

# **PARADIGM OF INDUSTRY LIFE CYCLE AND INDUSTRY LIFE CYCLE SHIFT CONTRAST TO FLYING GEESE MODEL: WITH SPECIAL REFERENCE TO SRI LANKAN READY MADE GARMENT INDUSTRY**

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## **ABSTRACT**

The Flying Geese model was used to explain the industrial development in latecomer economies with industry life cycle origination, growth and decline and industry life cycle shift from country to another, especially for Asian region. This paper compares the Sri Lankan readymade garment industry life cycle with Flying Geese model to verify the validity of the model referred to Sri Lanka. Similarly, this paper will explore how this Sri Lankan readymade garment industry life cycle rises, falls, and its effect on the comparative advantage and international competitiveness among the nations to influence for a geographical shift of the industry. Businesses engaged in high labour intensive industries like readymade garment industry often use spatial strategies for geographical relocation of the industry to countermand the rising economical and social downturn of a given country. Readymade garment life cycle shift occurs whenever a domestic country's internal production competition intensifies due to the increased number of manufacturing firms and the industry reaches its maturity. With the growth of the industry, workers will gain their collective bargaining power and wages start to rise, health and safety costs will rise. Increased state regulations, taxes and duties will increase the industrial pressure with high budget allocations for industrial good governance and social responsibilities. Severe conditions intensify domestic and international competition demand to enforce the cutting edge industrial technology with high operational and maintenance costs. Industry will try to base with technology by replacing labour to face and control the mounting labour and operating costs while improving the production quality and to achieve delivery deadlines. By this phase, industry's both labour cost and technical cost were grown drastically, diminishing the country's comparative advantage by making the country no more low cost attractive production site. With the shrinking profit margins, brands and manufacturers tend to seek low-wage, industrially unorganised, poor legitimate, fresh and alien more lucrative geographical locations to retain and safeguard their high returns margin. Increasing tendency of the globalisation during the past decade made every country to worry about the international trade and division of labour irrespective of the development level. Sri Lanka as a developing country in South Asia and ready-made garment industry as the key decisive exports manufacturing sub sector portrait a comprehensive industry life cycle and industry life cycle shift in and out of Sri Lankan border within a period of less than four decades.

**Keywords:** Life cycle, Industry life cycle, Industry life cycle shift, Ready-made garment industry, Flying Geese model (FGM)

## **Introduction**

This paper explores the Sri Lankan experience of readymade garment industry life cycle, its transformation and shift refers to the Flying Geese model. International competitiveness of a country greatly depends upon the strength of the domestic industrial comparative advantage. Since the local industries are the bedrocks of the national economies, the study and understanding the local industry formation, development, decline with its nature and behaviour is essential to sustain the comparative advantage of the given industry. Similarly, study and analysis of the industry life cycle and its deviations facilitate to forecast the imminent downsides in advance and lead to formulate the remedies to the said complications proactively.

Sri Lankan readymade garment industry is a key example to exemplify the concept of life cycle in industries and its shift from country to another. This study theoretically investigates the readymade garment industry life cycle and its shift comparative to the Flying Geese model. Readymade garment industry inherits its uniqueness in diverse magnitudes compares to other industries. Irrespective of the geographical location and development level of the country ready made garment industry featuring a common life cycle and its shift from country to another after set time frame are such two key inimitable characteristics inherited by this significant industry.

Global readymade garment industry life cycle featuring six phases during the lifecycle namely:(1) Instigate Phase, (2) Development Phase, (3) Growth Phase, (4) Shakeout Phase, (5) Maturity Phase and (6) Consolidate Phase irrespective of the geographical location and development rate of the operating country.

Instigate phase the trade is not prominent mostly operate as domestic industry to cater local market clothing needs in unstructured manner. At the initial period sizes of the manufacturing entities will be small with few local production entities engaged in production with social and culture specific ready-made clothing items. Domestic clothing demands were catered with mainly imports.

Development phase normally opens their domestic industry to limited regional investors and selected international buyers with gradual state invention in formulating the trade laws and regulations. Number of production entities will be increasing but remain as mostly as small and medium scale locally owned domestically input supplied manufacturing firms in producing basic clothing.

Growth phase large-scale entities have standardized the operations and contributing a major share of domestic clothing demand while commencing the national clothing exports. Alliance with foreign buyers and entities were initiated in order expand the trade by obtaining the technicality, learning experiences at this stage. Ready-made garment industry is positioning as important economic contributor and employment generator beyond this phase. Trade gains more state attention and attractiveness due to the national economic contribution, employment generation and as a pioneering industrial ladder from this phase. State sector intervene to the domestic export led ready made garment trade in

more encouraging and confidence initiating the free trade zones/export processing zones for production entity clustering to facilitate the industry to obtain better performance while expanding the trade. State will actively involve in the trade expansion at this level inviting and embracing the foreign entities to take part in the local production regime. State formulates the foreign investor or buyer favourable national trade policies like foreign direct investment schemes, zero tax applications etc to motivate and attract the investors out of the national boarder. Competition in the domestic market increased with the local owned, local foreign collaborated entitles in the local markets to acquire the labour and to supply the domestic demand.

Maturity phase of a ready made garment industry on a given country will consist with limited number of production entities and mostly with large scale local, foreign or joint venture owned entities high resources, market and fund capabilities. Internal competition mainly with the big production entitles to capture or retain the labour of the local market or for the raw materials. In addition to the labour and raw material constraints at this phase large players compete for the trade benefits granted for a particular country like quota preferences and retail distribution channels or networking. Weak large-scale producers further eliminated at this stage through the absorption of their market shares by the strong and antagonistic other large-scale competitors. Contracting and sub contracting with secondary and tertiary production delegation with the production home country or other country selected or nominated by the main production entity. Most of the large-scale producers licensed with international brands commenced the research and design of their own labels or launch their owned distribution chains with outlets at this point. Production competence is well developed by this time gaining the product specialization with advanced features and quality and sustaining in the selected niche markets.

Last and the sixth phase of the ready-made garment life is the consolidation phase. The survived production facilities in the industry will be fully stable at this stage. Each competitor or member in the industry identified and occupied mostly competent or profitable customer base with specialized skills on selected highly qualitatively or unique product range while enjoying a secured market share primarily in the global, regional and local markets. Under the consolidation phase, less value adding or less critical activities of the ready made garment chain will be sourced to cost competitive geographical locations while retaining the high value additions such as research and development, designing and marketing by the large scale producers at the home country.

Global readymade garment industry life cycle shift from developed or advanced countries to developing countries and least developed countries with set time frames and after reaching selected industry life cycle phases.

Akamatsu's Flying Geese model demonstrate tri aspects for an industry in terms of intra-industry which explains the formation and growth phases of a new industry, inter-industry explains the industrial forward and backward integrations and industrial chain. With the international aspect of the Flying Geese he justifies the industrial shift due to the international division of labour.

Akamatsu's Flying Geese Model can be used for the verification and to check the validity of these three aspects of intra, inter and international industrial elements of this model in the modern business arena compares to the ready-made garment industry life cycle. Similarities or contradictions of the findings will explore the new ideas for the Sri Lankan ready-made garment industry life cycle for its advancement and sustainability in order to gain the national industrial competitive advantage in the international competitiveness.

Globalisation, demographic intensification and dearth of resources are the common challenging factors for any modern trade whether it operates locally, regionally or internationally irrespective of the level of industry dispersion. To triumph over the negative impacts and consequences of these factors, nations try to enhance their country's comparative advantages<sup>1</sup> through selected industries. Furthermore, with the change of trends and patterns of the end user demands, the industries compelled to practise and adhere to the ethical and eco responsibility throughout the entire value chain and supply chain of any given industry. Comply with the standards and to assure the quality throughout the entire production process or value chain of an industry is much prerequisite to understand the life cycle and its behaviour of the industry. Understanding the life cycle of an industry and its relocation or shifting pattern from country to another not only supports the measurement of industry impacts but also important in attaining the sustainable development of the industry. Firms in an industry are tied with each other with the product or service types they offer, compete and share the same market share and strive to win the heart of a common customer. Hence the individual firms are the main building blocks of an industry. Collective nature and their behaviours of these individual firms will primarily determine the industry life cycle. Ready-made garment industry is one of the most geographically dispersed and socially diverse industries in its production networking. Ready-made garment industry can expect to have different or various industry life cycles for different countries due to its global consumer dissimilarities, economic diversification and as the world's most trade-regulated industry. As an exception to the above expectation, global ready-made garment industry life cycle features the common similarities and contradictions irrespective of its geographical position and development level of the country. The main objective of this paper is to verify the validity of the Flying Geese Model respects to the ready-made garment industry life cycle of Sri Lanka and its shift.

## **Objectives**

This paper has four main objectives. Sri Lankan ready-made garment industry life cycle is examined with a combination of historical context, the geographical factors, the major role of the industry as a post-war economic transformation:

1. Understand the historical background of the Flying Geese Model

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<sup>1</sup> Comparative advantage theory was first clearly proposed by the British economist David Ricardo in the early 19th century. It says that if each country exports goods it is relatively good at producing and imports goods it is relatively poor at producing, all countries will gain regardless of income level or economic structure.

2. Analyse the rise and fall of Sri Lankan readymade garment industry life cycle in global clothing business referring to Flying Geese model.
3. Understand the geographical factors and shift of Sri Lankan ready-made garment industry life cycle in connection with Flying Geese Model.
4. Role of Sri Lankan readymade garment industry life cycle in post war economic transformation

### **Flying Geese model historical retrospect**

“Wild geese are said to come to Japan in autumn from Siberia and again back to north before spring, flying in inverse V shapes, each of which overlaps to some extent”<sup>2</sup>. According to classical Chinese literature this notion symbolizes the order based on the leadership and collective action within a nation.<sup>3</sup>

Flying Geese model was developed in 1930s by professor Akamatsu Kaname born in Fukuoka (1896–1974) to function as the dean of the faculty of Economics at Hitotsubashi University at Tokyo to describe the industry life cycle during the economic development on specific industries in specific countries. Later this was extended to examine how dynamic changes alter the specific industries structure such as industry origination and decline in selected countries and further model was broaden to address how a specific industry shift from one country another. Original Akamatsu`s theory is differed from the western originated theories such as Raymond Vernon`s product cycle theory and neoclassical model. Later professor Kojima Kiyoshi westernized the Flying Geese model by combining the neoclassical theory as catching up product cycle theory.

Original Flying Geese model describes that the “lead goose” spread industrialization to “follower geese” through trade and later serves as a market for the exports of these same products, based on product cycles. The heavy labour intensive industries shifts to different countries to gain the benefit of costs differences that emerges from the timing of economic development.

Flying Geese model states that life cycle of an industry can be traced with the industry competitiveness during a period of time beginning from origination, improvement and distortion of the industry competitiveness. Conceptually in general industry life cycle takes an inverse V shape curve. This geometry symbolizes the virtues of teamwork unity and aspiration to return home.

This model specifically focused in initiation of the industrialization of the latecomer economies in three dimensions namely intra-industry, inter-industry and international dimension.

As the first dimension of the intra-industry, explained how an individual industry in a developing country grow and shift with three main phases as import, production and

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<sup>2</sup> Akamatsu, 1961, p. 205-6

<sup>3</sup> Li Xing 2007: East Asian Tegral Integration: From Japan-led “Flying-geese” to China-centred, “Bamboo Capitalism, p 5

export over a time frame while industry mainly focused on the single product development.

Second dimension of inter-industry was focused to industrial comparison of a developing country. Inter-industry dimension stated that systematic emergence of the industries are observable in developing countries where these industries move from more simple to sophisticated industries by broadening the horizons and advancement in the production from consumer products to capital goods.

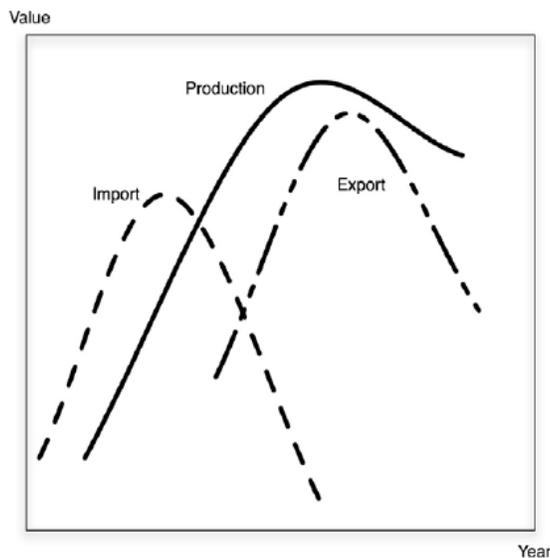
Third dimension addressed the relocation of the industries from developed countries to developing countries or late economies with catching-up process. This relocation mainly resultant due to international division of labour and takes two forms: vertically with different development levels like developed countries to developing countries and least developed countries and horizontally with the same level of developed countries.

Flying Geese model consist with two main models (1) Flying Geese model for a one specific country (2) Flying Geese model in multiple countries or regional pattern.

This one country Flying Geese model comprises with two versions as (1.1) one-country one-product model and (1.2) one-country multi-products model.

#### (1.1) One-country one-product model

Figure1: Fundamental wild-geese flying pattern



Source: Satoru Kumagai, 2008: Journey Through the Secret History of the Flying Geese Model

Fundamental pattern of the Flying Geese model consists with four stages:

Stage 1-Beginning of import of consumer goods

Stage 2- Previously imported manufactured consumer goods starts to produce by the

domestic industry and imports move for importing the capital goods required for the production of consumer products.

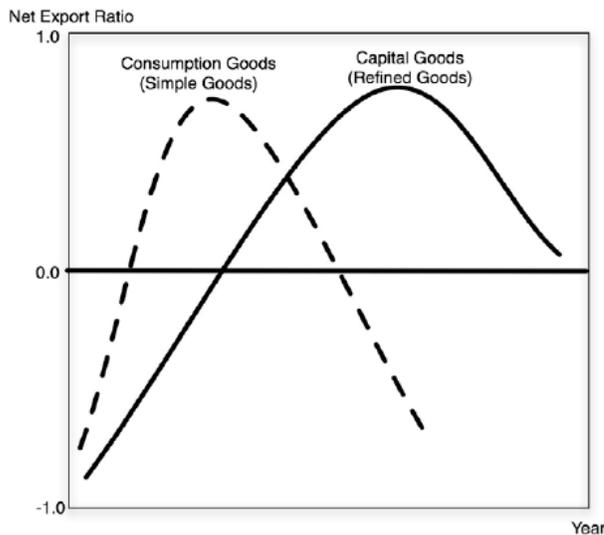
Stage 3- Begin to export of domestically produces consumer goods

Stage 4-Consumer good industry catches the similar industries in the developed countries.

Export of the consumer goods starts to decline and starts to export the capital goods.

### (1.2) One-country multi-products model

Figure 2: Flying Fish Diagram for Industrial development for a country



Source: Satoru Kumagai, 2008. Journey Through the Secret History of the Flying Geese Model

This one country multi product model explained by the Kojima in 1960 as the Heckscher-Ohlin factor where accumulation of capital operates as the main driving force for the Flying Geese Model. Later in 2000, Kojima further added that Ricardian advantage of learning by doing and economies of scale as the driving forces to the model. This may be justifiable with the developing and least developing countries normally, where industrialization process starts with the labour intensive industries and then moves to capital-intensive industries. Vertical axis also set as the production to consumption ratio or as the competitiveness.

Akamatsu explained the order of the industrial development starts from the Light industries and moves to the Heavy industry. Similarly within the same industry he stated that the downstream industries would originate first and then moves to the upstream industries.

Example

Table 1

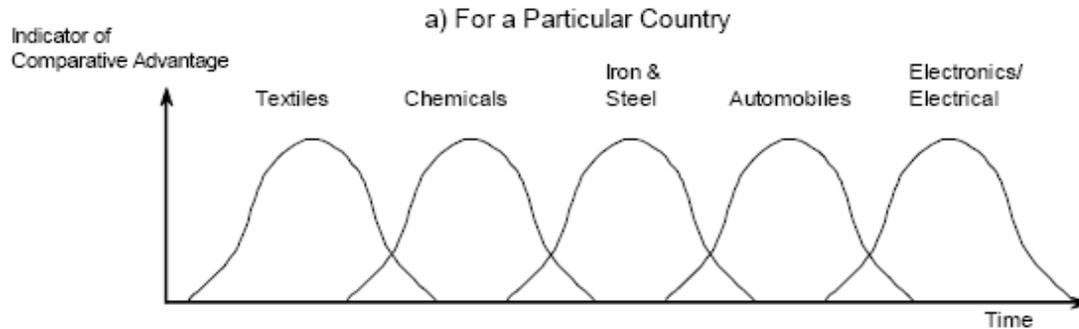
	Light Industry	Heavy Industry
Upstream Industry	Textile	Iron or steel
Downstream Industry	Clothing	Motor vehicle

(2) Multi country multi products model

This is the development of advance and less advanced countries in a Wild Geese Flying pattern. Industrial structure up-grade and enhance the comparative advantage through capital growth, forward and backward integration by emerging industries. This leads industries to move from lighter industry like textile to heavy industry such as automobile industry.

Textile and apparel industry consist with three segments: upstream fibre, mid stream fabric and waving and downstream apparel production. Upstream textile industry requires advance technology and high capital. Midstream textile industry fabric and waving is different from downstream apparel production.

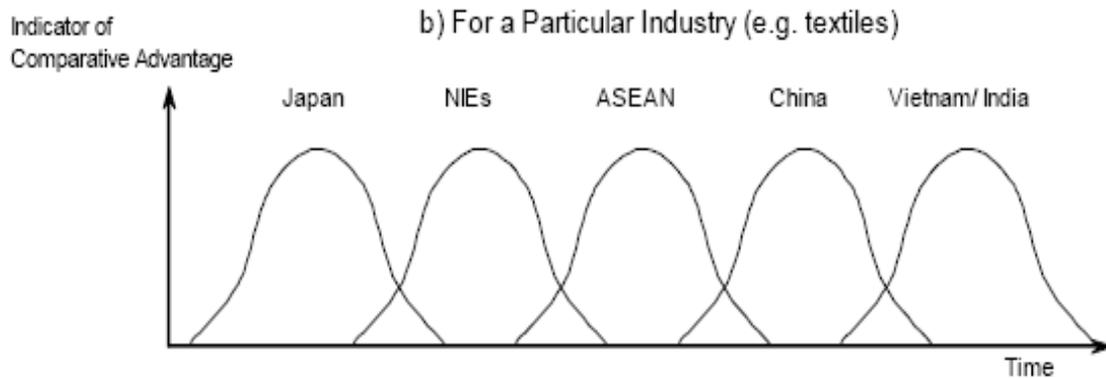
Figure 3: Flying Geese pattern for Asia-Industry wise



Source: C.H. Kwan, 2002, The Rise of China and Asia's Flying Geese Pattern of Economic Development: An Empirical Analysis Based on US import statistics

Flying Geese model then explains the shifting of industries from advance countries to catching up countries. Example: textile industry shifting from Japan to Asian NIE (Newly Industrialized Economies Hong Kong, South Korea, Singapore and Taiwan) countries, then to ASEAN (Association of Southeast Asian Nations countries Indonesia, Malaysia, Philippine, Thailand) and China.

Figure 4: For a Particular Industry



Source: C.H. Kwan, 2002, *The Rise of China and Asia's Flying Geese Pattern of Economic Development: An Empirical Analysis Based on US import statistics*

Bruce Cumings said "The cycle in given industries textiles, steel, automobiles, light electronics of origin, rise, apogee, and decline has not simply been marked, but often mastered in Japan; in each industrial life cycle there is also an appropriate jumping off place, that is, a point at which it pays to let others make the product or at least provide the labor. Taiwan and Korea have historically been receptacles for declining Japanese industries."<sup>4</sup> In order to gain the comparative advantage first, the domestic country will import the goods from the developed country and at the second stage industrial structure of the domestic country will be upgraded by importing technology and capital goods for the production. Thirdly the by mastering the manufacturing process or the goods country will domestically produce and exports the goods to other countries.<sup>5</sup> With the increased number of production firms and intensified competition on manufacturing and exports to cater the foreign demand leads for production cost cutting in order to retain in the domestic industry. Hence even the local production will gradually starts moving to low cost production sites initially within the same country by urban production area to more rural areas where as later a total shift of production to a new low cost production country. This rationale is similar for firms and industries in an economy.

Proving the Flying Geese model Sri Lankan ready-made garment factories were shifted from metropolitan areas and EPZs to more rural areas. In 1992, BOI came into operation. BOI offered an attractive incentive package to entice garment producers to move to rural areas of Sri Lanka under the so-called 200 Garment Factory Programme (GFP).<sup>6</sup>

<sup>4</sup> Bruce Cumings, "The origins and development of the Northeast Asian political economy: industrial sectors, product cycles, and political consequences," *International Organization* 38 (Winter 1984), p. 46.

<sup>5</sup> The national level version of the product-cycle model, also known as the "flying geese" model, has been attributed to a Japanese economist, Akamatsu Kaname, writing in the late 1930s; the product cycle of individual products and the relationship to firm competitiveness was the focus of Raymond Vernon's work in the 1970s. Mitchell Bernard and John Ravenhill, "Beyond Product Cycles and Flying Geese: Regionalization, Hierarchy, and the Industrialization of East Asia," *World Politics* 47 (January 1995), p. 172-173.

<sup>6</sup> Kelegama, Saman 2005: Ready-Made Garment Industry in Sri Lanka: Preparing to Face the Global Challenges, Asia-Pacific Trade and Investment Review, Vol. 1, No. 1.p.52

Garments industry often used as a classic example of a sunset industry<sup>7</sup> where the industry life cycle is comparatively shorter in a given geography. With the industrial revolution in the eighteenth and nineteenth centuries textile industry was treated as an archetypal industry. International division of labour is a key consequence for the geographical shift or international restructuring of readymade garment industry.

According to Gary Gereffi “garments is a buyer-driven chain of large retailers, brand name markers, and trading companies controls decentralized production network located in developing countries. Buyer-driven chains, profits and power from unique combinations of high-value research, design, sales, marketing, and financial services that allow the buyers and branded merchandisers to act as strategic brokers in linking overseas factories with evolving product niches in their main consumer markets”.<sup>8</sup> According to Gereffi, Sri Lankan production firms controlling the manufacturing portion of this commodity chain faces the inherently unsteadiness of the industry itself. Similarly accordingly to the Flying Geese model by Akamatsu when the industries tries to move from the light industry to heavy industries the Sri Lankan readymade garment employers and employees both start to seek other alternatives and opportunities in the market by deserting the ready made garment industry and to avoid the risk associated with the industry. When global readymade garment industry operates as a chain of networks in value addition different geographic proximities the international division of labour<sup>9</sup> it inherit the risk of industry crisis due to footloose ness. Combine to the above Sri Lankan industrial structure has shown the features of de-industrialization also. Where under de-industrialization most of the industrial work force percentage started to decline and the surplus was added to the service sector. With the increasing scarcity of operational labour to the ready-made garment industry and young workers preference towards the employment in the service sector further jeopardize Sri Lankan ready-made garment industry.

### **Sri Lankan Ready made garment industry rise and fall in the global clothing business**

Sri Lanka was ranked as the middle-income country compared to many other South Asian countries listed under low-income countries including neighboring India. Sri

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<sup>7</sup> In fact, when Akamatsu Kaname first used the term "flying geese" in the 1930s it was in a study of the Japanese textile industry. The "Made by Hong Kong" project challenged the notion of textile /apparel being a "sunset" industry. See Suzanne Berger with David Gartner and Kevin Karty, "Textiles and Clothing in Hong Kong," in Suzanne Berger and Richard K. Lester, (eds.), *Made By Hong Kong*, (New York: Oxford University Press, 1997).

<sup>8</sup> Richard P. Appelbaum and Gary Gereffi, "Power and Profits in the Apparel Commodity Chain," *Global Production: The Apparel Industry in the Pacific Rim*, (Philadelphia: Temple University Press, 1994), p. 43.

<sup>9</sup> Okita, 1985, The division of labor in the Pacific region has aptly been called the FG pattern of development. Traditionally, there have been two patterns or types of international division of labor: the vertical division of labor such as prevailed in the 19th century to define relations between the industrialized country and the resource-supplying country or between the suzerain and the colony; and the horizontal division of labor typified by the EEC with its trade in manufactures among industrialized countries, often among countries at the same stage of development and sharing a common culture.

Lankan industrialization evolution began in 1950s with the formulation of industrialization based development strategy by the government influenced with Import Substitution Industrialization Strategy (ISI). “Sri Lanka became in 1979 the first country in South Asia to open its economy although its capital account was not liberalized but has failed to attract high technology industries compared with other South Asian countries which opened up their economies much later”.<sup>10</sup> The increasing rate of brain drain, three decades of civil war, less national capital employment in the industrial sector especially ready-made garment sector, negative country economic conditions set the ground for poor growth in high value adding manufacture exports.

Prior to the economic liberalization in 1977 there was only three government owned cotton woven textile mills together few privately owned synthetic and knitted fabric manufacturing firms to cater the domestic clothing market under local economic protection scheme. With the out dated technology and poor maintenance of these state and privately owned fabric production firms incurred high production cost with poor productivity and quality. While maintaining the 100% import duty for fabric government dispose their state own three fabric mills in 1977. In 1977, there were 5 garment factories in operation and earning US\$ 10 million for their exports and by 2000, export earnings were recorded at around US\$ 2,710 million by a total of 891 factories<sup>11</sup> By 1996 state lifted the duty enforced on imported fabric in order to encourage the foreign investment in the free trade zones. This lift of import duty on fabric led local domestic manufactures to further curtail their operations. State faced a boomerang effect with failed in attracting investment due to the non-availability of main raw material fabric and longer fabric import lead-time, high machinery and electricity cost.<sup>12</sup> Garment industry was the first to launch operations in free trade zones due to these FDIs.

In 1976 Hymer, explained Foreign Direct Investment (FDI) transfer capital, technology and management as a package to host countries by the frontier countries in order to produce additional amount of products. With the Soviet Union collapsed and with gearing IT revolution US driven global economy was emerged in 1990s. This situation intensified the pressure on developing countries to on integrate their trade with the global economy. In 1990s Foreign Direct Investment became an important method for integrating the economic activities across the countries. Beginning from early 1970s the FDI to developing countries was 12% and it was steadily progresses 1990 to 1996 by 35% share and the determinant factors for FDI size of market, labour cost and productivity, incentives together with operating conditions.

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<sup>10</sup> De Silva and Amaradasa, 2001

<sup>11</sup> Kelegama, Saman and Epaarachchi, 2001: Productivity, Competitiveness and Job Quality in Garment Industry in Sri Lanka A discussion paper, Institute of Policy Studies of Sri Lanka

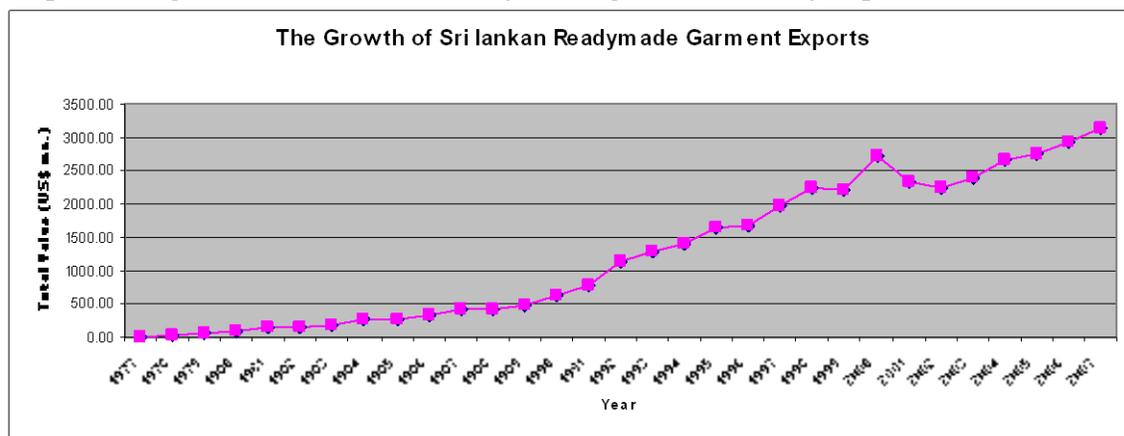
<sup>12</sup> Fernando, Lyn, 2002: p. 2 Consequently, the local production of yarn has declined to around 20 million kilograms per year and textiles to around 140 million per year, from a production of over 250 million meters previously. In knitted fabrics, however, there has been some success with three joint venture companies Ocean Lanka with Hong Kong interest as well as investments from some of the garment exporters, Hayleys with Australian collaboration, and more recently Textured Jersey, a joint venture with Mast Industries and MAS Holdings, two of the largest garment manufacturing groups in Sri Lanka and Textured Jersey UK.

Flying Geese westernised model describes that capital accumulation in terms of FDI inflow, forward and backward integration with emerging high capital and advanced technological industries will upgrade the countries industrial structure by enhancing the comparative advantage of the country.

With the intension of attracting FDI state established the Greater Colombo Economic (GCEC) Commission in 1978 further expanded by establishing Board of Investment (BOI) as the climax authority of the EPZ's. Ministry of Handlooms and Textiles Industries established ten members Textile Quota Board (TQB) in 1992 to allocate, distribute and manage the quota. TQB was further strengthened legally as a statutory body by Act No. 33 of 1996 which came into effect on January 01, 1997. As a preparation for the post MFA era ministry planed out a five-year strategy for Sri Lankan apparel sector with four objectives: transforming the industry from manufacturing to service industry, increase the trade to premium market segments, gaining the recognition as a superior manufacturer for special product categories, infusion of modern technology and clustering service and building links with small and large industry. Even with the end of MFA and quota system after 10 year period from January 1995 to December 2004 Sri Lankan ready made garment industry was able to consolidated and survive stagnating its production and exports leading further to industry decline in exports.

Sri Lankan apparel exports history recorded a steady growth in past decades primarily due to the quota system under the bilateral reading agreements of Multi Fibre Agreement by granting the zero duty access to the European Union, US and Canadian markets. As bilateral agreement this trade concessions effect for restrained period for selected product categories.

Graph1: The growth of Sri Lankan ready-made garment industry exports



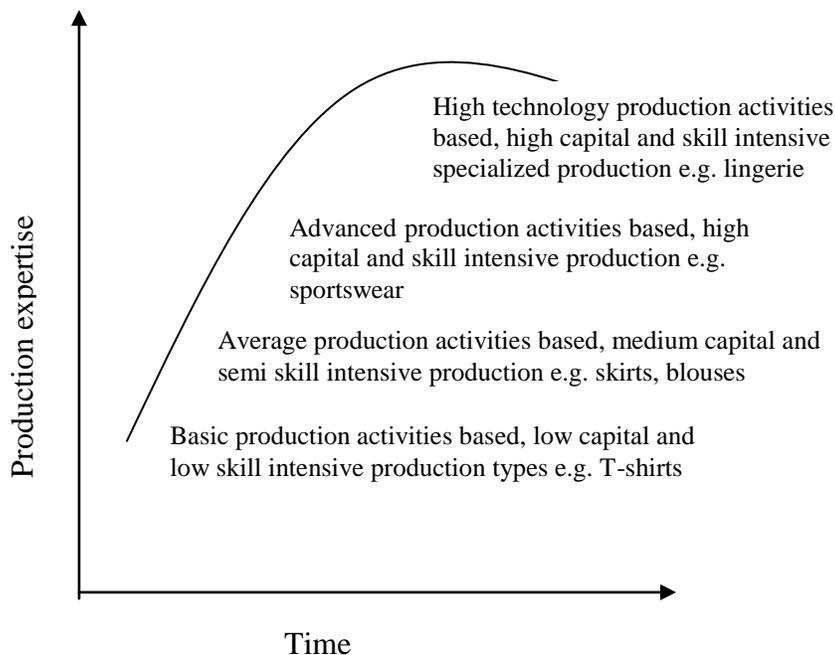
Source: By Author based on Appendix 4 table

EU Generalized System for Preference Plus (GSP+) was to expire in year 2008 and was temporarily extended up to year 2011 subject to review. By strengthening the regional alliances EU GSP+ relaxed the import duty for 20% for Sri Lankan clothing if the fabric was sourced within the South Asian Association for Regional Cooperation (SAARC) region, which was earlier, entitled under raw materials was origin in Sri Lanka.

According to the 2009 Business Index Sri Lanka ranked in 105<sup>th</sup> out of 183 countries of ease of doing business and compared to the South Asian region Sri Lanka ranked third after Pakistan and Maldives. Accounting 40% of the total goods exports, the garment sector is the largest export sector in the country while its dominance declines.<sup>13</sup> While Chemicals and Petroleum exports contribute 21% and the High Tech exports share is 1% from the Sri Lankan manufactured exports. Proving the Flying Geese model of industry wise improvement.

Ready-made garment industry early product types like basic T-shirts and pants shifted from basic garments to specialized production categories like lingerie, swimwear etc. manufacturing technology shifted from basic saw machine operation to more advanced automated production.

Figure 5: production cycle of Sri Lankan readymade garment industry



Source: By Author

This can be considered as the intra industry aspect or the simplest form of Flying Geese model.

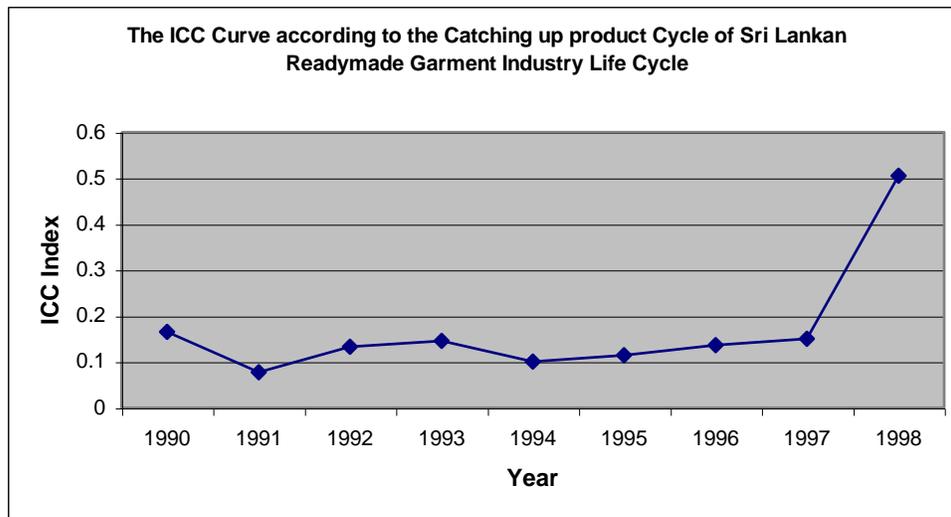
“These countries, advanced and less advanced, do not necessarily go forward at the same speed in their development of a wild-geese-flying pattern, nor do they always make gradual progress, but they are at times dormant and at other times make leaping advances.”<sup>14</sup> Competitiveness of a country measured by the product group in each economy in a region. While compares the international competitiveness catching up or

<sup>13</sup> EIU, 2009, pp. 22–23

<sup>14</sup> Akamatsu 1962, p. 18

leapfrogging occurs, where the latecomer jumps to the front. As Flying Geese, the second runner follows the frontrunner and the late runner follows the second runner. International Competitive Coefficient (ICC) used to measure the competitiveness of the industry.<sup>15</sup> This catching up derives when the latecomer country started to supply the goods by acquiring the forerunner supplying market share. According to the catching up product cycle passes five stages as introductory, import substitution, exports, mature and reverse imports. ICC varied from zero to one when the industry indicates exports phase and ICC range from one to zero indicates the maturity of the industry. This is due to the gradual decline of exports from the domestic industry due to the new latecomer supply of exports. Sri Lankan ready-made garment industry showed an export tendency from 1990 to 1998 period. As ICC standard curve the next most likely tendency is the export decline under maturity and reverse import phases.

Graph 2: ICC for Sri Lankan Ready made garment industry from 1990-1998



Source: By Author based with Appendix 5

Hiley, justified the Flying geese theory as it therefore better describes the situation of a developing country, where the cycle begins when the product is introduced through imports: the economic growth of the developing countries is explained through mutual interaction between developing and developed countries based on leadership and emulation. The paradigm presupposes dynamic changes in economic relations among advanced (leading) and developing (catching-up) countries. The significance of the paradigm lies in its analysis of the linkages between the different countries in a regional hierarchy, the mechanisms by which development is transmitted from one country to another, the respective roles of policy and markets in this process, and the stability and sustainability of the process itself.

The basic idea of the paradigm is that a developing country, in an open market context, industrializes and goes through industrial upgrading, step by step, by capitalizing on the

<sup>15</sup> International Competitive Coefficient (ICC) = (Exports - Imports) / (Exports + Imports)

learning opportunities made available through its external relations with the more advanced world.”<sup>16</sup>

Even though there is a certain real danger for Sri Lankan Readymade garment industry to be cut off from the global apparel commodity chains as actual global ready made garment industry tendency and theoretically confirmation but with effective trade and industry strategies there is a possibility to open new paths to sustain the industry.

### **Sri Lankan Readymade garment industry life cycle and its shift**

Although manufactured goods make up a considerable share of the Sri Lanka's exports country's competitiveness still depends on the low value added products. Country's export competitiveness still lags behind compared to other neighbouring Asian countries.

Sri Lanka is one of the rapid catching-up countries in Asia that attracted the readymade garment industry as a labour intense less capital based industrialization ladder. With the favouring industrial environment with open economic policies in 1977 the industry was got well flourished while showing its presence at the international economy. Present combine with global economic crisis and riding the waves of ending the civil war conflicts by midyear 2009 and with the challenges of post war period Sri Lankan economy experiencing a period of economical transformation. As a key foreign exchange earner with US\$ 3,145 millions in year 2007 and as the single largest employer in the manufacturing sector by directly employing over 250,000 people Sri Lankan readymade garment in vital for the national economic succession and sustainability.

Sri Lankan readymade garment industry is a prime case study to analyse the industry experience in improvised formation and rapid haphazard industrial structural transitions due to the fact that entire commercial readymade garment industry life cycle origination, growth and decline visible with a time frame less than forty years. The major turning points of the Sri Lankan readymade garment industry dated in 1976 as the formation of the national commercial readymade garment industry, 1986 ready made garment industry stood the as the single largest exporter superseding the main agricultural export of tea and by 2005 the industry indicated the symptoms of industry decline with closure of garment factories and negative impacts on this critical industry due to the consequences of international trade regulations.

Throughout the forty years of Sri Lankan readymade garment industry experienced rapid structural transitions numerous ways. Composition of the industry respect to size or scale (small, medium, large and extra large) and ownership type (locally owned, foreign ownership and joint ventures), product types (simple to sophisticated and single product to multi products), industry rationale (import, production, export) industry expansion (upstream and downstream) transformation of industry level (light industry, heavy industry and technicality low to high)

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<sup>16</sup> Mark Hiley 1999,p.81

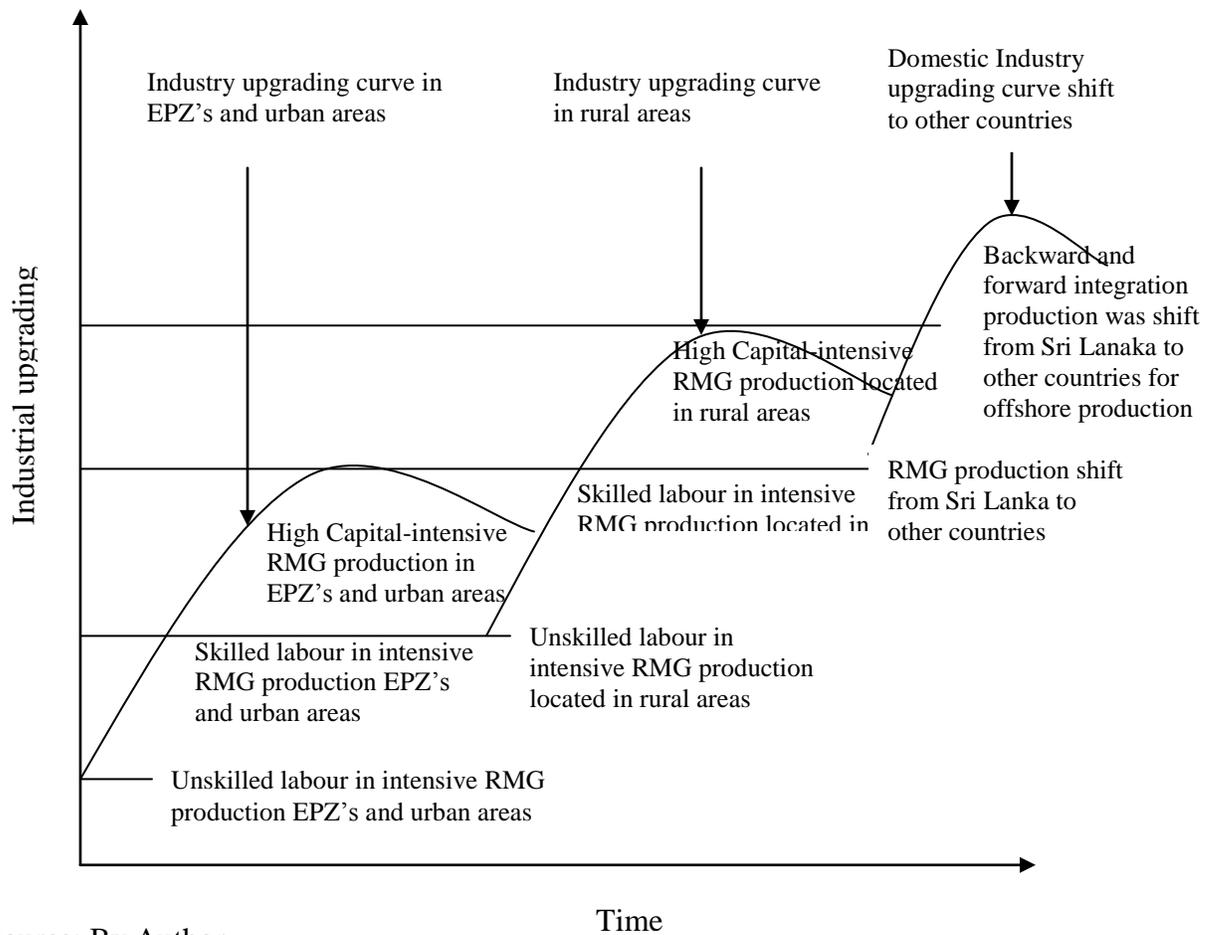
Sri Lankan readymade garment industry is one of the major foreign direct investment engaged trade operating in the country. Inadequate learning by doing, mismanagement of capital investment, fruitless research and development, conserve political economic enticement on the Sri Lankan readymade garment industry led to long-term discouragement of these foreign direct investments. To gain the competitiveness in the international trade arena and to foresee the upcoming threats (such as new entrants to the market by relaxation of the country wise export regulations or state level encouragement for the competitive nations to take part in this international trade) to the local industry Sri Lankan readymade garment industry need to find the mechanism to enhance the foreign direct investment of capital and technology in local readymade garment industry while strengthening the local entrepreneurs by increasing national capital employment . Identification of the ideal industry life cycle phase and timing for inward foreign investment to the country and outward foreign investment by local entrepreneurs or country is vital to retain and control the readymade industry life cycle shift within Sri Lanka. International trade regulations bonds and negotiations are an inevitable aspect for this industry due to its broader globalise market sphere. Impediments and incompetence of management and control of readymade garment industry life cycle phases and factors connect to them will lead to shift the entire readymade industry life cycle to another countries by resulting lose of the entire industrial comparative advantage. Along with the systematic study of readymade garment industry life cycle and its shifting pattern, positive international trade relationships and collective industry work is elementary to sustain and safeguard this critical industry within Sri Lanka.

The following figure presents the inter industry aspect and the international aspect of the Flying geese model. Inter industry aspect of the Flying Geese model states specific industry moves from simple to advance manufacturing processes by transferring from consumer products to capital goods. Sri Lanakan readymade garment industry life cycle commenced the production with basic consumer product categories and moved to sophisticated production processes utilizing the advanced capital goods. Most of the ready-made garment factories located in the EPZs have commenced their operations with processing intermediate imports for exports. International aspect of the Flying Geese model featured by the Sri Lanakan ready made garment industry by initially shifting the manufacturing plants from urban and Export Processing Zones (EPZ) areas to rural districts. At present, there are 300 BOI factories inside the Free Trade Zones (FTZ) s and about 1,200 BOI establishments with the same conditions outside the zones.<sup>17</sup> Then domestic ready-made garment industry manufacturing was shifted mainly to other low-income countries.

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<sup>17</sup> A. Sivananthiran, p.16

Figure 6: Ready made garment industry upgrade and geographical shift within and out of the country



Source: By Author

The fabric accounts nearly 50-60 percent as the largest input to the finished ready-made garment product. Fabric and balance inputs and accessories offered in competitively by the manufactures around the world making the labour for the production as the most effective cost-controlling factor. Sri Lanka's fabric import expenditure accounts more than 50% of the textile and apparel exports and 85-90 % of these imported fabrics used for the export garments.<sup>18</sup> With out proper backward integration the maximization of the exports will further increase the import expenditure by further curtailing the net foreign exchange earning of the readymade garment industry.

Ready made garment industry position as the low capital and high labour incentive industry where as the textile industry position as the high tech and high capital invest industry aligning with the Flying Geese model. Conceptually in order to attain the required theoretical results country's industry need to follow the set emerging industry pattern. Sri Lankan industry pattern originated with the clothing industry complying with

<sup>18</sup> Based with the Appendix 2 and 4 data

Flying geese theory as first to originate the light industry and it was required to catch up with the down stream industries such as textile or fabric manufacturing industry.

Key backward integration requirement of fabric production was commenced by few joint ventures while shown slow growth in the textile production sector. Sri Lankan textile industry was not developed as the Flying Geese theory but at present textile industry started to illustrate a slight improvement but combine with declining growth signals. Balance raw material requirement for readymade garment industry indicated a positive signal with backward integration by initiating the local operations in manufacturing readymade garment accessories such as threads, tags, labels, poly bags, hangers, cartons, buttons and zippers.

Sri Lankan readymade garment production mainly caters to the established brand orders with the business-to-business relationship, the direct sales mechanism was not established. Hence the forward integration of the readymade industry is imminent.

Larger readymade garment production firms networked with the small and medium scale firms for production subcontracting to by pass the restriction of sales of quota allocated to small and medium scale production firms. Certain high labour and skill required high value addition production tasks such as beadwork, hand embroidery, and smoking also subcontracted to small firms or individuals to increase the profit margins of large factories. Domestic larger scale ready-made garment factories already initiated offshore production and the future domestic operational percentage highly depends upon the market and economic conditions. This domestic large to medium and small scale firm network for subcontracting and value addition leads to collapse the entire network based with larger firms future strategies.

Not only the FDI flowed to the ready made garment industry is shifting out of the country but large local firms also established manufacturing plants in other countries like India, Maldives, Mauritius, Kenya etc to utilized the trade preferences and entitlements granted to those countries. Local firms shifted their backward integration or raw material production firms in other countries such as China, India, Indonesia to reach the lowest operating and production costs. With the dearth of the domestic capital<sup>19</sup> in the industry the foreign investments diverted to low income countries further deteriorating the industry.

Gradually initial manufacturing ready-made garment industry life cycle shifting out of the Sri Lankan border and the government started lobbying to attract the service segment of this global commodity chain.<sup>20</sup> E.g. encouraging setting up the buying offices in Sri Lanka under special provisions. As J.A. Schumpeter mention in 1961, there are some real

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<sup>19</sup> Based on Appendix 3 data

<sup>20</sup> Fernando, Lyn, 2002: p. 8 They are given the required visas and are not liable to income tax on their inward remittances. This has resulted in many of the large buying offices being located in Sri Lanka. This includes Liz Claiborne, Gap, Tommy Hilfiger, Walmart, May Department Stores, etc. In pursuit of the national strategy, several large retail chains, including companies such as Marks and Spencer have their logistic centres located in Sri Lanka with the facility of distributing clothing to other destinations throughout the world.

opportunities for economic development in economic crisis. Understanding the readymade garment industry life cycle and its behaviors will supports to foresee the upcoming risks and to setout the best alternatives to retain industry within Sri Lanka and enhance the comparative advantage of the industry.

### **Role of Sri Lankan readymade garment industry life cycle in post war economic transformation**

With the decreased exports due to global slump of depression devastated Tsunami December 2004 and ending the civil war from 1983 post-war reconstruction and reconciliation of Sri Lankan economy needs to come out from its woods.

Pre independence period Sri Lankan was mainly focused by the Britain as a third world<sup>21</sup> of providing raw materials for them and also a market for their finished products. After gaining the independence in 1948 Sri Lankan economy featured a second world economic texture as a country of blend of resource extraction and manufacturing.

Sri Lankan industrial structured mainly with the service sector with 57.5 % of GDP and followed by 27% percent GDP with industrial sector and 15.5% with agricultural sector. Proving the de-industrialization features occupying higher share by service sector.

Compared to the FGM Sri Lankan Ready made garment industry still operating in the downstream apparel production and country is lacks with upstream fiber, mid stream fabric and waving production industries. With the dawn of peace, Northern and Eastern provinces opening up a new pool of labour and new geographical vicinity for domestic industries to shift their ready made garment operations to achieve temporarily cost effectiveness.

With the upcoming air and sea freight facilities by developing sea and airports close to these proximities laying the infrastructure requirement for a new industrial zone in the country. By enhancing the bi-lateral relationships of neighbouring countries like India able to achieve competitive raw material sourcing partnerships and explore new regional markets to finished products within regional close proximities.

### **Conclusion**

This study shows that even though Sri Lanka is progressing towards the industrialization in many fields the development pattern is mostly aligned with the Flying Geese model. With the drawn of peace after the nearly three decades of civil war most of the Sri Lankan experts consider that Sri Lankan economy can take a leapfrog scenario by pass over the long process of industrialization.

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<sup>21</sup> The World System School (Wallerstein, 1982, 2004) maintains that there are global divisions within the capitalist world system: the core, or First World, has an economy based upon the importation of raw materials and exportation of finished goods; the periphery, or Third World, in turn provides the raw materials and a market for the finished goods made from them; in between it is the semi-periphery, or Second World whose economy is a mixture of resource extraction and manufacturing.

Retrospect Sri Lanka has failed in two leapfrogging efforts respect to the readymade garment industry. In 2005 losing the quota led to many job losses and many garment factories to wipe out from the industry. Secondly, year 2010 of risk of securing the GSP+ entitlement by European Union signals further hard hit on weaken the readymade garment industry by eliminating more workers and a sharp reduction of garment factories due to the domestic ready made garment industry network collapse.

At this stage research process conclusion must be beginning but it's viable to offer some preliminary few thoughts. Even though the ready-made garment industry was commonly referred as a traditional industry it's already intermingle with the fast moving technology and innovation to face up the globalisation as an a international business. It is important to understand that the rising labour costs and labour shortages are not the only threat but of course it's a main challenge. Finding low cost geographical position may answer the question to labour cost temporally as an advantage where as by time pass as naturally labour cost starts to rise. Comparative advantage come out from the support from the national states by developing matching resources leads to lower wages in terms of attracting FDI, technology and knowledge from existing and potential investors. As Gereffi and Pan argument the third man role in the triangular manufacturing system is an unstable and unavoidable matter. Hence in order to secure the readymade garment industry within Sri Lanka it is required to be a powerful node (supply of raw material, research, design, sales, marketing, financial services production,) in the apparel commodity network or to be a value adder as a strategic broker between the product niche consumer markets and offshore production factories.

A new wave was observable proving the international aspect of the Flying Geese model. Frontrunner Japan as the first wave, secondly Asian NIES (Hong Kong, Singapore, South Korea and Taiwan), and the ASEAN Four (Indonesia, Malaysia, the Philippines and Thailand) as the third wave China as latecomers and the latest wave is the low-income countries in the Asian and African region.

Ready-made garment industry was referring as foot loose industry due to its high labour intensiveness. This labour intensiveness incurring mainly due to volume of labour involve in the production, whereas concern of the real labour value contribution is extremely poor in the domestic ready made garment industry.

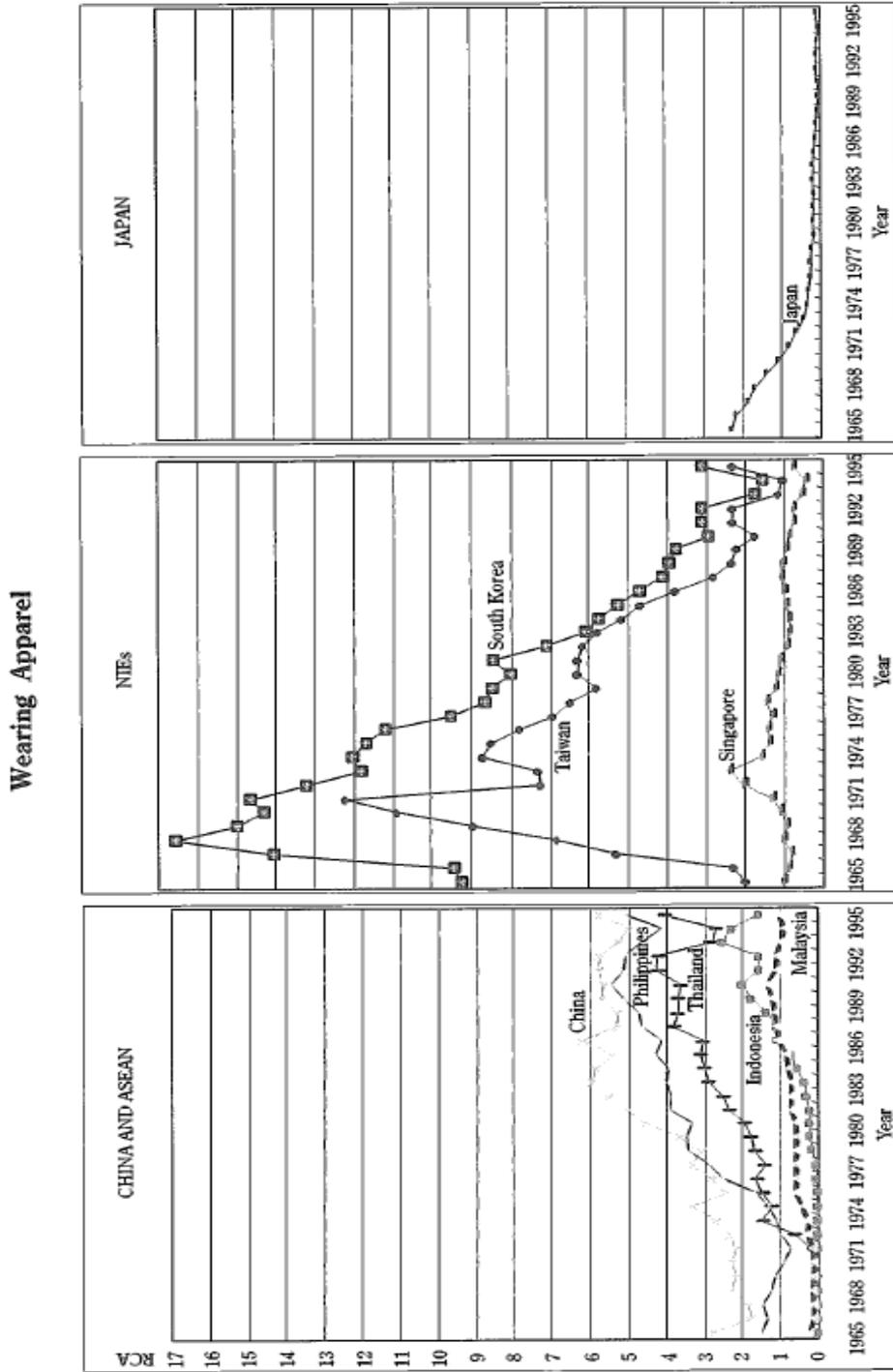
The bedrock of country's economy and industrialization is the local small and medium production firms. While advance or developed countries obtaining the comparative advantage through the Hi tech strategy as Sri Lanka need to focus on securing high labour incentive industries such as readymade garment industry to gain comparative profitability by utilize the huge of pool of surplus rural labour. Strengthening the domestic small and medium entrepreneurs supports national economy to unshaken the country's industrial base at any economic recession while meeting the domestic consumer clothing needs at more competitive nature within the country itself.

Preference towards the catching up and the actual ability for the catching up strategies for the Sri Lankan ready-made garment industry is differing factors from one another. In

order to achieve the integration under industrialization require both state and entrepreneurs' capability and commitment. At present when domestic weakness working as a serious barrier and the global ready made garment industry shifting trend is moving towards low income countries whether the government and business entrepreneurs are possess such a commitment and capability is in seriously doubt?

## Appendix

Appendix 1: Flying Geese pattern in different countries



SOURCE: R.A. McDougall, A. Elbehri and T.P. Truong, *Global Trade Assistance and Protection: The GTAP 4 Data Base* (Center for Global Trade Analysis, Purdue University, 1998). <http://www.agecon.purdue.edu/gtap/database/TableOC.htm>

Source: US International Trade Commission (2004)

Appendix 2: Import Expenditure in US \$ Mn.

Year	Expenditure on Cotton Yarn & Textile Imports	Total Import	Percentage of Total Imports
1977	459	6,007	7.6
1978	1,217	14,687	8.3
1979	2,323	22,541	10.3
1980	2,308	33,942	6.8
1981	3,159	36,582	8.6
1982	3,311	41,946	7.9
1983	3,933	45,558	8.6
1984	4,404	47,541	9.3
1985	5,354	54,049	9.9
1986	8,082	54,559	14.8
1987	10,278	60,528	17.0
1988	11,311	71,030	15.9
1989	12,788	80,225	15.9
1990	17,701	107,729	16.4
1991	27,486	126,643	21.7
1992	22,934	153,555	14.9
1993	41,740	193,550	21.6
1994	54,864	235,576	23.3
1995	63,773	272,200	23.4
1996	64,836	301,075	21.5
1997	81,795	346,026	23.6
1998	95,445	380,138	25.1
1999	99,857	421,888	23.7
2000	121,659	554,290	21.9
2001	132,662	532,964	24.9
2002	136,705	584,491	23.4

Source :CBSL

Appendix 3: Realized\* Investment in BOI Enterprises of T&A Sub-sector\*\* 1992-2002 (US\$ mn)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Foreign Investment	100.57	121.01	234.44	215.88	223.46	261.99	260.34	259.23	270.04	246.25	265.89
Total Investment	110.36	140.39	256.50	250.16	272.20	370.26	387.36	406.72	406.18	367.30	417.86
% Share of Foreign of Investment	91.13	86.20	91.40	86.30	82.09	70.76	67.21	63.74	66.48	67.04	63.63

\* Cumulative values as at end of year.

\*\*Textile, wearing apparel and leather production sub-sector

Source :CBSL

Appendix 4: The Growth of Sri Lanka Apparel Export

Year	Total Value (US\$ mn.)
1977	9.89
1978	30.67
1979	71.50
1980	100.47
1981	143.88
1982	161.53
1983	185.42
1984	279.99
1985	283.00
1986	330.32
1987	419.49
1988	426.94
1989	468.60
1990	623.32
1991	764.48
1992	1121.91
1993	1292.20
1994	1395.22
1995	1655.19
1996	1675.11
1997	1972.60
1998	2237.80
1999	2205.10
2000	2723.10
2001	2334.60
2002	2246.40
2003	2400.00
2004	2654.15
2005	2747.70
2006	2917.11
2007	3144.78

\*Excluding Textile Products.

Source - Ministry of Industrial Development (MID) - Textile Division - (1995 Statistics Book)

Note: Data from 1997 to 2007 was taken from Central Bank of Sri Lanka

Appendix 5: Total Value of Imports to the Garment Industry

Year	Value of Imports (US\$ mn.)	Value of Exports (US\$ mn.)
1990	426	619.6
1991	612	742.8
1992	795	1069
1993	922	1258.1
1994	1110	1379.5
1995	1237	1569.3
1996	1220	1654.3
1997	1442	1975.6
1998	1395	2099.9

Source: People's Bank (1999)

Appendix 6: Net Foreign Direct Investment (NDFI) Inflow to Sri Lanka

	NDFI, US\$ million	NDFI as a percentage of Gross Domestic capital Formation
1970-751	0.4	0.2
1976	0.2	0.0
1977	1.2	0.3
1978	1.5	0.6
1979	46.9	10.6
1980	43	7.8
1981	49.3	8.6
1982	63.6	9.1
1983	37.8	5.4
1984	32.6	4.5
1985	24.8	3.8
1986	29.2	4.0
1987	58.2	8.2
1988	46.6	5.7
1989	17.6	2.3
1990	42.5	2.9
1991	100	5.6
1992	119.2	9.4
1993	183.8	2.4
1994	158.2	1.8
1995	16.2	1.7
1996	86.3	4.1
1997	129.2	13.6
1998	137.2	5.6
1999	176.8	4.7
2000	172.7	4.3
2001	82.1	5.7
2002	229.8	7.3
2003	225.7	6.3

Source: Compiled from, Central Bank of Sri Lanka, Annual Report (various Years)

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