great benefits because it will build up a foundation for the Philippines to enter into the TPP agreement which is the same with the intention of the creation of Save Act. The challenge for pursuing the Pride bill however is the same with Save Act in that the US does not prioritize giving a preferential treatment to any country not part of the TPP (Asian Journal, 2015). In some way Pride bill has greater advantage in that it has longer duration of implementation. Its proposed timeline takes 5 years giving more time to prepare and push through TPP. However, with the protectionist policy of the Trump administration, it would be of great challenge for the Philippines to get into one level higher to TPP inclusion.

Philippines- EU Generalized System of Preferences (GSP)

Currently, the Philippines does not have FTAs with EU and US. Although PH-EU FTA has been proposed already, the agreement has not decided yet. What the Philippines can rely with the EU in the meantime is the unilateral agreement for GSP scheme grant. GSP scheme is a facility granted to developing countries by certain developed countries. Essentially, in a unilateral agreement, there is beneficiary country and a donor country. This scheme is also called a preferential tariff treatment which means that the benefit is non-reciprocated. If the beneficiary country is a least developed country, a scheme granted to the beneficiary is called "Everything But Arms (EBA)". In this scheme, the beneficiary country is granted with duty-and-quota-free access for all of its exports except arms and ammunitions. EBA therefore is a special privilege grant to least developed country in order to address their special needs. In the case of the Philippines, the country is not privileged with EBA which is what it is hoping to obtain. Nevertheless, Philippines has granted with GSP plus scheme which means full removal of tariffs to products such as coconut and marine products, processed fruit, prepared food, animal and vegetable fats and oils, textiles, garments, headwear, footwear, furniture, umbrellas, and chemicals. Therefore, EU is not problem for the Philippine garment products to enter in the EU market freely. Previously, textiles and garments have 9.6% duty and is now 0% tariff (duty free). One issue here however is that the other countries with the same level of development as with the Philippines have also granted with GSP plus which means that the country has to compete also with the other countries in the EU market.

f) Double Transformation

In this case, Philippines may now move towards the next level of liberalization which is dealing with the Non-Tariff Barriers (NTBs) to get into a step closer to FTA. NTBs refer to various bureaucratic or legal issues that hinders trade. This covers Rules Of Origin (ROO) ora criteria used to define where a product was made. ROO is an essential part of trade rules because a number of policies discriminate between exporting countries such as quotas and preferential tariffs as in the case of Multi fibre Agreement, Philippines and European preferential tariff agreement, etc. Rules of origin is also used to compile trade statistics for "made in" labels attached to the products especially for products processed in several countries. For the Philippines, complying with the ROO seems challenging to the garment industry. To claim the tariff preference, the garment manufacturers need to prove that their clothing products originates in Philippines, hence submitting a proof of origin document known as the certificate of origin (CoO) to fulfil the conditions.

The specific condition for the apparel industry with the EU preferential agreement is called double transformation. This means that textile or clothing products have to be made out of a two-stage transformation process domestically. In the first stage is the production of fabric and the transformation is the weaving of yarn into fabric. In the second stage of transformation is the making of this fabric into cloth. As a beneficiary of the preferential trade from the EU, the Philippines must adhere to the double transformation rule in that the country is not allowed to import the fabric that it will use to make clothes. However, the local manufacturers import the fabric that they used in apparel manufacturing which is a major concern. Even the famous Filipino retail brand clothing which almost dominates our domestic market is not 100 percent made in the Philippines and in fact it is 99 percent made in China.

g) Subcontracting Garment Business

The Philippine garment sector consists primarily of subcontracting operations for international brands (Avila, 2005).Subcontracting is defined as doing partial work for a large company. They are known as subcontractors which are also companies. In the case of garment industry, a subcontracting unit is a factory that mainly does garment stitching work. They don't need to

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set-up other facilities and staffs for layer cutting, garment finishing, and packing activities. If illustrated in an apparel supply chain, there are garment export houses receiving original contract from international buyers or retailers of apparel brands. These export houses have their excess production done by the subcontractors. Thus, an export house works witha subcontractor and/or it can also be the subcontractor when it doesn't get enough direct business. In this sense subcontractors do not only sew garments, they can also do jobs like cutting to packing, provided that they have in-house facilities for these.

Subcontracting business in apparel industry are advantageous in a way that it saves them from overhead costs. Garment factories often have set a production amount that is based on the previous average demand. Hence, in times of excess demand especially during the peak seasons, the export houses get some of their products done by the subcontractors. In this way, they don't need to invest more on machines and additional space or house for manufacturing the excess orders because if they would invest on additional these capital, there's no guarantee that it would be utilized for the whole year. The work flow of subcontractor goes like this. First a subcontractor gets their contract with the exporters. However, they must have a factory set up with sewing machines. Second, having the capital and expertise, it would be easy for the subcontractor to work on the given pattern by the exporter. Third, the work that the subcontractor has to do is usually stitching only (partial or complete). Although sometimes, trim is added to subcontractor's work, trims and accessories are normally done by the exporters. Finally, stitched garments are sent back to the exporter for inspection first before the payment is handed.

h) Yarn Forward

Philippines has also a preferential agreement with US in terms of textile industry. The US version of EU double transformation is called yarn forward in that all stages of production must take place in the country. Again, it's the same problem that the garment manufacturers face because the country is not a producer of fabrics as the Philippine textile industry greatly complained about the electricity cost in the country. Running a textile mill consumes 1.5 megawatts in the production of synthetic fibers – cheaper substitutes of natural fibre. Although UN encourages the use of natural fibre as it is more environment friendly. According to the estimated data presented in the proceeding of the symposium on the environmental benefits of natural fibres production held in The Netherlands, the main producer of most of the natural fibre is China. Philippines was noted as main producer of abaca fiber specifically in Aklan where majority of abaca come from (Table 5.3). Also, the country has a Philippine Textile Research Institute (PTRI) an agency under the Department of Science and Technology which provides testing services and textile processing services for the production of natural fiber. PTRI laboratories has testing equipment to determine levels of quality of fibers, yarns, fabrics, garments and allied products including dyes, chemicals, and auxiliaries used in textile production.

Table 5.3: Main Producer of Natural Fiber across the World

Natural Fiber	Million Metric Tons per Year	Main Producer
Cotton	25	China, US, India, Pakistan
Kapok	0.03	Indonesia
Jute	2.5	India, Bangladesh
Kenaf	0.45	China, India, Thailand
Flax	0.50	China, France, Belgium, Belarus, Ukraine
Hemp	0.10	China
Ramie	0.15	China
Abaca	0.10	Philippines, Ecuador
Sisal	0.30	Brazil, China, Tanzania, Kenya
Henequen	0.03	Mexico
Coir	0.45	India, Sri Lank
Wool	2.2	Australia, China, New Zealand
Silk	0.10	China, India

Source: Food and Agriculture Organization

Fiber Industry Development Authority (FIDA) has done various investor friendly initiatives toward further boost of fiber market in the coming years. Significant share of abaca fiber is consumed domestically while the rest is exported majority to US, European countries and Japan. According to the *Philippines Abaca Fiber Market Forecast & Opportunities, 2019* report, the abaca fiber market is projected to grow at around 5.7% till 2019. Abaca (and piña fiber) are mostly produced in the province of Aklan. Huge portion of the land, about 60 hectares, was planted with 1.3 million kilograms of abaca fibers last year in the province of Aklanwhich contributed P46.8 million to farmers' income. According to the local government of Aklan, the province has been traditionally producing abaca fiber in which the main source of income of a typical household. The head of

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household (typically the father) together with his sons, plants the abaca and harvest it after a year. The harvested abaca will be stripped and extracted with the abaca fiber which will be sold to the traders. The women of the household typically help in drying while the rest of the production process are done by the male. Therefore, employment contribution of abaca production is slim as it is done as livelihood by families in the rural areas.

i) Skills Development in Textile Manufacturing

However, the other parts of the labor force who aren't come from a family of abaca producer and do not have the skills needed to process textile, are offered with skills development training across the country. PTRI provides technical training to help produce high-quality and skilled workforce from the textile and garment industry working at micro, small, and medium-scale enterprises to ensure efficient production. The Institute extends technical support and expert assistance on manpower and skills development joint program of DOST and Department of Trade and Industry. The Institute conducts in-house seminars and workshops on textile and textile-related training courses for reasonable fees. It can even send experts to other parts of the country through the program Small Enterprise Technology Upgrading DOST. There are actual production machineries used during the in-house courses and/or on-the-job training on textile processing and quality assurance. The aim of the training courses is to contribute to the improvement of production and quality of textiles, decreased unemployment rate of the country, and generation of additional dollar earnings. The training is also designed to target students, entrepreneurs, out-of-school youth, traders, merchandisers, and related groups.

j) TESDA offering Dressmaking course to help garment firms

Aside from the PTRI, a German company in the country that manufactures woven shirts for men and juniors as well as woven blouses for ladies provides vocational training called "Dual Training System" in coordination with the Technical Education Skill Development (TESDA). It is located in the Cavite Economic Processing Zone, an industrial estate that is 45 minutes away from the port of Manila and NAIA airport. The company has been catering the European market engaged in "German Dual Training System (DTS)" for ten years. The training is a pilot project in coordination with Technical Education Skill Development Authority (TESDA) and considered as unique in the garment business in South East Asia. The graduates of the Dual Training System is given with certificate in Dressmaking NC II which warrants a completed 1,240 hours of in-school and in-plant training conducted by both CS Garment, Inc. and the TESDA Provincial Training Center in Rosario, Cavite.

The TESDA garments related courses like tailoring and dressmaking usually varies from 10 months to 3 years. There are also short courses that take 240 hours which if calculated is almost 3 months. However, short courses like this depend on your eagerness to learn and your ability to absorb whatever lectures, hands-on that will be given to you. In TESDA dressmaking course, you can study and train how the fabric can turn into beautiful apparel which most popular fashionista and celebrities wore. Anybody who finished the course may now put its own tailoring shop or start to make small textile business. The short course covers drafting, cutting and sewing fabric and turning them into casual apparel like blouses, dresses, skirts, pants and shorts. For someone who is enrolled in the course can acquire skills such as carrying out measurements and calculation, setting up and operating sewing machine/s, performing basic maintenance, drafting and cutting pattern of casual apparel, preparing and cutting materials of casual apparel, sewing casual apparel and applying finishing touches on casual apparel. Hence, career opportunity for graduates of dressmaking would be dressmaker, seamstress / seamster / tailor or garment sewer at apparel companies, garment manufacturers, fashion design shops or studios and some boutiques. Graduates can even start their own company or work from home by offering services like repairing and altering clothes, teaching basic sewing skills, sewing office and school's uniforms, pillows, curtains, pet clothes or doll clothes, costumes for cosplay or tote bags among others. There is also opportunity for the graduates to become a fashion designer if they will pursue it to the next level because tailoring, sewing and pattern-making skills will provide them the foundation.

k) Benefits of the Growth Corridor

Unlike in the previous decades in which the garment manufacturers enjoy the benefits of low minimum wages, the garment manufacturer these days have been complaining about high labor cost. However, a strategic solution can help them alleviate their issue with cost of labor. The garment manufacturers have the option to locate in the W Growth Corridor in the Central Luzon. As presented in the previous chapter, the sample dataset shows that not much garment firms are located in the Central Luzon so this could encourage them to relocate to Central Luzon because of the W Growth Corridor. The W Growth Corridor is a strategic approach in promoting Central Luzon as an investment destination for tourism, industry and agriculture. These key growth areas when plotted on a map form the shape of a W hence it's called W Growth Corridor. The key growth areas are also spatial representation designed to certain economic activities that can be globally competitive such as an "industrial heartland of the Philippines and

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the Asia-Pacific Region", "international transshipment hub", "world conference center" and "showcase of competitive and vibrant agricultural sector".

In the Philippines, minimum wage varies by classification of the areas such as (1) growth corridor, (2) emerging growth and (3) resource-based. See Table 5.4 for minimum wages in each area. Growth corridor areas are the rapidly urbanizing and industrializing. Emerging growth areas are the areas with rural and agricultural resource potential that are located at/or near the rapidly urbanizing and industrializing. Resource Based Area are areas with predominantly rural and agricultural resource potential that are far from regional and Metro Manila markets. These areas cover the cities or municipalities of Cavite, Laguna, Batangas, Rizal and Quezon that are dispersed in each area.

Table 5.4: Minimum Wage in Different Areas

Areas	Minimum Wage	Cities /Municipalities Coverage
Growth Corridor	Php 310 – Php 337	1. Cavite – Bacoor, Carmona. Cavite City, Dasmariñas, Gen. Mariano Alvarez, Gen. Trias, Imus, Kawit, Rosario, Silang, Tagaytay City, Tanza and Trece Martires City 2. Laguna – Biñan, Laguna Techno Park, San Pedro, Cabuyao, Calamba City, Los Baños, San Pablo City, Sta Cruz and Sta Rosa City 3. Batangas – Batangas City, Bauan, Lipa City, Lima Technology Center, San Pascual, Sto. Tomas and Tanuan City 4. Rizal – Antipolo City, Cainta, Rodriguez, Tanay and Taytay 5. Quezon – Lucena City
Emerging Growth	Php 275 – Php 291	6. Cavite – Indang, Naic, Noveleta and Ternate 7. Laguna – Paete and Pakil 8. Batangas – Balayan, Calaca, Calatagan, Lemery, Mabini, Nasugbu, Rosario, and San Jose, San Juan and Taysan 9. Rizal – Angono, Binangonan, Pililia, San Mateo and Teresa 10. Quezon – Candelaria, Sariaya and Tiaong
Resource Based	Php 253 – Php 271	11. Laguna – Alfonso, Amadeo, Gen Aguinaldo, Magallanes, Maragondon and Mendez-Nuñez, Cavite; Alaminos, Bay, Calauan, Cavinti, Famy, Kalayaan, Liliw, Luisiana, Lumban, Mabitac, Magdalena, Majayjay, Nagcarlan, Pagsanjan, Pangil, Pila, Rizal, Sta. Maria, Siniloan and Victoria 12. Batangas – Agoncillo, Alitagtag, Balete, Cuenca, Ibaan, Laurel, Lian, Lobo, Malvar, Mataas na Kahoy, Padre Garcia, San Luis, San Nicolas, Sta Teresita, Taal, Talisay, Tingloy, and Tuy 13. Rizal – Baras, Cardona, Jala-Jala and Morong 14. Quezon – Agdangan, Alabat, Atimonan, Buenavista, Burdeos, Calauag, Catanauan, Dolores, Gen. Luna, Gen. Nakar, Guinayangan, Gumaca, Infanta, Jomalig, Lopez, Lucban, Macalelon, Mauban, Mulanay, Padre Burgos, Pagbilao, Panukulan, Patnanungan, Perez, Pitogo, Plaridel, Polilio, Quezon, Real, Sampaloc, San Andres, San Antonio, San Francisco, San Narciso, Tagkawayan, Tayabas and Unisan

Source: Wage Order No. IVA-114 National Wages and Productivity Commission, Department of Labor and Employment

Operating in the growth corridor can be favorable to garment manufacturers because the area is said to be one of the most dynamic and business-ready destination through its strategic location, accessibility and availability of skilled manpower resources. It is accessible because it has the 3 major international airports within the vicinity: Clark, Subic and Ninoy Aquino International Airport. It has infrastructure and transshipment facilities such as Subic Port, Clark International Airport, Broad-based economic and market spheres of influence and 10,000 hectares of industrial land. If the area is being explored for investment, the priority investment purposes would be information and knowledge-based industries, ancillary and/or support services to the locators of IEs and Ecozones, tourist destinations and facilities development, agri-processing industries, establishment of international schools, training, health and research institutions, businesses on "international lifestyle" and "local color" and infrastructure projects. Table 5.5 also shows the latest figures of the minimum wages across regions. As of 2017, region I has the lowest minimum wage followed by region IV-B.

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Table 5.5: Summary of Minimum Wage Rates by Region[a]

Region	Non Agriculture Minimum Wage Rate[b]
NCR	₱491.00
CAR	₱270.00 – ₱300.00
Region I	₱280.00 – Large ₱265.00 – Medium ₱252.00 – Small ₱243.00 – Micro
Region II	₱300.00
Region III	₱380.00
Region IV-A	₱296.00-378.00 – GCA[c] ₱293.00-328.50 – EGA[d] ₱293.00-311.50 – RBA[e]
Region IV-B	₱280.00 – Puerto Princesa ₱275.00 – Calapan City, Puerto Galera, El Nido & Coron ₱265.00 – First Class Mun. of MIMAROPA ₱260.00 – The Rest of the Region
Region V	₱290.00 – Establishments employing 10 and above ₱280.00 – Establishments employing 10 and above 1 to 9
Region VI	₱323.50
Region VII	₱366.00
Region VIII	₱285.00
Region IX	₱296.00
Region X	₱338.00 – ₱304.00
Region XI	₱340.00
Region XII	₱295.00
CARAGA	₱280.00
ARMM	₱265.00

Notes:
a. As of August 2017
b. Non-Agriculture Minimum Wage Rate covers basic wage + COLA, date of effectivity of wage order varies by region
c. GCA=Growth Corridor Area
d. EGA=Emerging Growth Area
e. RBA=Resource Based Area

Chapter VI

VI. Summary, Conclusion and Recommendation

a) *Summary and Conclusion*

The Philippine garment industry was at its advantage in times of the Multi fibre Arrangement (MFA), a period when there was an imposed quota of imports to the developed countries like US and EU, particularly to the imports of garments and textile from the developing countries. Philippines had an opportunity to fairly compete with world's strongest producers of garments like China, Bangladesh and India when it comes to garment production. The quota allocation was a chance for the Philippines to compete against the other developing countries that are also strongest producers and are dominating the US and EU markets of garment and textile. Dominating the US and EU markets can bring significant contribution to the exporting country because they are world's major importers of garment and textile.

MFA, therefore, has somehow distributed the world's production of garment and textile, shifting the concentration of production from China, Bangladesh and India to other developing countries like the Philippines. In MFA's termination in 2005, Bangladesh and India were back on the rise as they captured again the biggest market share in EU and US (Vollrath and Gehlhar, 2008). So the Philippines has consequently taken efforts towards greater liberation to overcome the international competitive pressures. With the lift of quota to all countries, what the Philippines is aiming to gain advantage is the preferential tariff agreement with US. This would mean Philippine inclusion to the Trans-Pacific Partnership (TPP) to gain preferential treatment.

However, Philippine inclusion to TPP seems to be challenging especially now that the Trump administration has imposed protectionist measures. Moreover, the pursuance of preferential tariff might create issue onanti-dumping, countervailing or safeguard rule of GATT. Dumping isa situation of international price discrimination where the price of a product when sold in the importing country is less than the price of that product in the market of the exporting country. One identifies dumping simply by comparing prices in two markets. The principle of Anti-Dumping rule requires that imported goods be accorded treatment no less favorable than domestic goods under domestic

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laws and regulations, and establishes rules regarding quantitative restrictions, fees and formalities related to importation, and customs valuation. Subsidies and countervailing measures are regulations that counter the effects of subsidies which comes in the form of charge or "countervailing duty" on imports that are subsidized and are found to be hurting the domestic producers. Safeguard is an action taken by temporarily restriction of imports of a product if domestic industry is injured or threatened with injury caused by a surge of imports.

Subsequently threats like the Philippine garment firm owners are moving out of the country to operate abroad are arising. But realizing the benefits that these firms could bring to the domestic employment is enough to consider giving support to industry's rival. This paper shows an evidence and adds to literature that a labor-intensive garment industry contributes to employment growth of the country. Furthermore, the industry is more significant to employment generation when firms expands their market internationally. This conclusion is backed by the regression analysis performed inthis paper. The findings of the empirical analysis confirm that the relationship of trading activities and employment creation in the garment industry is significantly positive. Using firm-level pooled data of 231 garment and textile firms from enterprise survey datasets of 2009 and 2015, the regression results to positive and significant relationship of firm exporting to job creation for all types of workers in the industry while controlling for several firm characteristics such as firm size, location, population, and survey periods. It is also interesting to find out from the survey data that despite smaller in number, garment exporter firms cover a larger share of employment. This is driven by the presence of large firms in the industry where the bulk of the workers can be found. These large firms are mostly owned by foreign investors that also have operations in the other parts of the world.

b) Recommendation

In the light of the revival of the Philippine garment industry, strategic industrial policy for the garment should be laid out. However, policies specifically relate to provision of incentives to firms by lowering of minimum wages isdifficult to implement and has slim possibility. Providing export subsidy isn't the best solution however. Firstly, because it isn't sustainable. Secondly is because itviolates an international rule. Giving export subsidy in the form of reduction in minimum wage could create distortions in an international free trade. This international rule particularly pertains to WTO Agreement on Subsidies and Countervailing Measures defined as a subsidy in a form of a public financial contribution or a government resource transfer to benefit a recipient through direct payments, tax concessions, contingent liabilities and purchase and provision of goods and services (with the exception of the provision of general infrastructure). The ey feature of the WTO subsidy ruleavoids "specificity", i.e. subsidies benefitting only a limited number of recipients.

Moving up the value chain: focusing on Product Design

The key to success of Bangladesh's and China's garment industry are (1) the industry's export orientation and (2) relatively lower labor cost. These are what drive their competitiveness. The Philippines, however, is not competitive on labor cost. It is therefore essential to discover the "niches" of the Philippine garment industry as a strategy to be competitive. If sewing processis what Bangladesh, China and India might have taken the lead, then designing can be the leverage for the Philippines. Designing for the Philippines can be the "niche" that the country can focus as a strategy to compete internationally. Sewing, moreover, if seen in global value chain is low valued while designing is high-valued and at the same time could be labor-intensive which is favorable to employment. Exploring this aspect therefore is the best solution that the Philippines can have for now.

In the case of Cambodia, the strategy targets on increasing labor productivity through improvement in management systems and training of personnel. In order to do so, a benchmarking analysis was done by Nathan Associates Inc. in 2005 comparing Cambodia's garment industries to five reference countries such as Brazil, China, Egypt, Mexico and Turkey. They were compared in terms of professional development, production controls and engineering, and organization of work. In conclusion, the highest priority is to train companies' middle management such line supervisors and industrial engineering personnel. These are the positions that have the greatest effect on the efficiency of resource use in the plant. Training for other positions, including operators and mechanics, is also desirable. Training is perceived as a way to improve efficiency in production, quality control, planning, and information systems. Productivity training center would therefore help develop human resource capacity. However, a number of practical issues in setting up such a center need to be considered, including modalities for financing, institutional affiliation and participation, and organizational structure. Initially, international experts would train local personnel until they will gain sufficient knowledge and expertise to eventually replace the expatriate experts in delivering productivity-enhancing advisory services to the industry. If Cambodia succeeds in making productivity gains while retaining its reputation for adhering to labor standards, foreign investment will continue to flow into the country.

In the Philippines, there is one leading foreign-owned apparel company that has factories spread out in the country. It operates inSan Fernando, Pampanga, Clarkfield, Pampanga, Mariveles, Bataan and Lapu, Lapu Cebu. Globally, the company has headquarters and operations in China, Hong Kong, Vietnam,

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Cambodia and Indonesia. It has sales and designing offices in Asia and America. Aside from making apparel and accessories, the company also provides supply chain services. Because of its expanding capacity and constant innovation to respond to consumer needs, the Philippine garment industry has high hopes for product development. Also, the company enters long term contracts that could be a good signal for the Philippines if it really intends to enter into the designing stage.

Fortunately for Kyrgyz Republic, their garment industry was recognized by it flexibility in product development, lower logistics costs and shorter lead times in manufacturing of clothes as compared to many international competitors. As a consequence, United States through USAID's Business Growth Initiative has worked with Kyrgyz apparel manufacturers to optimize production and marketing in 2014. Kyrgyz producers signed contracts to export more than $1 million in clothing, primarily men's suits. More Kyrgyz companies are now taking advantage of this opportunity in which 22 leading manufacturers that employ over 1,700 workers joined the initiative to share best practices and improve their operations and marketing efforts. After expanding sales to current markets, the project will focus on exports to the European Union and potentially the United States.

The Philippines has another area to explore for product development which is in connection to its richness in indigenous fibers such as abaca and pineapple fiber. In some of the provinces in the Visayas and Mindanao, weaving of these fibers into fabrics are quite famous and their works can actually go global. Pineapple fibers are ivory-white color and naturally glossy. It is often blended with cotton, abaca, and silk to create wonderful light, breezy fabrics. When woven with silk, it's called piña seda or piña-silk. It is also called piña jusi when blended with jusi (abaca or silk) for strength and sheerness which is less expensive than 100% piña. Therefore, there are areas to explore in the Philippine garment industry to move higher in the value chain at the same still keeping the foreign investors. In this way, the country remains competitive internationally. In Egypt, the fine, high quality, light-weight, tightly woven, soft-to-touch fabric and garment made from the long and extra-long-staple cotton gown in the country are the ones they do export as designer or quality branded shirts, blouses, and bed linens. Internationally, the quality-made garments from fine Egyptian cotton are the best that money can buy followed by slightly inferior Pima cotton from the US and Indian cotton. Consumers pay a high price for the products made from extra-long-staple Egyptian cotton which provides the manufacturers with good margins. After the MFA, Egypt's strategies include clustering of small and medium enterprises, improving coordination among the enterprises, share resources and knowledge, integrate textile firms, obtain access to capital and partner with buyers. Developing manufacturing strategies to integrate the often-conflicting strategies of domestic producers, exporters, importers and textile and apparel industries are necessary. Also, creation of a regional trade strategy by establishing a sourcing hub in Egypt and the region will help improve producer's knowledge of complex rules of origin.

i. *Attracting Foreign Direct Investments for textile industry*

Investment in the upstream industry may be considered for garment industry's survival. A presence of multinational textile company that is flexible enough to cater the garment firms' demands and one that can ensure efficiency and sustainability of operation may help the garment industry for the time being. Flexibility is an important factor that the textile company should possess because each garment firm will demand certain design that may be unique to each firm. Having high-tech textile machineries capable of producing varieties of designs will ensure the textile industry's efficiency in the production, and thus, sustainability. This could be most successful with the help of government ensuring its role in reducing cost of doing of business in the Philippines and addressing problems with high electricity cost in the country. These are the issues that might concern the potential textile investor/s who we are targeting to attract for upstream industry. Therefore, addressing the root cause of garment industry's comparative disadvantage could bring promising result to industry.

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