



# Development through Industrialization: A Literature Review of Policies and Issues in Sri Lankan Industrial Sector

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## **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

According to many real-world examples and theories, the process of industrialization has been recognized as an engine of growth. Many economies which followed the industrialization-led transition have benefitted from rapid and accelerated economic growths with the support of export promotion, high trade openness, economic liberalization, and improved business climate. The ideology has been firstly followed by the countries in the European region and showed impressive results in economic growth and development. Thus, many Asian countries have been encouraged to follow up the industrial transformation after the 1990s. As a result, Asian countries like Japan, Singapore, Korea, China, and India have shown impressive performances in economic growth and development afterward. However, in the Sri Lankan context, the industry sector has appeared in the economy nearly for a century and several important eras in industrial sector development were followed. However, it is doubtful that whether Sri Lanka has gained actual benefits through that industrial transformation or utilization of policies.

Therefore, this article mainly focuses on providing a clear outline of past industrial policies used in the Sri Lankan economy, clearly positioning the current performance of the industrial sector in Sri Lanka, and identifying the major issues in the current industry sector with the help of valid literature and secondary data. Accordingly, many previous studies have suggested that political and policy

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instability, lack of infrastructure, lack of credit and financial facilities, lack of labor and stagnated productivity, etc. are the key issues in the current industry sector. Several possible recommendations to overcome these issues have been through literature to curb the negative impact of those adverse components on the industry sector development like ensuring corruption-free political and social background, stabilizing macroeconomic variables, addressing skill gaps of the workforce, transparently managing tax system, etc.

*Keywords: Sri Lanka industrialization; industry sector evolution; Issues in the industry sector; Industrial policies.*

## 1. INTRODUCTION

As many economists have agreed upon, the process of industrialization is ideally considered as the center of the economic growth for any country with its spillover effect which could provide innovative solutions to the other non-industrial sectors in the economy as well [1]. The 'old school of thought' was significantly specifying the need for structural transformation of the developing economies to achieve rapid economic growth and development with the movement of labor from traditional primary agriculture to modern industry sector as their key recommendation [2]. Said by Kaldor (1967); [3] in Kaldor's Law, the industry sector holds the highest potential productivity growth and positive externalities hence right policies towards the industry sector could power up and transform an economy into a progressive one [3].

Followed by the industrial revolutions in the USA and UK during the 18<sup>th</sup> – 20<sup>th</sup> century, many Asian economies showed remarkable progress towards industrialization led economic growth accompanied by the third industrial revolution in the mid-late 20<sup>th</sup> century [4]. Hence, the second half of the twentieth century was a quite successful era for many Asian countries that they have shown impressive rapid growth, nearly 10percent per annum in their economies while giving significant competition to the advanced economies in the global market. Diving deep into those success stories, it can be seen that spilled economic growth and competitiveness of many Asian countries were associated with the government support and the industrial policy of those economies [5].

Most importantly, countries like China, India, Korea, Taiwan, Indonesia, Mexico, and Brazil have shown considerable sustained long-run economic growth and poverty reduction through utilizing industrial sector development policies accompanied by export promotion, high trade openness, economic liberalization, and improved

business climate. However, the resulted economic growths showed variations in value due to the variations in the skill level of labor resource, the intensity of the capital, geographical diversification in the industries, level of the stability in political, social, and macroeconomic variables, availability of well-functioning institutions and general law of the country. Specifically, China as one of the successive countries in Asia, have followed policies based on rapid industrialization, trade openness, improved exports, and rapidly liberalized financial markets in the early phase of economic growth while growth has been a technology-driven, domestic resources utilized and import-export led one [6].

Moreover, the Korean economic development that occurred in the 1990s accompanied by the active industrial policy by the government recorded an increase in per capita gross national product (GNP)<sup>1</sup> from less than US\$100 in 1960 to more than US\$14,000 in 2004 [7]. According to Felipe [8] the single most important factor behind the successive development in East Asia in the 1990s was the fast structural transformation toward industrialization, especially in the manufacturing sector which is known as the "Engine of Growth". As the theory, he points out that any development occurred in the manufacturing sector is increasing returns to scale driven by economic openness since most of the manufacturing goods are having high-income elasticities of demand [8].

Considering Sri Lanka, before the Portuguese came to this land in 1905, the country was primarily an agriculture-based economy with the highest contribution to the national GDP<sup>2</sup>. On the

<sup>1</sup> GNP refers to the total market or the total monetary value of all the goods and services produced domestically or/internationally by the residents of a country in a specific time duration

<sup>2</sup> GDP or Gross Domestic Product is the total market or the monetary value of all the goods and services produced within a specific country's borders in a specific duration of time

other hand, the highest employment has been generated from the agriculture and mining sectors together recording nearly more than 50 percent of the domestic employment. Hence, Sri Lanka has been historically known as the 'Granary of the East due to the large stock of rice harvest generated from the primary agriculture in which even exported the excess. At that time, Sri Lankan foreign trade exports were mainly based on agriculture products that nearly exceeded 40 percent of total exports while the industry sector was the least contributed sector with 12 percent manufacturing sector employment out of the total workforce and generated 16.4 percent of the GNP. During that era, the need for an industry sector was minimum with a strong agriculture sector but there were several primary industries like cottage, wood, and pottery industries, metal industries which used to manufacture agriculture-related equipment and war equipment but the contribution of those industries to the GNP were considerably less [9,10].

However, after the British had taken over the country (1815-1948), the ruling party decided to establish, develop and spread the plantation sector in the country instead of primary agriculture. Along with the plan, the transportation sector and the basic infrastructure were established in the first place to facilitate the plantation [11]. During the period, some basic industries were established like factories processing tea, rubber, and coconut, a few supportive industries to the major agricultural activities, a brewery, a textile mill, and some small scale industries to produce paper, soap, plywood, tea chests, Kerosene and bricks and tiles [9,12]. At that time, those facilities were established only to gain more profit and for the British to maintain the same living standard of England in Sri Lanka but not to promote industrialization. But importantly, those facilities were truly helpful when Sri Lanka was considering industrialization [12,13].

When Sri Lanka gained independence from the British in 1948, the governments appointed hereafter started to look forward to the industrial sector development by utilizing different industrial policies under different perspectives and methodologies [14]. Amongst, the imports substitution policy in 1959 holds a key significance in industrial development as it promoted inland development of essential industry forces [15,16,17]. However, after

establishing the open economic policies in 1977, the industrial sector mainly focused on attracting foreign direct investments other than promoting domestic industries [17,18]. That outward-looking policies hence caused the closing up of many domestic industrial ventures and established many foreign plants in the country. Consequently, from 1977 to now, each appointed government focused on industrial development accompanied by the open economy in the country.

Overall, all of those previously utilized industrial policies have been contributed substantially to the industry sector development in Sri Lanka but in different proportions and methods at different times. Even the proportion of the contribution varied from policy to policy, the significance of each policy is keen to introduce a new effective industrial policy by learning things from the past. But, unfortunately, according to the data on the industrial sector of the country from 1975 up to now, it is clear that the industrial sector is being stagnated over 70 years, even after the economic liberalization. Both agriculture and industry sectors have been undertaken by the services sector over time. However, focusing on the industry sector alone, even after utilizing various strategic industry development policies, the industry sector shows insufficient development. Accordingly, it brings the question of "Did we achieve any development in the industry sector even with the different policies and economic liberalization that has been in use so far?" Hence, the objective of this paper has been established to deeply examine the content of each policy utilized by each government and the current key areas which should be addressed to acquire further development in the industry sector and to introduce a well suited industrial policy to Sri Lanka to get the maximum benefits in economic growth and development in the long run.

## **2. INDUSTRIAL POLICY EVOLUTION OF SRI LANKA (LITERATURE FINDINGS)**

Going through the different policies utilized by the different government regimes in Sri Lanka, it can be seen that, the vision and the contribution of each policy in promoting industrialization were differed from the others hence, held significant differences and features. Consequently, the industrialization process of Sri Lanka can be mainly divided into several parts based on the behavior of each government as,

- (i) Earliest industrial development; 1916 – 1948 [12].
- (ii) Post-independence industrialization; 1948 – 1959 [9].
- (iii) Import--substitution industrialization; 1959 – 1965 [9,15].
- (iv) Export-oriented industrialization; 1965 - 1989 [9,14].
- (v) The second wave of industrialization 1989- 2005 [17,18,9].
- (vi) Knowledge and technology-intensive industrialization 2005- Present [19,13].

Due to the significant contribution of the above industrial policies into the industry sector of Sri Lanka, it is useful to deeply evaluate each policy's unique elements.

### **2.1 Earliest Industrial Development; 1916 – 1948**

During the First World War from 1914-1918, the British realized the vulnerability of the plantation sector that heavy war expenses reduced the demand for tea, rubber, coconut, and other spices. Then the British government turned their interest in establishing industries in the country by forming the "Industries Commission" in 1916. The responsibility of the commission was to check the feasibility of developing existing industries and establishing new industries under the objective of "to inquire into and report upon what measures are desirable to encourage such industries (other than agriculture) as exist in this island and to promote the establishment of new industries" [20,15].

However, as the prior suggestion, the commission pointed out the need of establishing hydroelectric generation before establishing industries since Sri Lanka was lack with cheap power sources during the time [12]. As other important suggestions of the report, (i) establishment of fewer industries such as cement, spinning and weaving, manufacture of packing chests, bricks and tiles, (ii) promoting some minor home industries such as basket weaving, clothes, chalk and lace making and (iii) recommending the establishment of "Central Bureau of Industry and Research" can be mentioned. As soon as the government received the report, suitable actions were taken place and sufficient fundings were allocated to start hydropower generation under the hydropower scheme in 1924. However, due to the management and planning inefficiencies

accompanied by the effect of economic depression, this scheme failed to provide desired outputs and the government had to abandon the project [9,12].

During this abecedarian industrialization period, the development process wasn't an easy task to achieve. In 1932, the newly appointed governor established the Bureau of Industry and Commerce and the government started to assist cottage industries through the new institution. The report of the Ceylon Banking commission in 1934 has been also emphasized the importance of industrialization and an Indian advisor had suggested 12 feasible industry options that go with the country's resource endorsement and the market structure [12].

But with the long-term effect of the 'Great Depression' that occurred in 1929, the results were not at a satisfactory level. In 1935, the government introduces simple industries to produce manufacturing goods while letting the agriculture sector produce local foods. Further, the Executive Committee on Labor, Industry and Commerce in 1936 paid its attention to industrial development through government support, research assistance, and other institutional supports. Appropriately, a separate Department of Industries and Commerce has been established in 1938 to handle required preparations for the planned development of the industrial sector. This department had played a major role in assisting cottage industries that were already under government assistance and establishing small factories with few types of machinery [9].

During the period, the establishment of the paper industry, rubber industry, and leather industry did not succeed due to the distraction that came from the local manufacturers. However, in 1937, a model coir factory has been established and the funds for the proposed plywood factory have been obtained. Also, the abandoned 'Lakshapana' Hydroelectricity generating project in the 1920s again came to initialization in 1937 identifying the need for cheaper power sources for the industrial plants. However, due to the II World War situation that prevailed during the period, the project started again to stagnate together with the continued failure of the government policies. Hence, the government decided to withdraw the idea of establishing government-sponsored industries and decided to produce essential manufacturing goods using indigenous raw materials [9,12].

At that time, the country was already having some private industries such as soap, safety matches, and textile weaving so, the government decided to further establish Plywood, steel rolling, acetic acid, paper factories, and glass factories which started its operations by 1941-1943 period to meet the demand of import manufactures which drastically fell due to the World War II [12]. Other industries including a ceramic factory in Negombo, an Acetic acid factory in Colombo, and a tannery and a shoe factory at Mattakkuliya have also been established during the period. Importantly, all of these industries were established to fulfill the wartime scarcities during World War II [16]. However, even the outcomes of those industries did not satisfy the expectations of the government, and the government had to provide much more over incentives to keep some plants opened which caused a loss of millions of rupee income to the government, it for sure was a good initiative to the government to look at the industrialization in a different aspect.

Furthermore, during this period, the domestic handicraft industry has risen to a higher level as people increased their demand for Ceylon handmade handicraft products like brooms, textiles, rugs, etc. which have been made out of domestic resources. However, during this transitioning period, some factories manufacturing commodities like wartime equipment, molded rubber items, batteries, lavatory goods, perfume, packing chests, plywood, bricks, tiles, hosiery, glass, ink, matches, sealing wax, cigarettes, paper, twine, chocolate, soap, lacquer, and sawmills kept functioning even after the end of the war [21]. But some factories had to shut down due to the lack of input substitutions after the market crash happened in the world market caused by the sudden ending of World War II [22,9,12].

The succession of the above industries has emphasized the need for a proper industrialization policy for the government. The report on the industrial development policy of 1946 pointed out the importance of government-controlled industrialization. At that time there were two categories of industries as public monopoly industries and licensed private industries which were also categorized as basic and non-basic industries. The basic industries were power, iron and steel, cement, chemicals, drugs and cotton, and spinning. However, the major industries were entirely owned by the government and few private licensed ventures

were also in operation in the country by the independence in 1948 [9].

## **2.2 Post-Independence Industrialization 1948 – 1959**

Along with the gained political independence in 1948 and the substantial foreign earnings, the appointed government started to look at industrialization from a different angle. As a base, a six-year plan for 1948- 1953 has been introduced to initiate industrial planning and suitable actions were positioned to establish large state-owned industries. The six-year plan has been entirely focused on diversifying the country; not depending too much on imports while several top industries have been selected for investigation and development [23,12]. However, the plan has been worked effectively on cement industries and affected little on paper, textiles, caustic soda, iron and steel, fertilizer, and vegetable oil industries. But many of those factories have failed due to the delays in providing machinery by foreign providers, insufficient hydropower and the competition came from the imports [9].

Importantly, the competition came from cheap imports affected severely on local industries that some of those had to be closed. Hence, as a solution for the problem, the government introduced the Industrial Product Act no. 18 in 1949 but did not bring the expected outcome. The stagnated hydroelectric generation project in 'Lakshapana' has also been started to operate. Stage I of the 'Lakshapana' project has been completed in 1950 with a capacity of 25 megawatts aiming to supply cheaper electricity to cut off the excessive production cost of the newly established industries [12]. In 1951, an expert team from the International Bank for Reconstruction and Development arrived in Sri Lanka to report and to give recommendations on the performance of various sectors of Sri Lanka. As a result, the expert team repealed the Industrial Product act and recommended shutting down some inefficient ventures criticizing the complete government ownership of the industries.

Important recommendations on promoting some industries such as caustic soda, paper, and vegetable oil plants and on suitable locations to establish the plants have been given by the delegates. The team promoted small-scale industries rather than large ventures emphasizing the possibility of taking advantage

of the labor force and raw materials under a diversified industry system. The small industries were advised to establish according to the availability of labor, suitable raw materials, skill levels, technical knowledge, and inheritance specialization on some industries while promoting technical and technological skills as one of the major recommendations. The delegates carried out many types of research on the industrial development in the country and advised the government to provide technical advice, tax incentives, marketing support, and other incentives to encourage the private sector to enter the sector [9].

Following the IBRD recommendations, the government-appointed another commission to examine the recommendations by IBRD. As suggested by the new commission, some inefficient industries such as rice hulling, steel rolling, carpentry, and the manufacture of ceramic ware were advised to shut down. Moreover, government-sponsored manufacturing projects have been advised to transform into corporations, joint-stock companies, or co-operative organizations. Following those recommendations, the government started to put less attention on maintaining government own enterprises and started to provide initial support for private industries to grow. During the time, the government used to keep the state-private contributed industrialization. On behalf of the technological and technical support, the government established two prime institutions as Ceylon Institute of Scientific and Industrial Research (1955) and the Development Finance Corporation (1955). During the time, the government has been changed from an entrepreneur to an industry promoter. In 1955, the government presented the government-sponsored Corporation Act 19 aiming at the transferring of government enterprises to the private sector to promote foreign investments in private industries [14].

In 1956, a new government has been elected and made few changes to the previous industrialization policy through turning its attention to import substitution industrialization from import substitution agriculture with the improved government investment on industrialization [15]. In 1957, the government presented and enacted the 'State Industrial Corporation Act' to take over or initiate new industries under public ownership [9]. The established corporations under the 1955 act have been re-registered under the new act

targeting the expansion of the public sector. Some basic and essential industries have been controlled by the government while consumer product-based industries have been controlled by the private sector. Due to the further encouragement given to the private sector to start up more industries, the employment in the industry sector has been risen up to 15 percent while the industry sector contribution to the GDP has been increased up to 15.5percent [9,23].

### **2.3 Import-Substitution Industrialization 1959 – 1965**

After few years after the new appointment, the government decided to move for import substitution industrialization. At the moment, many other countries were already practicing import substitution policies (ISP). The ISP was used as a shield over the serious BOP<sup>3</sup> deficit that occurred during the period while step by step isolation process has been initialized to segregate the domestic economy from the outside market forces [24,15,16,17]. As an initiative, the government introduced a 10 years plan (1958- 1968) to promote import substitute industrialization under the private-public partnership. The government had passed the State Industrial Corporation Act in 1957 to provide a legal framework for newly established State Own Enterprises (SOEs) with the government monopoly [18].

The establishment of the Estates Industrial Corporation under Estate Industrial Corporation Act No. 49 in 1957 has supported and ensured the transformation of medium-scale industries into industrial estates with sufficient power, water, and transport facilities. Government-sponsored largescale industries and many sub-plants of existing industries to meet the increasing domestic demand by the people. Hence, many small and medium-scale consumer goods industries have benefitted highly through the government-provided concessions. Importantly, the government approved over 1000 new privately owned small and medium-scale industries during the 1960- 1963 period and approximately over 500 new industries have been established within 15 years of the government. Many investors found it as a suitable environment for great industrialization

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<sup>3</sup> Balance of Payment (BOP) deficit is the minus value occurred in the current account of the country due to the increase of import payments more than the export income

hence, during this period, more than 1000 industries have been approved by the Ministry of Industries and nearly 800 plants have been established without the approval [9,11,15].

Under this approach, three lists of industries were published by the government, clearly defining the role of the public and private sectors on industrial development. The first list included seven industries as iron and steel, cement, chemicals, fertilizers, salt, mineral sands, {sugar, power alcohol, and rayon} which have been entirely allocated for government production. The second list included possible 23 areas which could be established as sole government, private or mixed corporations. Those areas mainly included lighter industries such as textiles, tubes, and tiles, bicycles, ceramic, paper, glass, etc. The third list consisted of 82 light consumer commodity industries which have been reserved for the private sector [12].

The main and the largest industries have been undertaken by the government while small and cottage industries have been given for the private sector to control. The majority of the government income has been allocated for the industry sector and it was a 20 percent share from the total government income during the period. However, this ten-year plan did not succeed due to the heavy reliance on import intermediate capital goods hence, contributed less to recover from the foreign exchange crisis [15]. Newly introduced tariff policy with protective tariffs on selected industrial products and lowered tariff on capital equipment, machinery, and industrial raw materials however worked well as a tool for promoting import substitution [9].

The ten-year import substitution plan has been again converted into a three-year development program in promoting industries. During the time, high population growth and severe BOP problem were the key problems in the country [14]. Hence, the government advised the relevant parties to start more labor-intensive industries rather than capital intensive industries. The amount of capital share has been reduced in some industries and used more labor to get the advantage of abundance population. Quantitative restrictions have been introduced to control the import flow to the country while slowly using scarce foreign exchange on alternative uses/national priorities. Accordingly, by 1964, the Sri Lankan economy has been completely turned into a "closed economy" [9,25].

But, along with the limited foreign capital, Sri Lanka had to mostly rely on its capital reserves and had to face even severe BOP problems. By 1960, the industries like chlorine and caustic soda (1956), sugar, salt and ilmenite (1957), cotton yarn (1958), brick, tile, and hardboard (1959) were launched to production. However, the newly established plants had to face issues like delayed construction, inadequate capital equipment, under-trained workers, and under-production of expected capacity. Also, the intermediation of the Estate Industrial Corporation to solve those issues was at a highly unsatisfactory level [12]. Still, apart from this, Sri Lanka had the chance of experiencing a rise of local expertise in the fields of technology and management during this period [11,9].

The first stage of the import substitution caused low-quality products in the market while many industries created minimum conversions on imported inputs. Many private industries have focused on producing products that are restricted or banned for being non-essential and luxurious goods. Further, the government faced severe foreign exchange shortages and related issues thus followed strict obligations on approving new private-sector industries and on foreign exchange allocation for raw material imports. Due to the growing foreign exchange problems, higher dependence on import input and machinery, insufficiently growing domestic market for the manufactured items and rapidly growing traditional export sector changed the government vision towards promoting export-oriented industrialization [12,9,18].

## **2.4 Export-oriented industrialization; 1965 – 1989**

After the phase of import substitution industrialization, the government changed the direction of industrialization towards export-oriented industrialization by partially liberating the economy [15]. The government during 1965-1969 promoted agriculture-based industries and exports to gain advantages from Agro-based raw materials and technology. The Industrial Development Board has been established in 1966 to provide the required facilities to promote small and medium--scale entrepreneurs. (i) Assisting, encouraging, promoting, and developing industries, (ii) ensuring the proper coordination in both public and private industries in the country, (iii) conducting industrial researches to examine better utilization of local resources, (iv) improving technical and

technological methods and equipment to use for the local industries, (v) discovering methods and processes for the better utilization of wastes, (vi) promoting local exports, (vii) providing facilities and guidance for every industry established and (viii) advising on matters regarding the promotion and development of the domestic industries were the key objectives of the Industrial Development Board [9].

As one of the policy implications, Import Duty Rebate Scheme for Manufactured Goods Exports has been introduced in December 1964 [18]. In addition, the introduction of the Import Entitlement Scheme (Bonus Voucher Scheme) for selected minor exports in 1966, devaluation of the rupee in 1967, and the introduction of the Dual Exchange Rate System (Foreign Exchange Entitlement Certificate Scheme, FEECS) with a premium exchange rate for nontraditional exports in 1968 are the other key incentives provided by the government during the period [14]. By the end of 1969, there have been 23 state-owned industries in Sri Lanka [11]. The development in export-oriented industries was supported heavily by the newly appointed government in 1970 and followed a five-year plan (1972- 1977) to promote the export-based industries. The plan has been largely focused on developing larger public industries and allocated a considerable amount of money for the sector's development [18]. In 1971, a new Import Entitlement Scheme, the Convertible Rupee Account Scheme for exporters of non-traditional products and an eight year tax holiday on export profits of approved exporting ventures have been introduced as incentives to promote export industries [14].

In 1972, The Export Promotion Secretariat has been established under institutional support to function as an agent for directing and coordinating the export development process of the country. Along with the five-year plan, an iron and steel plant, a tire and tube factory, a hardware project, a cast iron foundry, a silicate brick factory, and three textile plants have been established. However, this five-year plan also has failed to make a considerable impact due to the insufficiency in foreign exchange to import raw materials and machinery. Hence, this leads to a severe drop in the manufacturing value addition. As a result, industrial growth became increasingly dependent on the foreign exchange earnings of traditional exports which were already suffering from both instability and stagnation for a long time. During the period, the government strategy was consisting of heavy

trade protection through tariffs and quotas, operating just for certain activities which are mostly for the small industries and with higher access to the public resources [14,9].

In 1977, the newly appointed government have taken immediate actions to entirely open up the economy. Along with the economic liberalization, the new government decided to adopt an outward-looking strategy of export-led growth to get away from the economic stagnation, to overcome the limitations of the small domestic market and the foreign exchange constraint while identifying the importance of the private sector in the industrial development [26]. After 1977, the government introduced a liberalized economic environment to promote export-orientated industries along with an efficient import substitution using market forces [17,18]. The new government policy introduced together with the economic liberalization has included the following policies that had a direct influence on the performance of the industry sector.

- (i) "Liberalization of import trade and exchange payments, accompanied by the exchange rate and tariff reform with only a limited list of items on specific licensing.
- (ii) Promotion of private enterprise including direct foreign investment.
- (iii) Limits on the expansion of the public sector in the industry (and other areas) and steps to rationalize operations of existing state ventures.
- (iv) Emphasis on promotion mainly to establish a sound institutional background for the development of export orientation. " (Dias, 1987)

In line with the new outward-looking industrial policy, several important measures have been taken by the government to promote export-oriented industrialization. At that time, export-oriented industrialization has been accompanied by different kinds of incentives to promote investments in industries. The foreign investments have been captured by giving investment guarantees and tax concessions while assurance for the foreign investment has been guaranteed through the new constitution adopted in 1978. The open trade policy regime has been allowed to ensure industrial development; thus, trade policy has been used as the main instrument for industrial sector development. An export-led economic strategy was the foundation of the new policy. As the



institutional incentives, Free Trade Zone under the newly initiated Greater Colombo Economic Commission (GCEC) and Foreign Investment Advisory Committee in 1978 has been established to encourage foreign direct investment towards export industries [27,28].

Foreign Direct Investment (FDI) was one of the major concerns in export-oriented industrialization during the period to get the advantages in foreign exchange and to promote industrialization. Accordingly, firms with more FDI have contributed highly to the development of the industrial sector and to expand the exports [14]. As the policy implications, the National Development Bank has been established in 1979 to help with the capital accumulation for the new industries under concessional loan facilities. On the other hand, Sri Lanka Business Development Center (SLBDC) has been established in 1984 to promote entrepreneurial development in the industry sector [28].

Accordingly, the outward-looking export-oriented industrialization policies have substantially contributed to promoting industrial development in the private sector; especially in the fields of textiles, food and beverages, wood products, rubber and plastics, and other consumer goods. Furthermore, the government kept the sole ownership of some basic industries such as oil refining and electric power generation [29]. During the period, there has been a considerable increase in the total industrial output, especially in the manufactured export output. However, a decade following, the country's industrialization process has been mostly urban-biased, nearly with 80 percent of industrial output located around the capital of the country. The government used tax incentives and policy incentives to promote the location diversification of the industries but, the issue has not been efficiently addressed. Sectorial undiversified industrialization has also been a key issue during the time as nearly 60 percent of industrial output has been generated solely by the textile and garment sector [14,30].

## **2.5 The Second Wave of Industrialization 1989- 2005**

With the issues like centralized industrialization and less-diversified industries, Sri Lanka released its first industrialization policy statement in 1989 to address the drawbacks of the prevailing policy. The government's industrial policy mainly focused on encouraging investment

in industries based on comparative advantage. On behalf of the policy, the Industrial Promotion Act has been enacted in 1990 and established the "Industrialization Commission" to introduce suitable policies for better performance in the industry sector and to address the issues that occurred during the industrial development process [11,31].

The "second wave of liberalization" during 1991-1992 mainly encouraged liberalized FDI inflows to the country through establishing a reconstituted Board of Investment (BOI). Various promotional schemes have been introduced with incentives such as the initiation of the '200 Garment Factory' program in rural areas to address the problem of industry centralization. The Board of Investment (BOI) provided many incentives for the investors mainly in five industries: electronics and components for electronic assembling, industrial and machine tools, ceramics and glassware, rubber-based industries, and light and heavy engineering [30]. The industry privatization program, a simplified tariff structure with more tariff cuts and removed exchange controls on current account transactions were the other important actions taken under the second wave of liberalization to assure a more outward-looking industrial sector [18,17].

"The New Industrialization Strategy for Sri Lanka" policy Statement of the government in 1995 together with the Ministry for Industrial Development set their plans to establish 20,000 small and medium industries with the capacity to employ over 250,000 employees. Expanding the labor-intensive manufacturing sector to get the advantages of low-cost labor had been one of the main goals of the policy statement. The government introduced the "National Productivity Decade" and the National Productivity Secretariat which contributed highly in providing necessary support to the industry sector. The Skills Development Fund had been established to cater to the comprehensive need of skill upgrade of the labor force and provided grants and incentives to many private firms to carry out skills training programs for the workers [32,31,33].

Additionally, 36 manufacturing companies were privatized mainly including Lanka Lubricants (sold to Caltex in 1994), Colombo Gas Company (sold to Shell Oil in 1995), Ceylon Steel Corporation (sold to Hamhung Company of Korea in 1996), and Sri Lanka flour mill during the period of 1990 to 2001 [34,35]. Importantly,

the textiles and apparel sector contributed largely to the industry sector nearly with 40 percent of manufacturing output and nearly 350,000 workers. About 800 textile factories were operated while the largest 100 factories contributed to generate half of the production which accounted for 50percent of the total exports. Food, beverages and tobacco, chemicals, petroleum and rubber products, the nonmetallic mineral industry, smaller fabricated metal products, and basic metal products, paper industries were the other industries in the industry sector [29].

Along with the “Regaining Sri Lanka” vision of the new government elected in December 2001, the policy planned to promote private sector investments including FDI to improve the competitiveness and productivity of the domestic industry sectors. Issues in labor productivity, high energy costs, restrictive land-use policy, complex tax laws, and other regulatory constraints in the business regulatory frameworks had been identified as the key problem areas which should be immediately addressed. After carefully diagnosing the key problematic areas, enhancing productivity program had been started and the National Competitiveness Council has been established to acquire suitable reforms. However, overall, the policies did not meet the necessity of promoting industries in the outside areas of the western province and promoting industrialization as a whole [30].

Again, with a forward-looking vision, the new government-appointed in 2004 took action to develop an industrial development plan while continuing the industrial plan of 1995. The government established the National Council for Economic Development to improve the competitiveness in several main industries such as garments, ceramics, gem, and jewelry. [30]. However, a decentralized or expanded industrial establishment was not a task that could be achieved quickly at that time and none of these policies promoted industrial decentralization in the country. A less-suited business environment with insufficient infrastructure was the main reason that investors denied moving to the rural areas. Thus, the export-oriented industrialization during that period recorded the slowest industrialization compared to the other Asian countries and Sri Lanka continued to produce manufactured exports with low value-addition caused by the low-cost labor with low skills

## **2.6 Knowledge and Technology-based Modern Industrialization (2005-Present)**

The newly appointed government in 2005 introduced a widespread industrial development policy framework under the “Mahinda Chinthana Policy Framework”. Promoting productivity improved development in the industry sector through improving knowledge and technology while abandoning the privatization policy were the main implications of the new policy framework [17]. At that time, Sri Lanka was in a severe ethnic war situation hence, many industries had to face severe issues including security issues. Due to this situation, many foreign investors gave up their investments in the country which ultimately lead to a substantial reduction in the FDI inflows to the country. Thus, at that time, the main focus of the industrial policy was to ensure a risk-free favorable environment to the investors through establishing a stable socio-political environment. As the other key policy implications, ensuring the availability of short-term and long-term capital, promoting foreign technology inflows, capital inflows, and managerial skill inflows, developing manufacturing, export, and services capacities, and improving infrastructure can be identified in the new framework. As the policy proposed, 300 new industries were proposed to establish covering every Divisional Secretariat with a five-year tax holiday for investments above 50 million. Additionally, 12 townships were proposed to create to establish 12 industrial investment zones while more attention was given to the mineral industry and the garment industry. While promoting domestic small and medium industries, tax holidays for export industries that use domestic raw materials were proposed to grant as further policy implications [30,18,26].

The Sri Lanka Trade Policy Review (SLTPR) in 2010 by the WTO had clearly emphasized the need for investments in the key areas of technology and human capital [17]. Hence, entrepreneurship was improved giving many capital incentives to achieve domestic industrial capacity. A diversified education system was introduced to generate a multi-skilled labor force with the adoption capabilities to the new technologies. To promote the rural industries, diversified financial tools were introduced specially for the rural small and medium enterprises. (i) Strengthening the National Innovation System to generate new technologies and ideas on behalf to promote the Public-private

partnership, (ii) establishing the Technology Development Fund, (iii) promoting micro-enterprises to absorb the excess agriculture-based workforce to the industry sector, (iv) establishing Industrial Zones and Technology Parks to promote export-based industries with easy access to the services, (v) developing specific industries under two categories as resource-based industries such as Ceramic, rubber, coir, gems and jewelry, leather and etc. and technology-based industries such as apparel, electronic, plastic, machinery and etc., (vi) promoting geographic industrial clusters (vii) introducing industry villages to promote home industries in rural areas (viii) constructing new infrastructure facilities with the help of the other countries and (ix) taking initial steps to establish an Electrical and Electronic Technology Incubator in 2012 were the key implications of the new policy scheme [30].

During the time, the performance of the industry sector was entirely according to the plan. Many rural area industries were highly encouraged and contributed massively to the national GDP. However, with the substantial war expenses in the country, it limited the domestic funds for infrastructure development, therefore, the country had to highly depend on foreign loans and funds which made the country more vulnerable to a debt trap. Also, after successfully finishing the ethnic war in 2009, the country had to bear a massive amount of expenses for reconstruction and paying interest for defense and infrastructure loans thus highly limited the development of the industry sector (Department of National Planning, 2004).

The newly appointed government in 2015 with a completely different industrial policy immediately stopped many previous government policy projects. The economic policy framework of the new government was entirely on promoting sustainable industrial development and encouraging local industries. As the initiations, the government increased the exposure to hidden opportunities, increased value addition to the local raw materials, encouraged resource-based exports, and promoted diversified industries. With the support of the Ministry of Industry and Commerce, industries in the rural areas were promoted and several incentives were given to the investors. The development of infrastructure was less focused by the government due to the given priority for paying back the loans which were taken for the infrastructure development and the purchasing of

war equipment during the ethnic conflict. However, some rural infrastructure development projects were carried out during the period while opportunities were given for the young entrepreneurs to access a concessional loan scheme starting from 2018 [34]. However, formulation of a National Framework for Small and Medium Enterprises Development in 2016 and formulation of a National Export Strategy along with some related strategies/policies in 2017 are the key industrial promotional activities done by the government regarding the industry sector development from 2015 to 2020 [36,27].

After going through all the previous policy implications on industrial development by the different governments appointed from time to time, it is important to look at the present industrial sector performance to examine the actual impact of those policies on the current industry sector in Sri Lanka. Hence, the next section of the paper includes an evaluation of the current industrial sector performance of Sri Lanka.

### 3. THE TIMELY INDUSTRY SECTOR PERFORMANCE OF SRI LANKA

Nearly a century back, Sri Lanka stepped towards industrialization development while different governments followed different industrialization policies to improve the industry sector from time to time. With many obstacles and barriers, Sri Lanka managed to achieve a positive outcome on industrialization over time. Hence, to evaluate the Sri Lankan industry sector, the following graph has been used to show the temporal variations in the contributed share to the national GDP by each sector as a percentage of total GDP.

According to Fig. 1, it is visible the sectorial shift of the agriculture-based economy into a services sector-dominated economy with a stagnated industry sector. Further, soon after the independence in 1848, a sudden and substantial fall in the industry sector can be seen emphasizing the loss of the massive contribution of the British to the Sri Lankan industry sector. Drastic fall in the industry sector has been caused by the closure of many war time industries, normal competition towards limited resource inputs by the industries, and the government view of neglecting large industries under the private partnership. On the other hand, people in the country started to rely highly on imports since the foreign assets in the country

have been drastically increased along with the Korean Boom and the tea price increase in 1956. [11,9].

However, a quite considerable increase in industrial sector performance after 1960 is visible along with the introduction of the import-substitution policy in 1959. During the period, the industry sector's performance as a share of GDP had risen to 15.5 percent in 1960 from 11.7 percent in 1950. This considerable increase was supported by the heavy protectionism and support given to the domestic industries by the government (tax concessions and incentives) and the heavy control of imports and direct government intervention to the industry sector. Overall, the average economic growth during 1951- 1955 accounted for 4.3 percent and it reduced up to 2.6 percent during the 1956-1960 period while the overall real growth rate of the economy during 1946- 1960 period accounted as 6.5 percent [12,11,37].

The rising pattern of the industry sector continued until the 1980s as the private sector participation in the industry sector was encouraged by giving different incentives and tax concessions. However, since the BOP problem was getting worse, the government promoted export-oriented industrialization after 1966 and various incentives were given to the investors in export-oriented industries. Hence, the industrial sector growth has been accounted as 7 percent after 1977 while the average economic growth during 1966 – 1977 was recorded as 4.1 percent [37,18].

After 1980, along with the shift in policy priorities and the prevailed severe ethnic conflict in Sri Lanka emphasize another significant timely variation in industrial sector performance in the country. Due to the effect of the ethnic conflict situation, the falling trend of industrial sector performance continued until 2005. The new government-appointed in 2005 successively introduced sufficient development strategies regarding the industry development and it has created a considerable rise in industry sector performance. However, with the new government-appointed in 2010, the industry sector started to perform under the average level due to the insufficient attention given towards industrial development. During the period, the government mainly focused on financing wartime debt and post-war infrastructure development instead of directly developing the industry sector. However, the stagnated trend of the industry

sector in recent years critically emphasizes the need for an efficient industrial policy to the country to ensure a substantial development in the industry sector in Sri Lanka [27].

On the other hand, considering the composition of the industry sector, the ancient industry sector contained more traditional industries/ handicraft industries. However, after the arrival of the British, the plants were established to produce some wartime equipment and some other consumer goods. Until 1966, the composition of the industry mainly consisted of traditional consumer industries and did not show much change. In 1966, the priorities and incentives were given to non-traditional export industries and caused a direction change in the industry sector. In recent years, some approaches were introduced to transform the traditional industry sector to a more technology-based industry sector but, due to the various political issues, the plans did not work as expected.

In the recent industry sector, the biggest share of the industry production is represented by the manufacturing sector nearly 60 percent of the total industry output in the year 2020. Manufacturing of food, beverages & tobacco products and manufacture of textiles, wearing apparel and leather related products are the leading contributed sectors to the manufacturing sector so far. However, the manufacturing of textiles, wearing apparel, and leather-related products have recently shown a significant contradiction in its contribution to the national GDP due to the reduction in global demand accompanied by the global Covid 19 pandemic. Whilst, recent massive demand for food, beverages, and tobacco products generated in the domestic market, however, lift the contribution of the industry sector to the national GDP [23]. Overall, textile and wearing apparel-related manufacturing activities, electricity, gas, steam, and air conditioning supply activities, and sewerage, waste treatment, and disposal activities have sowed a slowdown during 2020 but, water collection, treatment, and supply activities showed a positive contribution to the industry sector.

Especially, the Sri Lankan apparel industry is well known for its quality garments. The largest demand for Sri Lankan readymade garments is coming from the USA and Europe. The recently re- granted Generalized Scheme of Preferences (GSP) concession for Sri Lankan exports further supported the substantial development in the

apparel sector. Currently, there are around 900 garment factories in Sri Lanka which work for world-famous brands like Tommy Hilfiger, Victoria's Secret, and Liz Claiborne [38]. Considering the employment in the industry sector, 27.9 percent of the total employment of the country was coming from the overall industry sector while the manufacturing sector solely holds 65.5 per of it in 2020.

#### **4. ISSUES RELATED TO THE SRI LANKAN INDUSTRY SECTOR**

Paying attention to the insufficient development in the industrial sector in the country, it can be seen that several inefficiencies and issues in some diplomatic areas were adversely affected the development of the industry sector in Sri Lanka. According to the Global Competitiveness Index- 2018, the following factors were identified as the most problematic factors to start a business in Sri Lanka.

Hence, taking the recommended problematic factors by the Global Competitive Index and some literature, the following main inefficiency areas of the industry sector have been summarized and deeply evaluated hereafter.

##### **4.1 Poor Political Background with Policy Instability (Fiscal, Trade) and Political Uncertainty [32,39]**

Political and policy instability is concerned as one of the major barriers to the development of the industry sector of the country. For every recent six years, political power is moving between two major political parties in the country. Each time, the newly appointed government entirely change the previous development policies hence continuity of many effective policies had to be stopped. Since independence, Sri Lanka was trying many development policies but none of those generated the expected results. Even after 70 years from the independence, Sri Lanka did not achieve much other than 3-5 digits to the industrial sector contribution (Fig. 1). Especially, policies related to economic variables like interest rate, capital accumulation, exchange rates, inflation rates, taxes, trade, and investment are requested the highest attention [27].

Sri Lanka maintained a fixed exchange rate from 1950 to 1977 hence the domestic inflation was successfully managed in the beginning but, caused severe inflation rates during world crises such as the oil crisis that happened in 1973.

However, after adopting the open economic policies, the government decided to change the exchange rate system from a fixed to a dual exchange rate system (rupee allowed to float under managed exchange rate) which is considered as more suitable to an open economy. However, due to a substantial fall of official international reserves, in 2001, the Central Bank of Sri Lanka allowed commercial banks to determine the exchange rate according to the supply and demand in the domestic foreign exchange market to ensure freer transactions [40].

However, as seen in Fig. 4, the exchange rate of Sri Lanka over USD showed a drastic increase after 1977. In 2020, the exchange rate of Sri Lankan Rupee over USD has been recorded as 1:198 limit which is extremely high and caused severe problems in the BOP. Additionally, most of the raw materials used in the industry sector (intermediate goods and investment goods) are directly imported from foreign countries hence causes severe currency losses to the country under higher exchange rates [23]. Accordingly, the importance of maintaining a relatively low exchange rate in a country like Sri Lanka which has a severe trade deficit, and BOP problems must be taken into the consideration.

Regarding the political instability in Sri Lanka, currently, there are more than 15 election parties with totally different policy ideologies. Thus, once a new government is elected, they change all the previous policies and start from completely a different perspective. Consequently, it causes many projects to remain unfinished or maybe completely end the operation of some effective projects. Considering the evolution of the Sri Lanka industry policy, it is clear that even many governments came up with different industrial policies, the Sri Lankan industry sector is still stagnated as it was in a century earlier due to the discontinuity of many efficient policies. The Global Competitiveness Index also clearly showed that inefficient government bureaucracy is the most influential problematic factor for doing business in Sri Lanka while polity instability ranked as the 3<sup>rd</sup> while government instability ranked as the 5<sup>th</sup> [39].

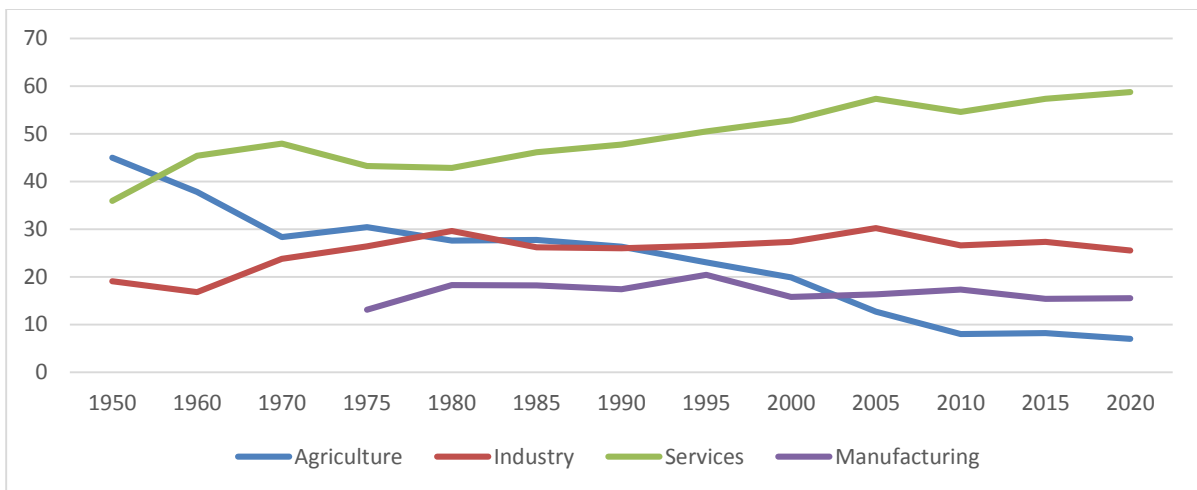
As in Fig. 1, from 1983- 2009, Sri Lanka was having severe ethnic conflict which caused a considerable fall in the industry sector performance. For example, companies like Motorola, Harris, Bank of Tokyo, Sony, and many more foreign investors withdrew their investment

proposals in Sri Lanka due to the sudden unfavorable economic environment that appeared in the country from July 1983 [11]. On the other hand, two sugar factories which were located near the war area had to be closed [41].

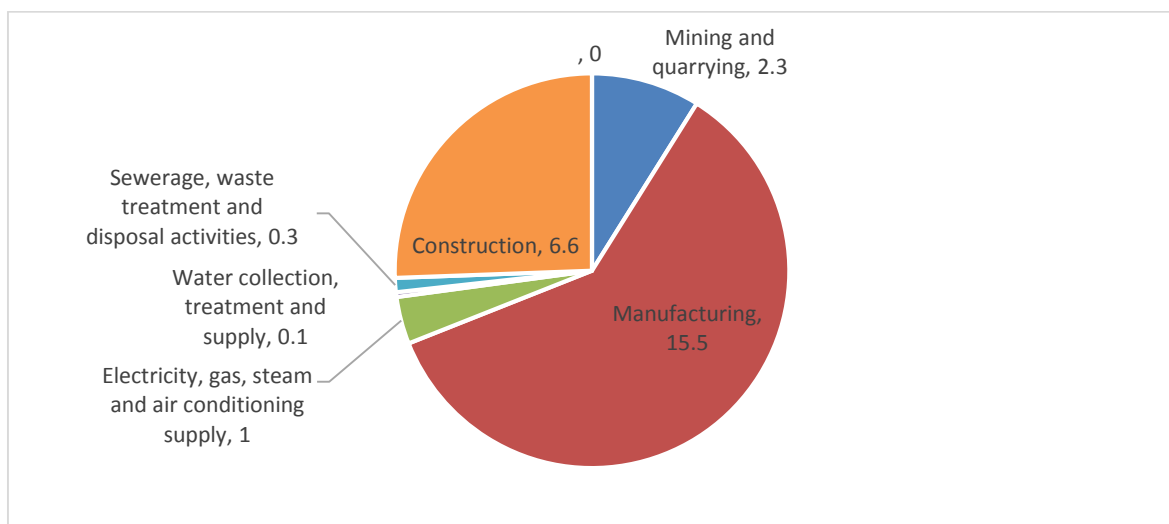
A study carried out in Bangladesh confirms that the large industries and SMEs are very much keen on the political stability of a country when doing their investments since the outcomes of the political instability of a country is more likely to cause supply chain breakages, adverse interventions of foreign countries (export and import restrictions, trade banned) and insufficient customer base in an uncertain environment [42]. However, real-world examples such as Japan,

Malaysia, Vietnam, Germany, and Russia have shown a powerful uprise in the economies after facing severer war situations. Amongst, Japan is the prime example for a successful boost in the economy after facing a severe political disaster [15].

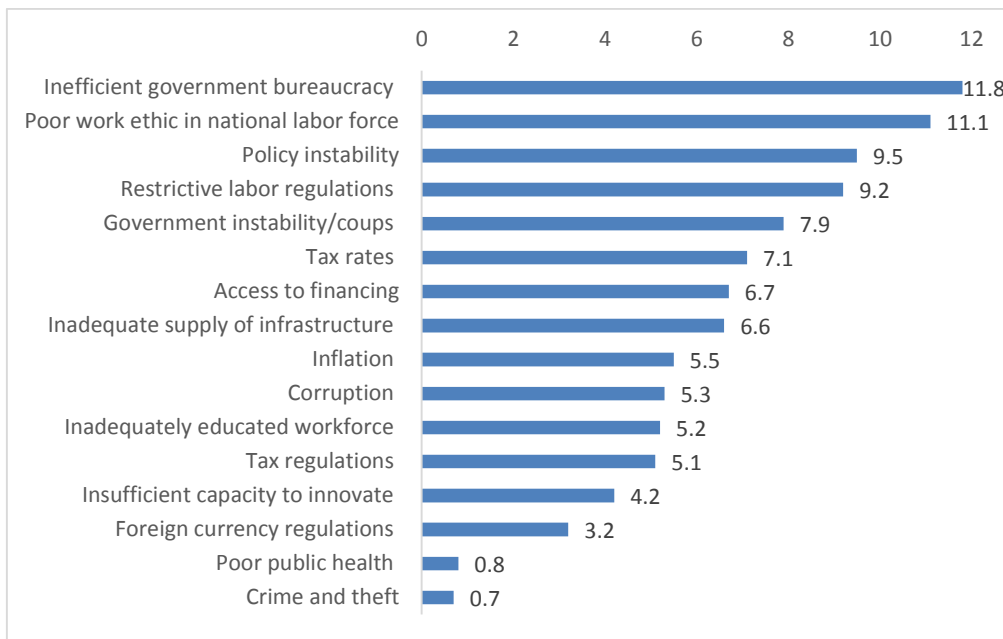
Considering the fiscal policy attributes of the country, the tax system is another key barrier to industrial development in the country. The continuous low tax revenue in Sri Lanka had led successive governments to impose more and more ad hoc taxes from time to time thus, there are about 25 taxes in operation in the current system.



**Fig. 1. Timely GDP performance in Sri Lanka (Sectorial Contribution in percent)**  
 Source: Central Bank of Sri Lanka Annual Reports 1950- 2020

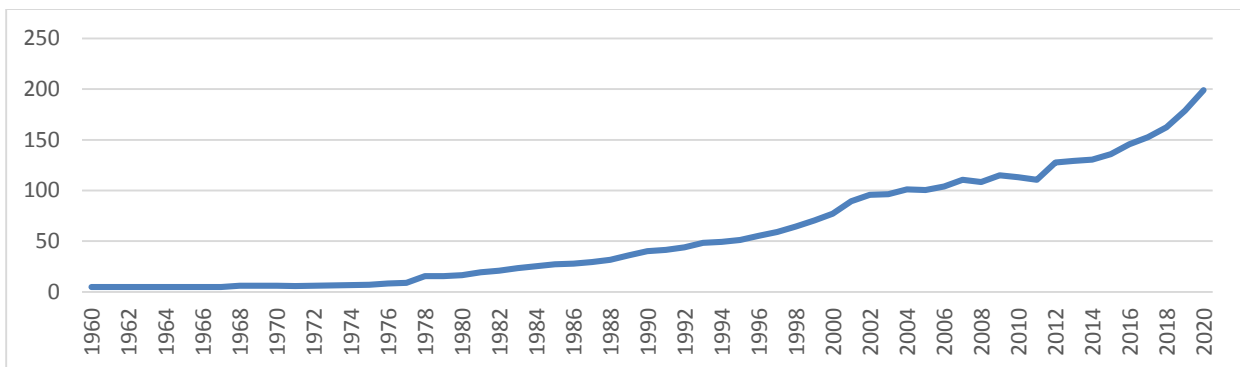


**Fig. 2. Sri Lankan Industrial Sector Composition (in percentage)**  
 Source: Central Bank of Sri Lanka Annual Report (2020)



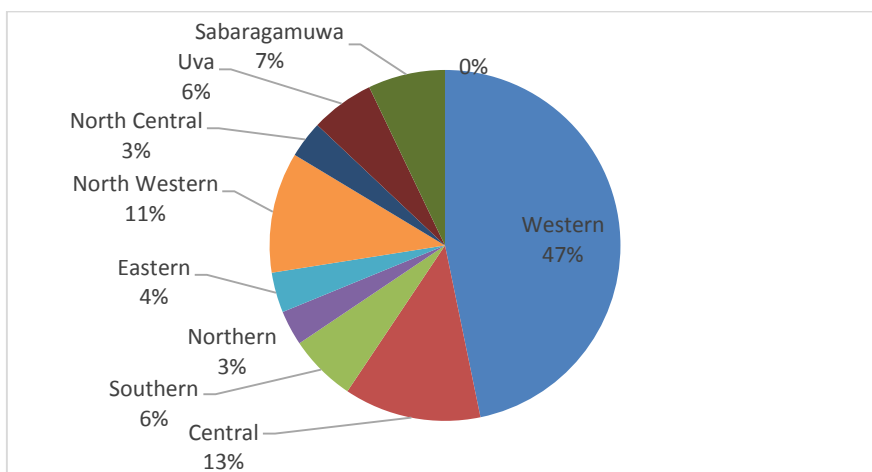
**Fig. 3. Most Problematic Factors for Doing Business in Sri Lanka- 2018**

Source: World Economic Forum- 2017/ 2018



**Fig. 4. Timely Performance of the Official Exchange Rate of Sri Lanka (LKR/USD)**

Source: World Bank Data 1960- 2018



**Fig. 5. Sri Lankan industrial sector contribution to the GDP by province (in percentage)**

Source: Central Bank of Sri Lanka Annual Reports, 2019

**Table 1. Taxes and levies imposed on Sri Lankan industry sector**

<b>Tax</b>	<b>Taxable range</b>	<b>Tax rate</b>
Standard corporate income tax		
Quoted	N/A	35percent
Venture Capital	N/A	20percent
Other Companies	< 5 million	15percent
Economic Service Charge (ESC)	USD 75,000 per quarter	0.25percent to 1percent
Custom Duty		
Remittance Tax		10percent
Social Responsibility Levy (SRL)		1.5percent of the income tax liability
Value Added Tax (VAT)		Standard rate - 12percent On essential Item- 5percent
Turnover Tax (TT)	Retail and wholesale businesses	1percent
Nation Building Tax (NBT)	Turnover for the quarter exceeds Rs.100, 000	3percent

*Source: Tax System of Sri Lanka, Investment and Development Agency of Latvia*

Compared to the other developing countries, the number of taxes in Sri Lanka is considered to be huge and this further complicated the tax system. With the small number of taxes, some developing countries managed to collect a considerable amount of tax revenue than that in Sri Lanka. Simplifying the tax laws, reducing the numbers of taxes, avoiding all political influences on tax administration are the key areas that should immediately be addressed to ensure a more transparent tax system in the country to attract more investments inflows [43].

#### **4.2 Lack of Geographical and Composition Diversification [17,21,31]**

Considering the geographical distribution of industries in Sri Lanka, it can be seen that, many industries are located near the capital city of the country in the Western Province. In other parts of the country, there are only a few primary and traditional industries located but the lands in those areas were not efficiently utilized as they could.

Due to the dissimilarities in the geographical distribution of the industries, the industrial sector contribution by each province shows huge differences. The western province contributed mostly to the national GDP while other provinces show quite less contribution. According to Fig. 6, the number of industry establishments in the

Western province recorded the highest value. The difference between the number of industry establishments in the western province and the southern province (2<sup>nd</sup> highest value) was recorded as 1102 units which shows the high centralization of the industries in Sri Lanka. The undiversified geographical distributed industry sector leads to an underutilization of resources. On the other hand, this leads to an increase the unemployment in the economy due to the geographical migrating difficulties faced by the people regarding centralized employment opportunities. Thus, a higher geographical diversification of industries can be beneficial in both utilizing geographically diversified resources like land, labor, and input raw material.

On the other hand, while many other neighboring countries looking for opportunities to start new industries, Sri Lanka is still being stagnated in diversifying the industry sector. Sri Lankan industry sector is consisting of only six major industry segments as mining and quarrying, manufacturing, construction, {electricity, gas, steam, and air conditioning supply}, {water collection, treatment, and supply} and {Sewerage, waste treatment, and disposal activities}. And the composition of industrial exports remains the same as it was in the 1990s [27]. However, considerable effort was put towards achieving industrial diversification under



the open economic policies in 1977 and the "New Industrialization Strategy for Sri Lanka" in 1995.

Export diversification from agriculture to industrial exports was firstly seen under the economic policies in 1977. Before then, the country's export composition mainly consisted of agriculture-based products (the export share of agricultural products was 78.7 percent in 1975). When it comes to 2018, the major share of the export composition is coming from the industrial exports with a 77.9 percent share. However, compared with the other countries, the export diversification of the industry sector does not show many variations over time.

As seen in Figs. 7, 8, and 9, the composition or the direction of the exports combination in Pakistan, Vietnam, and China, from 1985 to 2017 have changed over time. But, in Sri Lanka, as seen in Fig. 10, the export composition does not show a significant change in diversification over time. Industry diversification is not only advantageous for the industry sector as a whole but also the companies themselves. The positive effect of product diversification can be identified by looking at the successful companies in the world. Suzuki company in Japan, Samsung Technologies in Korea, TATA company in India, Unilever Global company in the United Kingdom are the proven examples of advantageous product diversification [27].

Moving from labor-intensive production to skill and technology-intensive production is another key attribute that should be highly encouraged in Sri Lanka. Sri Lanka is currently losing the advantage of low labor costs. According to the Department of Labor Sri Lanka, the Minimum Wage Rate Index, 2005 – 2016 (Base: 1978 = 100) shows a substantial change over time [55]. On the other hand, According to Twum-Baah [44] even the majority of the labor-intensive industries are small-scale industries, the large-scale industries are must be capital-intensive [44]. According to Setyari [45] it is said that if a country has higher capital intensity means more capital intensity in its industries and higher economic growth [45]. With all these explanations, it is clear that geographically, intensively, and compositionally well-diversified industry sector is very much important to gain the advantages of skilled labor and unified resources to achieve development in the industry sector.

### 4.3 Insufficient Modernization and Value Addition [26]

Considering modern technology and innovations, Sri Lanka is highly lagging in both components. The Sri Lankan share of high technology export in the total manufacture exports was just 1 percent in 2017 while it was 31 percent in China, 9 percent in India, 8 percent in Indonesia, 17 percent in Japan, 53 percent in Malaysia, 2 percent in Nigeria, 61 percent in Philippine, 2 percent in Pakistan, 52 percent in Singapore, 23 percent in Thailand and 41 percent in Vietnam.

According to Fig. 12, compared to the other countries, the high-technology export share of Sri Lanka shows stagnation in a considerably lower value over time. However, Malaysia, Rwanda, Singapore, Thailand, Vietnam, and India showed satisfactory improvement in high technology exports since 2009. Importantly, the research and development spending by the government in Sri Lanka was recorded as just 0.1 percent from the GDP in 2015 while the same was 2.1 percent in China, 3.1 percent in Japan, again 3.1 percent in Taiwan, 2.2 percent in Singapore, 0.3 percent in Pakistan and 0.9 percent in India. The lack of modern technology is a major drawback in the industry sector in Sri Lanka as the low value-added of the product followed by the high production cost makes it difficult to compete with the existing products in the world market.

According to the 2019 Global Competitiveness Index, Sri Lanka ranks 106th out of 137 countries in the "Technology Readiness" pillar ranking [49].

According to Fig. 13, the value addition in the industry sector showed a low and stagnated pattern since 2016 emphasizing the space for more value addition to the industry products. The major industrial product with value addition in Sri Lanka is garments. However, the clothing materials and other added inputs are imported mainly from China.

Currently, Sri Lanka's industrial output is considered to be low value-added, low technology, and low skill-based products. But most importantly, if the industry started producing inputs locally, profits through value-added could increase and the country would be able to compete successfully with other countries [26]. The 2010 Sri Lanka Trade Policy Review has clearly defined the importance of promoting

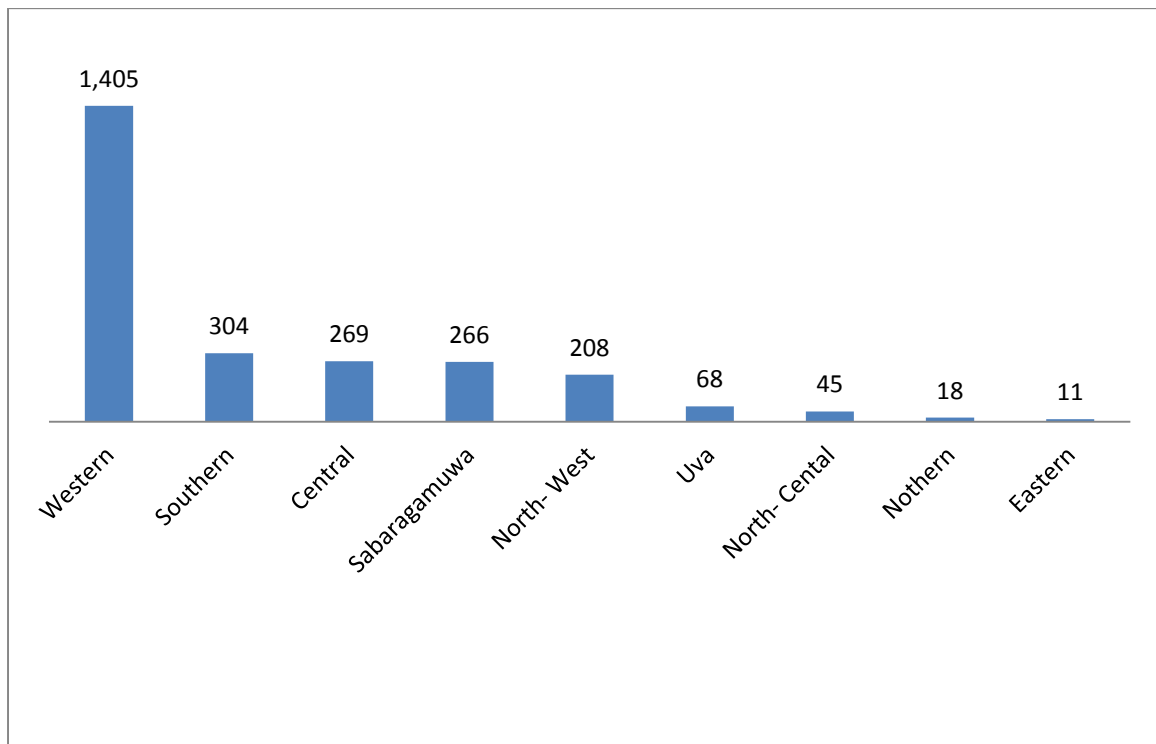
domestic value addition, but it has not been implemented due to regime change [18,59].

#### 4.4 Inadequate Infrastructure and High Energy Cost [26,27,31]

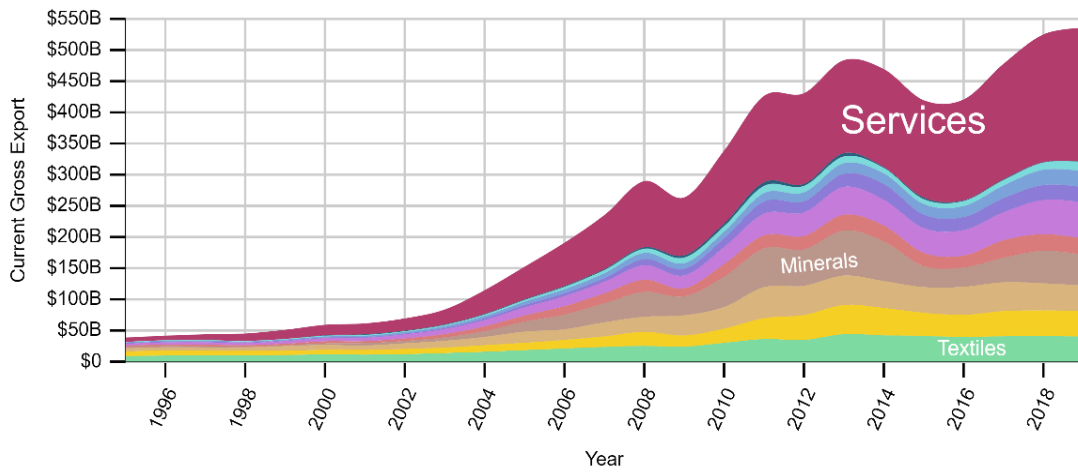
Lack of infrastructure is another major problem facing the industrial sector in Sri Lanka. At present, the country has a favorably distributed and quality road network (approximately 1000 km to 1900 km) which ranks 3rd among Asian countries and has a better railway network than most Asian countries (Ranked 7th out of 19 Asian countries). Additionally, Sri Lanka records the lowest number of power outages compared to other Asian countries and has access to improved water sources (both urban and rural). However, Sri Lanka is suffering in terms of electricity generation as the electricity generation capacity was just 2.5 KW per capita with just 3.5 growth compared to other countries in the same situation [46]. Not investing in other power sources like wind and sunlight which could be used as a low-cost power source to reduce the cost of production is another policy drawback. Sri

Lanka is holding the monopoly in the energy sector thus low cost energy alternatives are not sufficiently available to the investors. Hence, encouraging private participation in energy investments is need to be promoted as many ASEAN countries have tried and succeeded [57].

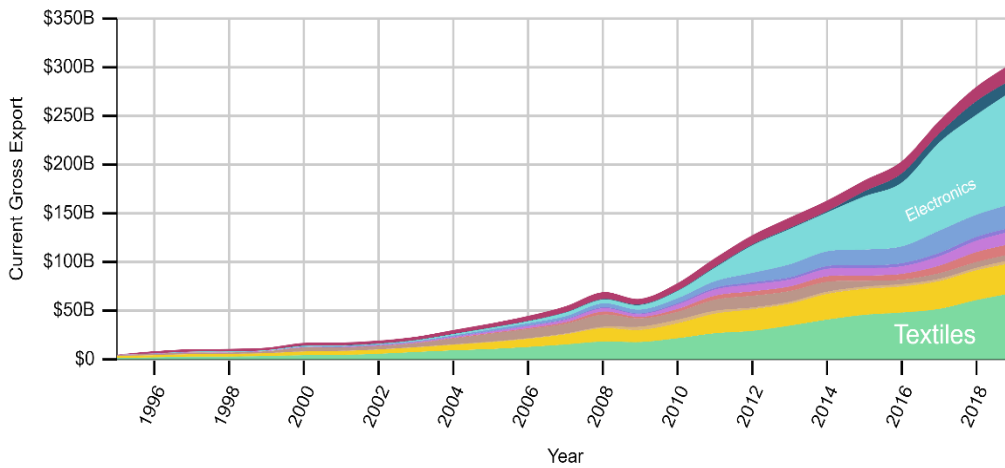
On the other hand, the lack of logistic facilities leads to a huge waste of production and a huge cost to manufacturers [27]. Adequate container terminals, well-developed strategically established ports, well-managed and capacity-enhanced airports are the essential improvements currently requested to the industrial development. Well managed road network with high-speed transportation modes will ensure the efficient distribution of inputs and outputs while minimizing the transportation time and output wastage. Sri Lanka gained 3.8 marks out of 7 under the infrastructure pillar thus the Global Competitive Index emphasized that inadequate supply of infrastructure is one of the key problematic factors for doing business in Sri Lanka [39].



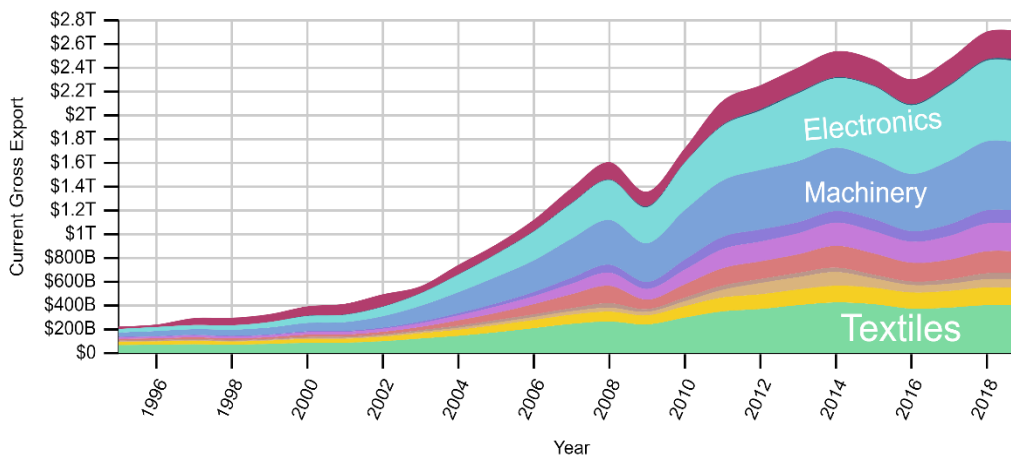
**Fig. 6. No. of Industry Establishments according to the Province**  
 Source: Annual Survey of Industries 2014- 2017



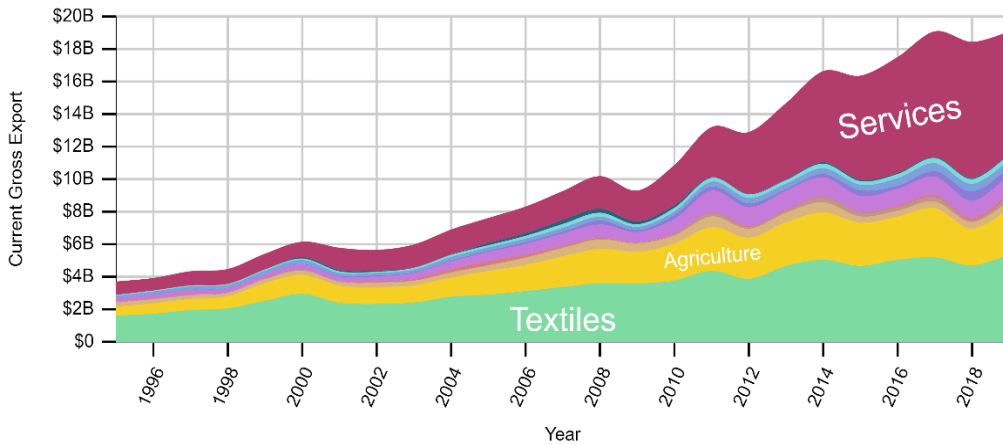
**Fig. 7. Exports composition of India**  
 Source: Atlas of Economic Complexity, 1995-2019



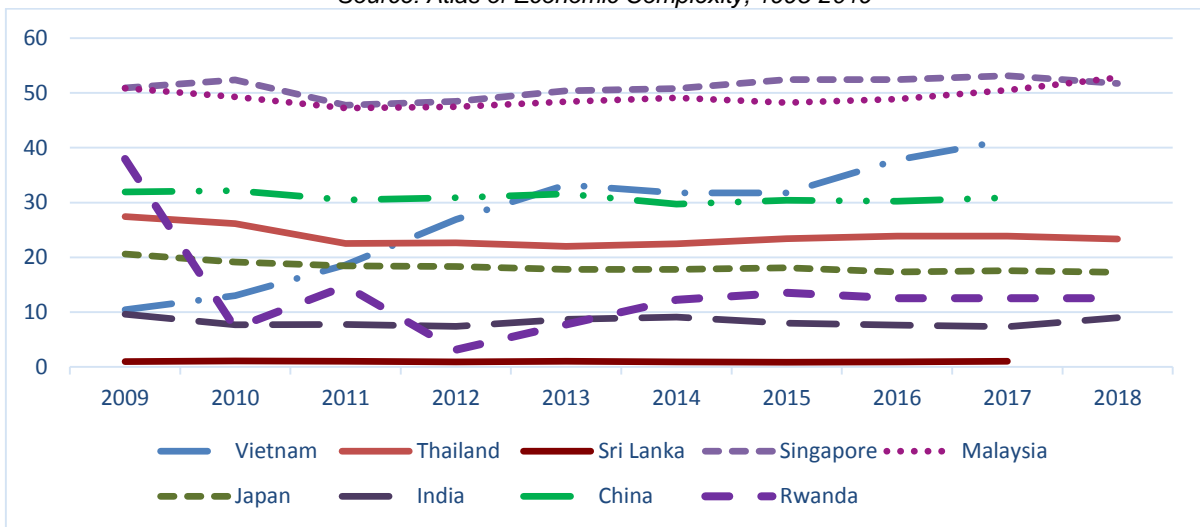
**Fig. 8. Exports of Vietnam**  
 Source: Atlas of Economic Complexity, 1995-2019



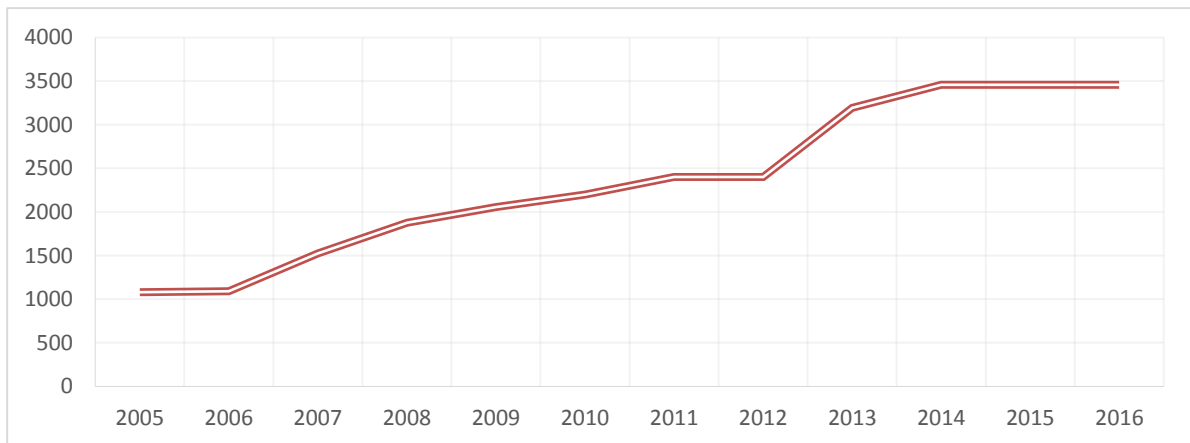
**Fig. 9. Exports of China**  
 Source: Atlas of Economic Complexity, 1995-2019



**Fig. 10. Exports of Sri Lanka**  
Source: Atlas of Economic Complexity, 1995-2019



**Fig. 11. Minimum Wage Rate Index Number for Industry Sector in Sri Lanka 2005- 2016**  
Source: Department of Labor Sri Lanka, 2016 [55]



**Fig. 12. High technology export share from the total manufacture exports in Sri Lanka**  
Source: World Bank Data 2009- 2018

**Table 2. Global Competitive Index - Technological Progress Evaluation in Sri Lanka**

Category	Rank/137	Score (1- 7)
Technological readiness	106	3.2
Availability of latest technologies	90	4.3
Firm-level technology absorption	79	4.3
FDI and technology transfer	99	4.0
Internet user percent pop.	97	32.1
Fixed-broadband Internet subscriptions /100 pop.	89	4.1
Internet bandwidth kb/s/user	95	22.0
Mobile-broadband subscriptions /100 pop.	121	18.3

Source: *Global Competitiveness Index- 2018*

#### 4.5 Lack of Credit and Un-favored Monetary Attributes [27]

The main obstacle to the development of small and medium-scale entrepreneurs in Sri Lanka is financial access. According to a survey conducted by the Ministry of Industry and Commerce, 59 percent of respondents have commented that lack of funds limits them from investing in innovations and meeting the buyers' demand. Asking for collaterals as security when issuing loans by the financial institutes and lack of accounting details to provide as proof for loan requests are other drawbacks that limit SMEs in finance accumulation. Currently, Sri Lanka is maintaining higher interest rates for loans and capital compared to other neighboring countries which varied between 14percent- 15percent per annum.

However, the recent bond issue further discouraged people from investing in stock market bonds. When considering the stock market, people are less knowledgeable about stock market investments and less aware of risk management. So, stock market investments in Sri Lanka are very low. Small and medium enterprises (SMEs) lack the capital to expand their businesses as access to small and medium enterprise loans is limited. As the Ease of Doing Business Index shows, out of all the criteria, the credit/capital accessibility rating is the lowest as 40/100 in Sri Lanka, which highlights the problem of capital formation in Sri Lanka [47].

Therefore, a good monetary policy is essential for a good financial environment in a country. The ability to easily access capital with low interest rates and low inflation rates will boost the country's investment. However, the current monetary base in Sri Lanka does not present a favorable environment for new investors to obtain sufficient credit for investment.

A quite lower interest rate in an economy is beneficial in every aspect. On the consumers' side, people will get more space to go for further consumption in commodities, and enterprises or industries get more space for capital expansion. By this, a favorable environment can be created for the industry sector while promoting foreign investments in the country [48].

Considering Fig. 15, the lending interest rate of Sri Lanka was recorded as 11.6 percent in 2018 while, from 1978, the lending rate did not fall below 5 percent [62]. Thus, so far, Sri Lanka holds the highest lending rate among the South Asian countries (Bangladesh- 9.7 percent, Bhutan- 14 percent, India- 9.5 percent, Afghanistan- 14.8 percent, Maldives- 10.7 percent and Pakistan- 8.5 percent) [48]. Considering some other developed countries, it can be seen that many of those countries maintain favorably lower lending rates (China- 4.3 percent, Australia- 5.3 percent, Canada 2.7 percent (2017), Italy- 9.5 percent, Japan- 1.0 percent, South Korea 3.7 percent, Malaysia- 4.9 percent, Sweden 3.7 percent (2006), UK- 0.5 percent (2014) and the USA- 4.9 percent).

In Sri Lanka, the domestic credit to the private sector (as a percent of GDP) has been recorded as lower as 45.4 percent in 2018. With higher lending rates, the amount of credit supplied to the private sector gets limited, and that further causes issues in industry capital accumulation. Considering other countries, a higher proportion of credits to the private sector (as a percentage of GDP) is recorded (China- 161.6percent, Australia- 139.4percent, Canada 124.4percent, Italy- 77percent, Japan- 168.8percent, South Korea 150.3percent, Malaysia- 120.4percent, Sweden 131.9percent (2006), UK- 134.7percent (2014) and USA- 187.2 percent) and this emphasizes the importance of improved credit facilities in a country to its development [49].

A well-managed inflation rate (the continuous increment in the domestic prices) is very much important to a stable industry sector. Higher inflation rates always discourage investments caused by a higher uncertainty, cause unfavourable competition with the foreign commodities, raise the costs of changing menu prices and cost of wages and discourage domestic savings. According to Fig. 16, the inflation rate of Sri Lanka showed many variations since 1966 which is often above 4 percent. However, in 2018, the National Consumer Price Index-based inflation rate was recorded as 2.1 percent which seemed relatively favorable to the industry sector. Yet, this rate is still higher compared to the inflation rates of some developed and developing countries like Australia (1.9 percent), France (1.1 percent), Germany (1.4 percent), Italy (0.6 percent), Japan (0.5 percent), Malaysia (0.9 percent), and Maldives (0.1 percent) [49].

#### **4.6 Stagnant Productivity Caused by an Insufficient and Relatively Less-Skilled Labor Force [27]**

In 2020 (Q1), the highest employment share has been recorded by the services sector as 46.4 percent while the industry sector recorded a 27.1 percent share from the country's total employment. Currently, Sri Lanka is experiencing an underemployment situation in the agriculture sector. Due to some educational, traditional, and mobility issues, people in other sectors are limited to seeking employment in the industrial sector. Another major issue that needs to be addressed immediately is the lack of adequate vocational training and technical knowledge of the country's workforce, as the industrial sector has to bear the high cost of limiting its ability to absorb new technological and technological advances due to low technical expertise [27].

Even though Sri Lanka is blessed by free education and a higher school enrollment rate, the skills development of the workforce hasn't been targeted sufficiently through the education system of Sri Lanka. Currently, along with globalization, Sri Lankan industrial enterprises highly expecting a dynamic workforce with higher soft skills, managerial and technical skills which seems to be lacking among most Sri Lankan graduates and secondary level students. On the other hand, the number of students in sciences, engineering, and the technical stream is relatively low compared to the commerce and art streams in both secondary and higher

educational levels. Also, those who stop their studies from primary level or secondary level education are not very much interested to go for tertiary education which provides technical and technological education.

According to Table 4, Sri Lanka holds one of the least labor participation rates among the above Asian countries. In 2019, the labor force participation rate in Sri Lanka was 58.7 percent and also recorded a declining trend recently. This emphasizes the insufficiency in the labor capacity of Sri Lanka. On the other hand, the increasing female unemployment rate is another specific issue in current Sri Lanka (Fig. 16). While other countries recorded a lower level of women's unemployment rate or a downward female unemployment trend line, Sri Lanka holds a stagnated female unemployment trend line in recent years. Sri Lanka as a country with the highest female population, this kind of trend in female unemployment could be very much disadvantageous for industrial development.

On the other hand, the severe brain drain that has taken place in recent years raises the issue of not having enough unskilled and educated workers to serve the country. Although this situation is considered a "brain gain" based on the amount of foreign currency flowing back into the country, the lack of a skilled workforce to use for local industries is a significant shortcoming. According to W.A. Wijewardene, former Deputy Governor of the Central Bank of Sri Lanka, 32% of annual migrants are currently skilled workers who are considered an essential resource for industrial development in the country [50].

Among South Asian countries, Sri Lanka had the highest migration of people with tertiary education at 27.5 percent in 2019, followed by Afghanistan (13.2 percent), Pakistan (9.2 percent), Bangladesh (4.7 percent), and India (4.2 percent) [50]. Most people stated that less attraction for work with a lower level of rewards and recognition, lower economic benefits, fewer opportunities for children's education, and less priority for ideas and innovations in Sri Lanka as the reasons for such a decision [51]. If these immigrants return with better knowledge and more technological expertise can be considered as an opportunity but, if not, the loss to the domestic economy would be severe.

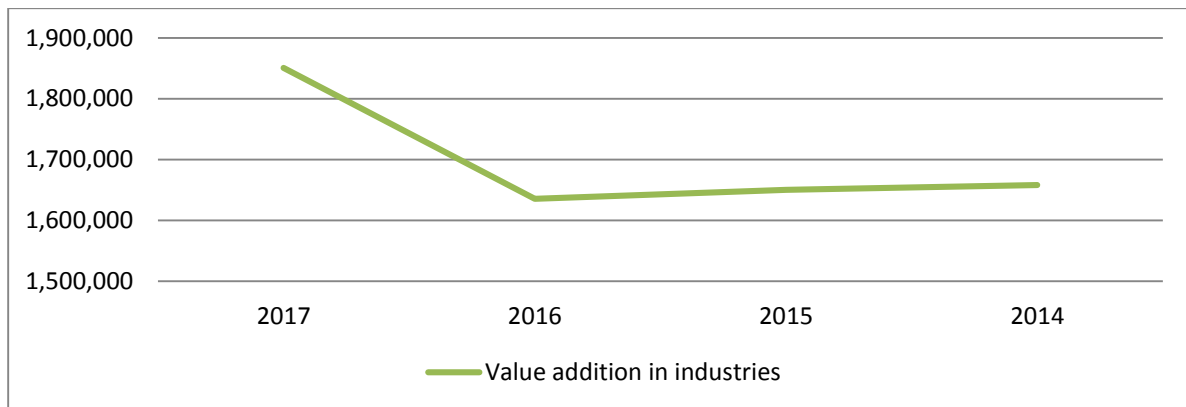
Not only promoting employment but also higher productivity is important to achieve higher growth in any sector of a country. Proper investment in labor skill improvement, absorbing technology to

the industry sector, promoting research and development to support innovative ideas are the key areas that should be highly concerned to boost the development in the industry sector of Sri Lanka. However, by looking at the various government policies so far, only a few had put concerns on the productivity measures for the industry sector development were seen. According to the Global Competitive Index, Sri Lanka ranked at 131/137 in the labor market efficiency category and pointed out the inadequately educated workforce as one of the key barriers to starting a business in Sri Lanka.

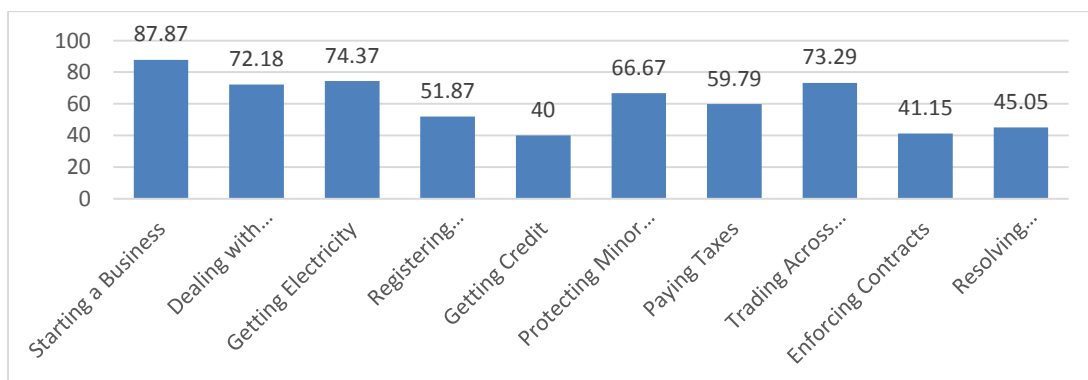
knowledge and technology through mergers and acquisitions were the leading factors of high labor productivity in the industry sector [52].

According to the Minister of International Trade and Industry (MITI), Malaysia, Darell Leiking, “To shift to productivity-driven growth, the industry needs to enhance innovation, identify new high value-added products and services, and upskill the labor force while equipping them with the latest knowledge and technology. This would necessitate the industry to break away from the conventional ‘business as usual practices’ [53]. As mentioned in the Vienna Conference on Science and Technology in 1979, to fast up a country’s growth rate through increased productivity, at least 1 percent of the national GDP has to be allocated for research and development. Regarding the productivity development in Sri Lanka, the proportion of government expenditure on R&D as a percentage of GDP was just 0.11 percent in 2015 [56] while it was 2.20 percent for Australia which is the highest in the world in the same year.

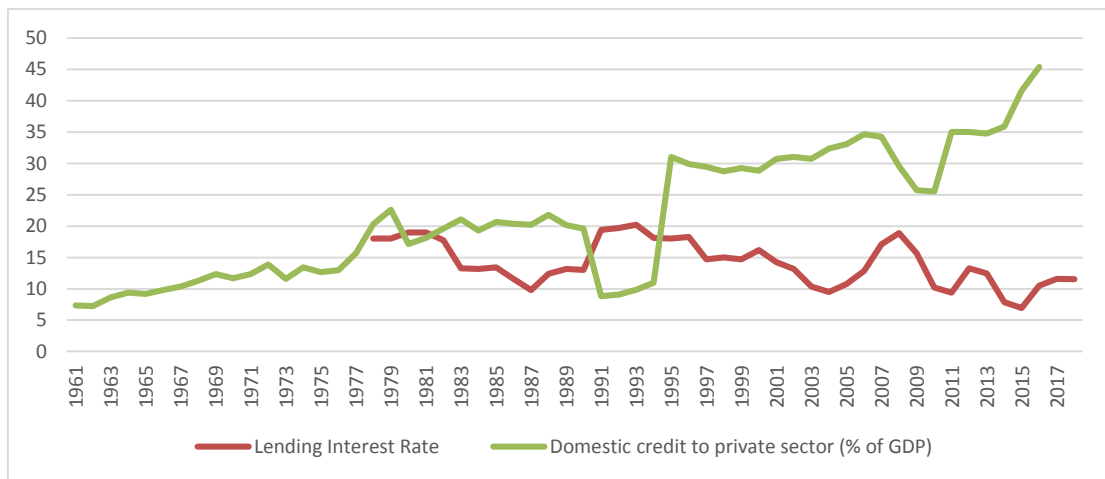
Fig. 18 shows the industry sector value added per worker in selected countries. Even though Sri Lanka performs better than India, Vietnam, and Pakistan in value added per worker, it is still not at a satisfactory level and started to stagnate during recent years. In China and Malaysia, even with a higher labor force, it is impressive how these countries managed to continuously increase the output per worker. In China, shifting labor from low productive sectors to high productive sectors (shift effect) and gaining new



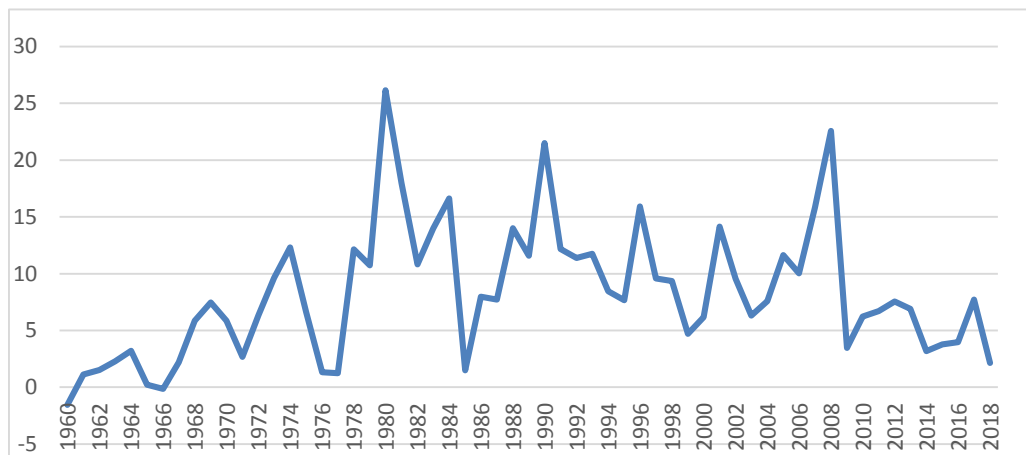
**Fig. 13. Industry sector value addition to the total output in Sri Lanka**  
Source: Annual Survey of Industries 2014- 2017



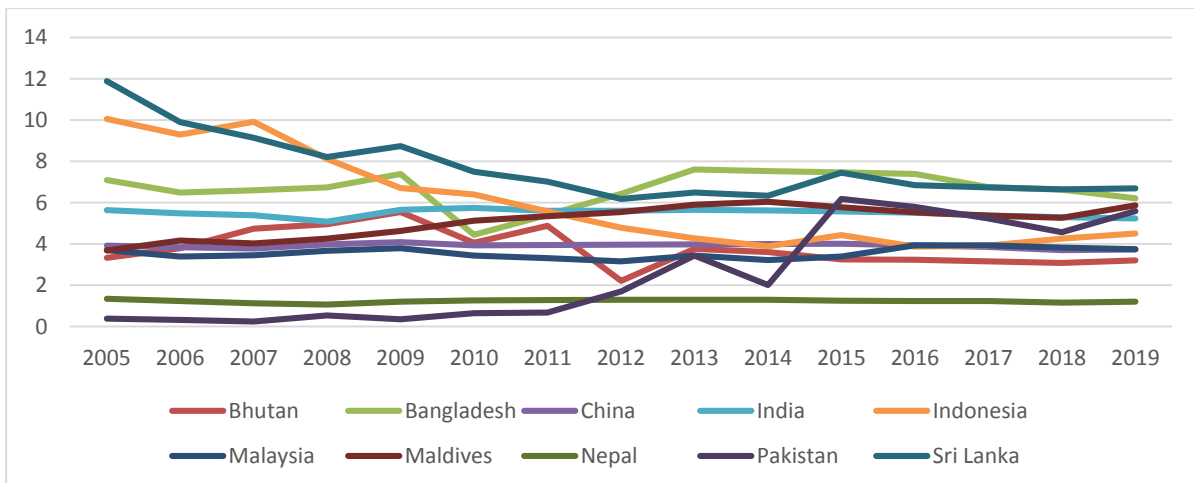
**Fig. 14. Ease of Doing Business Scores/100- Sri Lanka**  
Source: Doing Business Index for Sri Lanka- 2019



**Fig. 15. Domestic Credit to Private Sector (as a percentage of GDP) and Lending Interest Rate (percent) of Sri Lanka**  
 Source: World Bank Data 1961- 2018

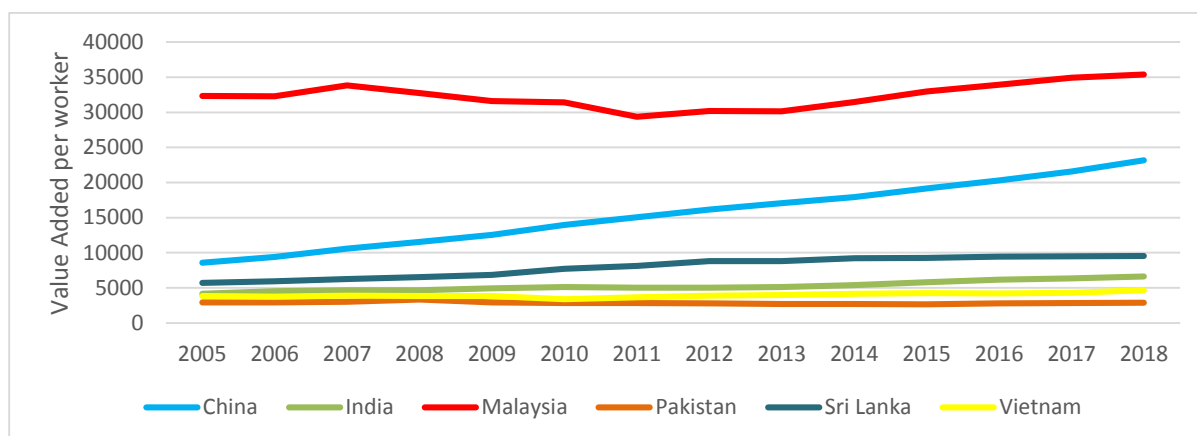


**Fig. 16. Inflation Rate based on National Consumer Price Index of Sri Lanka (annual/ percentage)**  
 Source: World Bank Data 1960- 2018

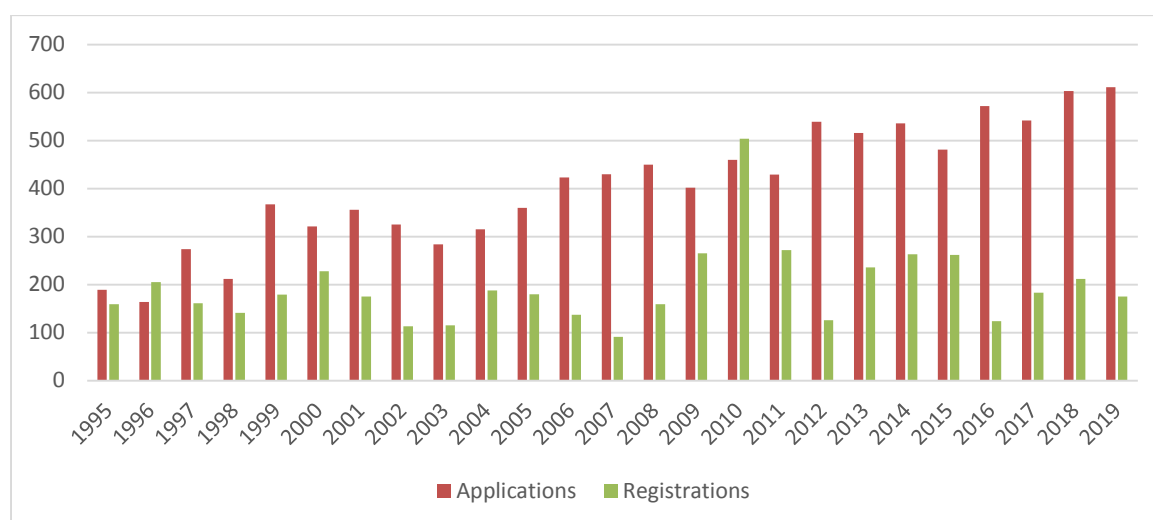


**Fig. 17. Female unemployment rate in selected countries (as a percentage of total the female labor force)**  
 Source: World Bank Data 2005- 2019





**Fig. 18. Industry sector value added per worker in selected countries (constant US\$ 2010)**  
 Source: World Bank Data 2005- 2018



**Fig. 19. Yearly Distribution of Granted Patents and Patent Applications in Sri Lanka**  
 Source: National Intellectual Property Office of Sri Lanka, 1995- 2019

**Table 3. Labor force participation rate (ILO estimated) of selected countries**

Country	2014	2015	2016	2017	2018	2019
Afghanistan	48.2	48.4	48.5	48.7	48.8	48.9
Bhutan	62.6	65.9	66.1	66.3	66.4	66.7
Bangladesh	56.7	56.6	56.6	58.9	59.0	59.0
China	70.2	69.8	69.4	69.0	68.5	68.0
India	51.3	50.8	50.3	49.9	49.4	49.3
Indonesia	66.8	66.5	66.2	67.0	67.5	67.5
Malaysia	64.3	64.4	64.3	64.2	64.2	64.3
Maldives	68.2	68.2	67.6	68.4	68.8	69.8
Nepal	83.1	83.2	83.4	83.6	83.7	83.8
Pakistan	52.1	53.0	52.8	52.6	52.4	52.6
Philippines	62.8	62.2	62.2	59.7	59.6	59.6
Sri Lanka	53.9	54.8	55.0	54.5	54.1	53.9
Thailand	69.7	69.0	68.1	67.3	67.6	67.3
Vietnam	78.4	78.2	77.7	77.8	77.5	77.4

Source: World Bank Data 2014- 2019

**Table 4. Time required and no. of procedures to complete in some industry operations in Sri Lanka**

Country	Paying Taxes		Construction Permit	
	No. of Payments	Time (hours)	No. of Procedures	Duration (days)
Sri Lanka	62	256	21	214
Singapore	5	84	11	38
Thailand	23	264	11	156
Bangladesh	21	302	14	231
Indonesia	51	266	18	176
Vietnam	32	1050	13	194

Source: Institute of Policy Studies of Sri Lanka, 2010

As in Fig. 19, it can be seen that even though the applications for patent licenses are increasing, the number of registered patents is getting decreased year by year. This clearly shows the country's inefficiency in advancing industry sector productivity through new ideas due to the unavailability of sufficient opportunities and insufficient identification given to the innovators.

#### 4.7 Long Procedures and Excess Time Requirement for Starting New Ventures [47]

Sri Lanka ranks 99/190 in the 2019 Doing Business Index but, is ahead of other South Asian countries such as Pakistan (136), Maldives (139), and Bangladesh (176). In the report, the need to adopt more procedures to starting a business has been highlighted as another obstacle to starting a new business venture in Sri Lanka. Considering the time required to complete the procedures to start a new business, it is 9 days in Sri Lanka while New Zealand which ranks 1st in the index only takes 0.5 days to start a business [47].

However, in 2019, The World Bank Doing Business report has mentioned that Sri Lanka is successfully following the suggestions given by the previous report and required actions have been taken to ensure a better business environment with better access to the investors (The World Bank Doing Business Index, 2019).

#### 4.8 Insufficient Market Linkage, Information, and Under-Utilization of Domestic Resources

Insufficiently well-maintained and organized local and international production networks and the global corporation is another key issue prevailing in current Sri Lanka. Currently, Sri Lanka is

lagging in maintaining proper linkage in the both domestic and world market. As a developing country, proper access to information, inputs, technology, and other contributed factors is crucial to ensure a boosted development in the industry sector. According to Athukorala & Jayasuriya (2004), lack of information on employment and wages is a key area to be immediately addressed to attract more investments to the industry sector [11].

On the other hand, Sri Lanka is one of the countries with nourished valuable natural resources. Especially, the industrial mineral resources like Graphite, Ilmenite, Rutile, Zircon, Quartz, Feldspar, Clay, Kaolin, Apatite (Phosphate Rock), Silica Sand, Garnet sand, Mica, Calcite, and Dolomite are abundance in Sri Lanka but those resources are heavily under-utilized [58]. Pulmudai beach sand deposit is another valuable under-utilized resource in Sri Lanka that contains one of the most expensive metals in the world; titanium [54].

## 5. CONCLUSIONS AND RECOMMENDATIONS

In this paper, the industry sector of Sri Lanka has been critically evaluated through industrial policies implemented so far and issues related to the industry sector. Using substantial literature findings and secondary data gathered from reliable sources, the paper has been developed. Considering the industrial policies from the British ruling period up to now, it is clear that even after following various policies by different governments, the recorded industrial development is comparatively less due to some administrative and structural drawbacks in the country. Especially, according to the findings of various reports and literature writings, political and policy instability, lack of infrastructure, lack of credit, lack of labor, lack of geographical and

composition diversification, stagnated productivity, lack of information, under-utilization of resources, and long procedures in starting businesses can be identified as the key issues faced by the current industry sector which should be immediately addressed to achieve sustainable industrial development.

According to the World Bank Doing Business index (2019), from 2008 to 2019, Sri Lanka has followed many policy recommendations given in the reports such as introducing an online payment system to manage corporate income tax, VAT, and employee trust fund, providing online access to building regulations to increasing transparency, removing the stamp duty on shares to make less costly of starting a business, strengthening minority investor by establishing institutional support, etc. to support industrial development in the country.

As many prior studies have mentioned, ensuring a safe and more independent political environment by ensuring war free society, ensuring corruption-free administration sector by strengthening the law and order of the country with a transparent judicial service, and reducing the complexity of the administrative body can be emphasized as the recommendations to achieve political stability in the country. On the other hand, to achieve the policy progress and make a favorable and attractive environment to the investors, stabilizing higher inflation rate through the market and organizational interventions, lowering lending interest rates through stabilizing and managing the inflation rates, reducing complexity in the taxation system, introducing transparent tax administration system and providing incentives regarding taxes to the investors can be recommended.

Considering the labor force, the need of improving the exposure to vocational training and skill development for all levels of education must be promoted to match the skill levels of the workforce to the employment environment in the present globalized world. Introducing skill-based practical sessions to the school and university curriculums and introducing re- skill-enhancing programs to the workplaces can be suggested to overcome the skill insufficiency issue. Increasing women labor force participation and entrepreneurship by empowering women through introducing flexible credit systems, providing technological and technical knowledge, and providing incentives to the female entrepreneurs

can be recommended to encourage women participation in the industry sector.

Moreover, a better road network with further extended highways, speed rail, ports, and airports are the essential physical infrastructure to be developed to ensure proper linkage of the resources domestically and globally. For example, the country must take advantage of well-situated marine harbors around the country to attract more investments, low-cost resources, and new technological appliances to the country (Institute of Policy Studies of Sri Lanka, 2010; Amarasekara, 2018; Rajapakshe, 2018). Along with these all adjustments, promoting FDI inflows is an essential factor that needs to be prioritized to absorb new knowledge and technology to the country while increasing investments and market linkages. This would help to overcome the stagnated productivity issue while eventually developing the industry sector via 'technology spillover through FDI'.

Stabilization of exchange rates, minimization of time taken for business operations, identification of currently unused resources, identification of abandoned plots of land for setting up large factories, etc. will further increase the attractiveness of foreign direct investment in the country. However, to ensure the long-term stabilization of the industry sector, promoting domestically and internationally diversified industries is essential. Thus, encouraging producers to engage in product diversification by providing relevant technical and technological knowledge with other incentives is very much important. Especially, to efficiently respond to the external shocks and to survive from the adverse effects of the international market forces, a strong and diversified industry sector is critically important.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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