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Professor H A de S Gunasekara Memorial Oration 2018

Sri Lanka's Economy at a Crossroads: The Way to Rescue the Ailing Economy

W. A. Wijewardena

President, BMS and former Deputy Governor, Central Bank of Sri Lanka

Abstract

Sri Lanka is at a crossroads today because it is ensnared in what is known as the middle income trap. It was easy for Sri Lanka to move up from a low income country to a lower middle income country by using its abundantly available cheap labour resources. However, moving up further to becoming a rich country will pose a greater challenge. Unless it attains an economic growth rate of about 9% per annum in the next 15 year period, it is unlikely that it will be able to beat the middle income trap. The way to do so is to produce for a market bigger than the market in Sri Lanka and supply goods that are demanded by that market. It requires the country to convert its production system from a simple technology based one to a complex technology one and join the global production sharing network to keep its presence in the market. The flipside is that these are challenging targets but not impossible since there are many countries that have done so with appropriate investment in science and technology leading to research, development and marketing.

Delivered on December 4th 2018 at the University of Peradeniya

Professor H A de S Gunasekara Memorial Oration 2018

Sri Lanka's Economy at a Crossroads: The Way to Rescue the Ailing Economy

W A Wijewardena¹

Vice Chancellor, Deputy Vice Chancellor, Deans of the Faculties, Heads of Departments, Administrative Officers, members of the Gunasekera family, members of the Prof. H. A. de S. Gunasekera Memorial Trust Fund, Ladies and Gentlemen, friends and students.

It is indeed a pleasure as well as an honour for me to be invited to deliver the Professor H A de S Gunasekera Oration 2018. Professor Gunasekera was commonly known by his initials, HAdS, both within and outside Sri Lanka. Though I did not have an opportunity to study under him, I have been guided by his wisdom on economics through the numerous papers and books he had published. It was a common habit during our university days in the late 1960s, whenever we met students from other universities, to trade stories about famous dons in our respective universities. Students from Peradeniya used to speak fondly of HAdS as a 'calm, quiet and serene academic of high moral standards' who always thought of the best for his students. In the mid 1990s, I met an emeritus Professor of Economics from the University of Tokyo when he visited Sri Lanka with a team of experts from JAICA to assess Sri Lanka's development assistance needs. He told me that, for him, it was like coming home, for he had studied at Peradeniya in the early 1950s under HAdS when he did a special degree in economics there. At that time, Peradeniya was a centre of learning in Asia, and HAdS was one of the academics who had contributed to its elevation to that high position.

¹Email: waw1949@gmail.com

The doctoral thesis ‘From Dependent Currency to Central Banking in Ceylon’ submitted by HAdeS to the University of London, and popularly referred to in its short version as “Dependent Currency”, was published in 1962 after being revised and re-edited. As many reviewers have noted, it was a seminal contribution to the setting of the monetary and financial system in an economy that had transformed from feudalism to semi-capitalism. I emphasise the term ‘semi-capitalism’ here because what had been in operation in colonial Ceylon was not a pure capitalist system of the Adam Smith type, but a system carefully managed and guided by the colonial rulers. There are plenty of examples in his Dependent Currency to prove this point. The private sector based medium of exchange that was prevalent in Ceylon from early 19th century continued to be regulated and controlled by the Colonial administration.² Whereas banks in the UK were free from regulation, banks to be established in Ceylon had the restriction of a leverage ratio of only 3 and, if a bank became insolvent, the shareholders were required to pay double the value of their shareholdings to meet the debt of the bank.³ This was completely contrary to the principles of joint stock companies where shareholders were required to pay only the unsubscribed part of their shareholdings, if any, if a company became insolvent. In 1884, the currency issue was fully nationalised by setting up a Currency Board.⁴ Land grants were given to British planters free in the initial stage, but land was sold to them later at an ‘upset’ price of 5 shillings per acre.⁵ Commerce and industry were stringently regulated by the colonial government to ascertain its own business interests.

I have chosen, on the request of the HAdeS Gunasekara Oration Trust, ‘Sri Lanka’s Economy at a Crossroads: The Way to Rescue the Ailing Economy’ as the title of this oration. We are now in 2018 and about to enter the third decade of the third millennium. Perhaps, an appropriate

² Gunasekara, H A de S, (1962), From Dependent Currency to Central Banking in Ceylon, C Bell and Sons, London, Chapter 2.

³ Ibid.

⁴ Ibid, p 75

⁵ Ibid, footnote 43, p 23.

starting point for the discussion would be whether Sri Lanka faced a similar problem when HAdS joined the bureaucracy leaving his academic job temporarily in 1970 and accepting the top position of the Secretary to the Ministry of Planning and Employment in the newly elected United Front Government under Premier Sirimavo Bandaranaike. He had accepted this position on the personal request of the Prime Minister and would have thought that it was a good opportunity for him to put his economic wisdom into practice. It was this Ministry which was responsible for leading the country to a new socialist era in collaboration with other government outfits. He held this position till mid 1977.

A noteworthy work completed during his tenure as Secretary was the release of The Five Year Plan 1972-76 prepared under his direction by a team of economists attached to the Ministry.⁶ The Plan was not implemented fully to realise its socio-economic goals due to lack of resources. But, there is an amazing similarity of the diagnosis of the economic issues, strategies to be followed and the goals of society in the early 1970s and in the early 2000s.

The Plan starts with a statement that it is presented ‘at a time of social and economic crisis unparalleled in the history of modern Ceylon’.⁷ The severe foreign exchange crisis and the problem of unemployment, especially among the youth, have been the most pressing economic issues of Ceylon at that time. This is exactly the situation which Sri Lanka faces today. The Plan had not emphasised the need for having high economic growth because, as it had declared, the growth in Gross National Product (GNP) was to hide many qualitative issues facing a nation. It had noted, apparently with satisfaction, that per capita real income had grown at an average of 2.1% annually during 1959 to 1970. Yet, the fundamental problems of the economy, namely, unemployment, income disparities and foreign exchange crisis, had remained unresolved. GNP per capita had also not indicated the ‘virtual

⁶ Ministry of Planning and Employment, (1971), The Five year Plan 1972-76, Colombo.

⁷ Ibid, p 1.

stagnation of certain sectors in the economy’ and the ‘maturing crisis within society’.⁸ The Plan had aimed at using physical and human resources to create an economy benefitting ‘the nation as a whole’, a goal known as inclusive growth today and eliminating income disparities which have been the bane of society. Thus, the objective of the Plan, as explicitly laid down in it, had been to meet the ‘socialist aspirations of the masses’ which had elected the government into power in the General Elections held in May 1970.

Societies throughout history have been intolerant of capitalist classes enjoying disproportionately high shares of the national wealth, although it was these capitalist classes which have been responsible for organising economic enterprises to create such wealth.⁹ In recent times, this was presented cogently by Piketty who argued that in 20 countries made up of the United States of America and European nations, the rich have used capital inheritances to appropriate for themselves a larger portion of national income.¹⁰ Similar sentiments have been expressed in The Plan drawing on the data on disparate income distribution revealed in the Central Bank’s Socio Economic Survey of 1969-70.¹¹ Not only was there an unfair distribution of income, but also a false social value system. In the latter, members of society, especially the youth, had sought to imitate the wasteful consumption patterns of the rich, which could not be afforded by the prevailing economic conditions of the country. However, income distribution in Sri Lanka has remained the same throughout its post-independence history. In 1953, the lowest 20% of the population had earned an income share of 5%, while the highest 20% had earned 57%. In 2016, the first category had earned a share of 4.8%, while the latter category had earned a share of 50%. Thus, the poorest have become poorer, while the share of the richest had been reduced. It is the middle class which has been fattened

⁸ Ibid, p 2.

⁹ A vivid description has been presented by Harari, Yuval Noah, (2011), *Sapiens: A Brief History of Humankind*, Vintage Books, London, Chapter 16.

¹⁰ Piketty, Thomas, (2014), *Capital in the Twenty First Century*, Harvard University Press.

¹¹ The Five Year Plan 1972-76, p 2.

at the expense of both the poor and the rich, a development known as Director's Law, named after the economist Aaron Director.¹²

The diagnosis of economic issues faced by Ceylon in the early 1970s has been the same as today. There was a paucity of savings, exacerbated by dissavings of the government, to meet the required investments.¹³ Government savings had been low because of high current expenditure, relative to revenue. Hence, to generate savings for investment, the Plan had recommended that the budget should run a 'substantial surplus' in its current account and to generate the same, past policies should be 'drastically revised'.¹⁴ Without this strategy, the government had to borrow to finance its investment expenditure. Though it was a mere book entry from the private sector to the government, the Plan had concluded that it would put more money in the hands of the people, creating a demand greater than the supply of goods and services. The rationale here is the generally known Keynesian multiplier effect. It would lead to two outcomes, according to the Plan. First, the increased demand would create shortages unless they were met out of imports. But imports were constrained by lack of foreign exchange. Second, import and exchange controls had to be introduced to overcome the problem but it would lead to increases in prices, emergence of blackmarketeers, racketeers and profiteers.¹⁵ This is the critical issue faced by any open economy. That is, the aggregate demand boosted by increased government expenditure programmes financed out of borrowing or printing money will leak out of the economy by way of increased imports causing long term balance of payments problems.¹⁶ Hence, the solution to the problem of lack of foreign exchange would have been not to resort to import and exchange controls, but to curtail government expenditure on the one side, and to increase exports, on the

¹² For details see: Stigler, George J, (1970), 'Director's Law of Public Income Redistribution', *Journal of Law and Economics*, Vol 13, No 1, pp 1-10.

¹³ The Five Year Plan, p 6.

¹⁴ Ibid, p 7.

¹⁵ Ibid.

¹⁶ The architect of the Central Bank of Sri Lanka, John Exter, warned of this outcome in the report recommending the establishment of a central bank in Ceylon. See: Exter, John, (1949), *Exter Report*, Government of Ceylon, Colombo, p 27.

other. Yet, the strategy suggested in the Plan had been to curtail imports through domestic production and to set up industries that would use less imported raw materials. The designers of the Plan cannot be faulted for this because that was the strategy adopted by many countries which Ceylon used as examples for stimulating growth.¹⁷ It was indeed a system of curtailing domestic demand to suit the available foreign exchange resources. However, there was still a gap which was financed out of external borrowings. The Plan had recognised that it would lead to accumulation of external debt, the servicing of which would create further problems for the economy in the years to come.¹⁸ Thus, the problems faced by Sri Lanka's economy had been the same as today and one could appropriately label it as an economy at a crossroads, the title of today's oration.

I will now revert to the topic of this afternoon.

This is not the first time Sri Lanka's economy has been at a crossroads. As mentioned above, it had been at a crossroads, as per the designers of the Five Year Plan 1972-76. When the new open market economy policy was introduced in 1977, the Central Bank used the word that the economy was experiencing a 'watershed', a change from an inferior system to a better system.¹⁹ It then appears that the Sri Lankan economy has been moving from one crossroads to another frequently. Despite the fact that the avowed goal of the country has been to deliver prosperity and riches to its people, the whole of the post-independence period has been marked by low growth that has fluctuated continuously from high to low.

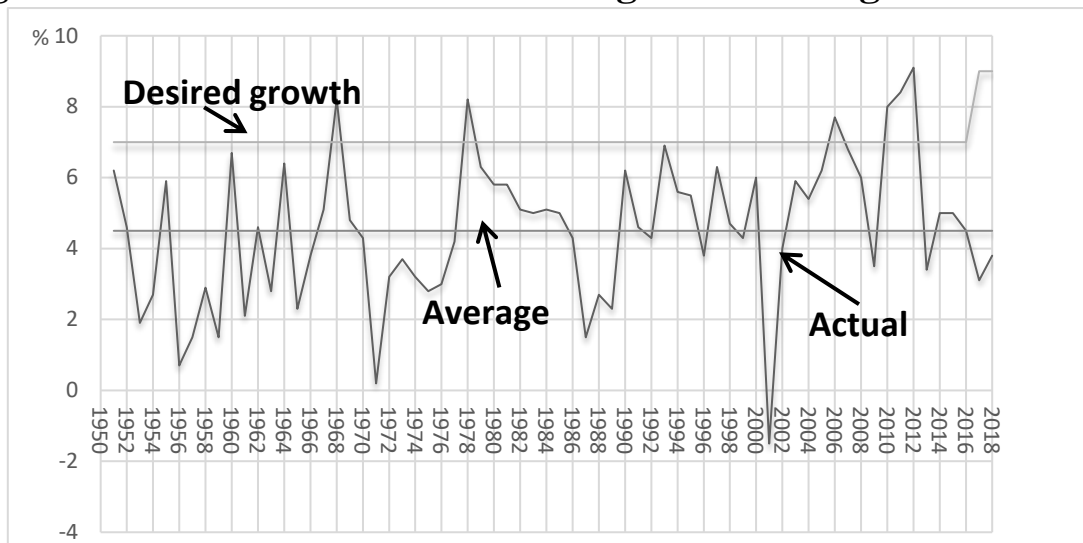
Figure 1 shows Sri Lanka's economic growth during 1950-2018.

¹⁷ For instance, India too adopted the same strategy after independence in 1947. See: Das, Gurcharan, (2002), *India Unbound*, Penguins Books, New Delhi.

¹⁸ The Five Year Plan 1972-76, p 9.

¹⁹ Wijewardena, W A, (2016), 'Economics of A S Jayawardena: As's short spell as Central Bank's Economic Research Director' in Daily FT, (Available at: <http://www.ft.lk/columns/economics-of-a-s-jayawardena-part-iii-ass-short-spell-as-central-banks-economic-research-director/4-564335>) (Accessed on 20.11.2018).

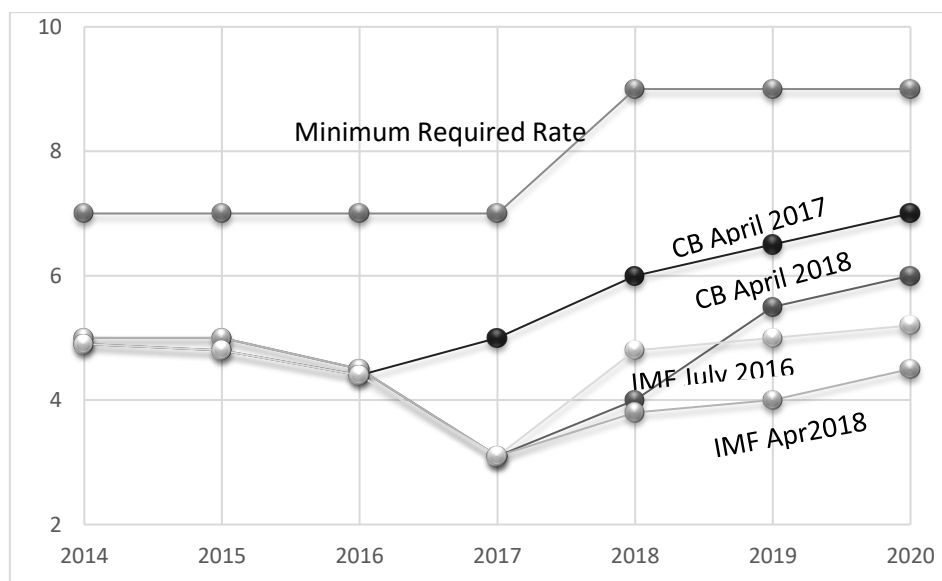
Figure 1: Sri Lanka's real economic growth during 1950-2018



Source: Central Bank of Sri Lanka digital data base

Sri Lanka needed a desired growth of 7% continuously to become a rich country within a generation, but in the whole of the post-independence history, that rate has been exceeded only on five occasions, and those again have been way apart from each other. In the next three year period, the best projections made about Sri Lanka's economy as at November 2018, has been a growth rate of around 4-5%. This is presented in Figure 2 below:

Figure 2: Sri Lanka's medium term growth projections



Source: Central Bank; IMF

Sri Lanka's slow economic growth has ensnared it in what is now known as the middle income trap, a term coined by a group of economists attached to the World Bank,²⁰ to theorise the failure of some developing countries to move from an upper middle income country to a rich country.²¹

According to the proponents of the middle income trap hypothesis, a poor country can easily move from a low income country to a lower middle income country. That is because, being a low income country, it could make use of the abundantly available cheap labour for the production of mass consumption goods and supply the same to rich Western nations at a competitive price. Sri Lanka did so by using its labour resources to produce apparels with a significant competitive edge from around 1980. However, once a country becomes a lower middle income country, it will experience an increase in labour costs making it difficult for it to compete in the cheap labour market with newly entering poor countries which have a relatively lower wage level compared to countries which have now attained the lower middle income status. As per statistics compiled by the International Labour Organisation (ILO), in 2014, Sri Lanka had the lowest monthly wages for garment workers out of 25 major garment exporters in the world.²² However, actual costs to employers are about two and a half times higher than the minimum wages set for the industry making Sri Lankan garment exports less competitive in the global markets.²³ As a result, Sri Lanka's garment exports which are less than 2% of the global trade in garments have saturated in the last few years making it difficult for the country to rely on this source of income anymore. Accordingly, though garment exports have increased in absolute terms over the

²⁰ Chiefly due to the work of Kharas and Kohli. For a good exposition of the subject, see Kharas, Homi and Kohli, Harinder (2011), "What is the Middle Income Trap, Why do Countries Fall into It and How Can it be Avoided?" in *Global Journal of Emerging Market Economies*, November; also available at <http://journals.sagepub.com/doi/pdf/10.1177/097491011100300302> ; accessed on 15.11.2018.

²¹ The following sections draw on Wijewardena (2018d).

²² https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_317002.pdf (accessed on 15.11.2018).

²³ https://globalpressjournal.com/asia/sri_lanka/sri-lankan-garment-factories-boost-wages-benefits-labor-shortage-looms/ (accessed on 15.11.2018).

years, they have slightly fallen as a share of total exports. In 2009, its share in total exports amounted to 46%. In 2017, it has fallen to 44%.

Sri Lanka is at a crossroads today because it cannot extricate itself from the middle income trap with the available economic resources and the production system it follows. The way to beat it is to transform the export sector into a modern sector and align its economy with the rest of the world, a policy involving the integration of the country's economy with the global economy. It is challenging and difficult, but not impossible if appropriate policies are adopted to modernise the export sector of the country.

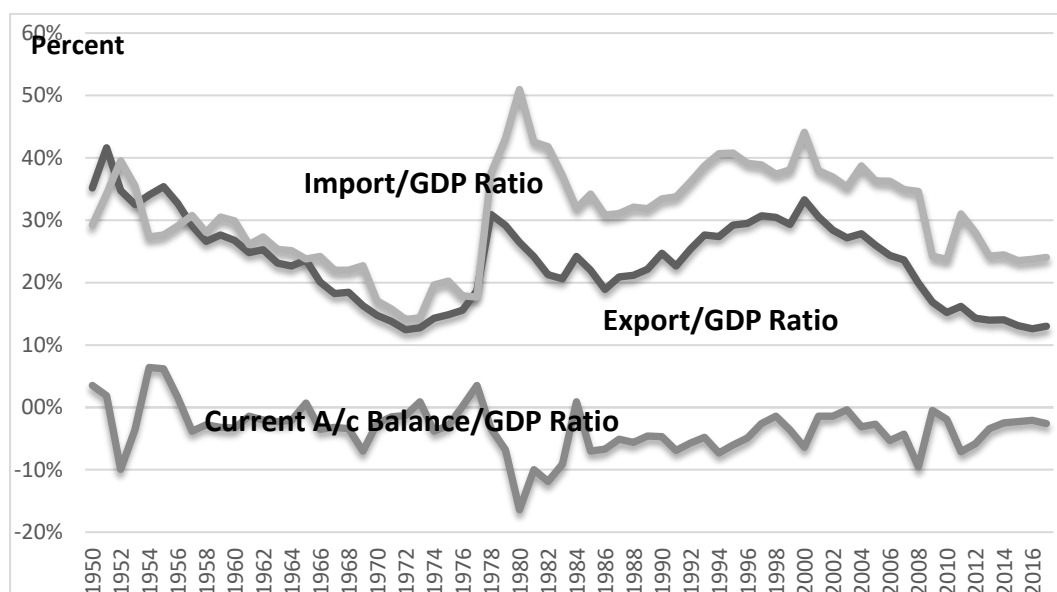
I now turn to the present state of the export sector in Sri Lanka.

Despite the export-led economic growth policy programme pursued by Sri Lanka since the adoption of an open economy system in 1977, the trade gap has widened creating a sizeable deficit in the current account of the balance of payments. In this policy, the export sector was incentivised through exchange rate reforms, provision of logistical support via modernising port and airport services and introduction of a targeted export drive by inviting foreign direct investments to export processing zones. These policies enabled Sri Lanka to dramatically change its export structure.²⁴ In 1976, the export structure was heavily biased toward the three tree crops – tea, rubber and coconut – with a share of 86% in total export earnings. The industrial products had a share of only 14%. By 2017, this structure changed to 24% from agricultural exports and 75% from industrial exports. This change included a host of new export products – minor agricultural products, textiles and garments, manufactured rubber products, and machinery and mechanical appliances – which were non-existent in 1976. Hence, there were appreciable gains by Sri Lanka after it had gone for the export led open economy policy in 1977. It indeed helped Sri Lanka to elevate its position from being a low income country to a lower middle

²⁴ For details, see, Yapa, Lloyd F (2017), *Export Competitiveness and Poverty Alleviation in South Asia with Special Reference to Sri Lanka*, Godage Brothers, Colombo, Chapter 4.

income country. However, when compared with its peers and from a point of continued economic prosperity, the attainments have not been sufficient.

Figure 3: Sri Lanka's Exports, Imports and the Current Account Balance as a Percentage of GDP during 1950-2017



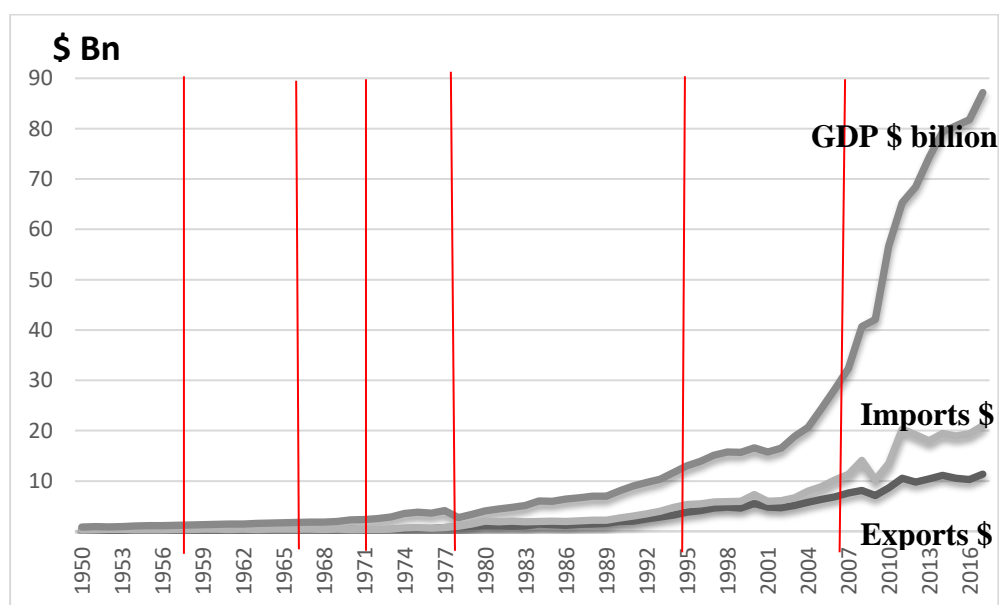
Source: Central Bank of Sri Lanka digital data base

In 1951, Sri Lanka was so heavily reliant on exports that its share in Gross Domestic Product (GDP) amounted to 42%. This ratio gradually declined over the years falling to 12% by 1972. It however, increased slightly to 16% in 1976 mainly due to the slower economic growth recorded by Sri Lanka compared to the growth in exports. After the introduction of the open economy policy in 1977, the share of exports in GDP rose to 30% in 1978, but the country could not sustain that high share since then. It gradually fell to 19% in 1986 before it started to reverse reaching a peak of 33% in 2000. After that high performance, exports began to fall once again in comparison to GDP. Finally, it fell to 13% in 2017. Meanwhile, imports were rising both in volume and as a share of GDP, exerting pressure on Sri Lanka's current account leading it to record a significant deficit. This in turn affected the country's overall balance of payments which was financed basically by

resorting to external borrowings and the rupee's ability to maintain a stable value. Accordingly, the country's foreign borrowings which amounted to 4% of GDP in 1948 increased dramatically to 60% in 2017. Figure 3 gives the ratios of exports, imports and current account balance to GDP during 1950 to 2017.

The inadequate performance of the export sector is evident from the faster growth in GDP in absolute terms compared to the absolute levels of exports and imports. Accordingly, GDP which amounted to US \$ 10 billion in 1993 had risen sharply to US \$ 87 billion in 2017, recording an eight-fold growth during the period. However, exports, in absolute terms, had risen more slowly. In 1993, exports amounted to US \$ 2.7 billion. It has increased to US \$ 11.4 billion in 2017, only a four-fold growth. Figure 4 presents Sri Lanka's GDP, exports and imports in absolute terms during 1950 to 2017.

Figure 4: Sri Lanka: GDP, Exports and Imports during 1950-2017



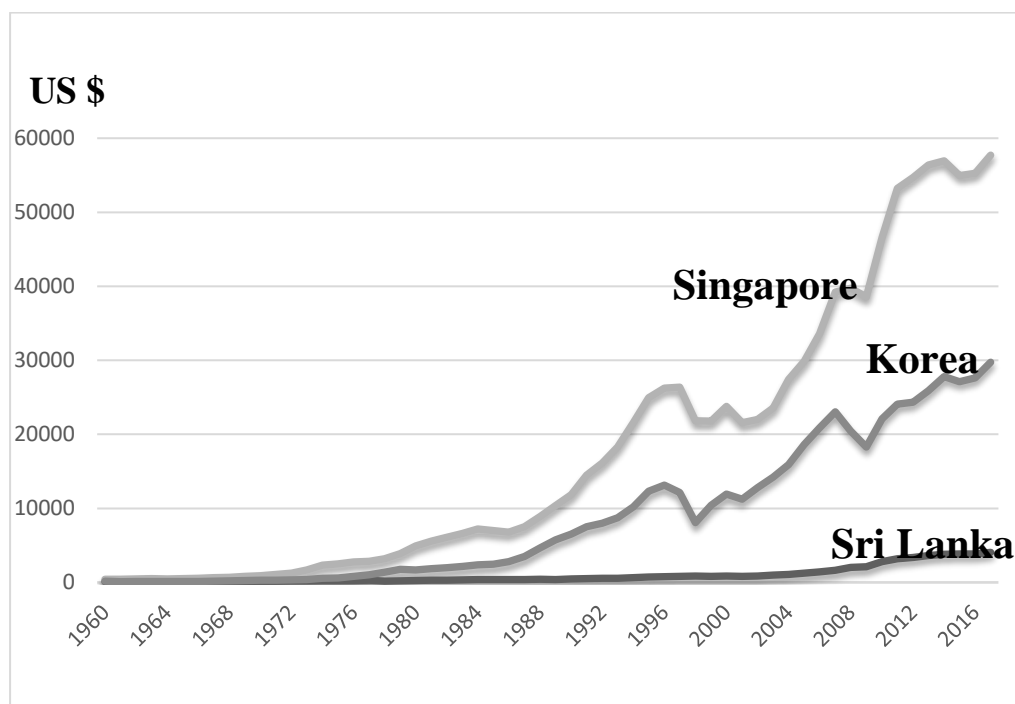
Source: Central Bank of Sri Lanka digital data base

The slow growth in exports has been the bane of Sri Lanka's economic performance in the past. The faster growth in GDP than exports reveals that the economic growth has basically been attained by concentrating

on domestic economy based economic policies. They offer the advantage of allowing a country to go through adverse external shocks with minimum damage to the economy. However, they do not help a country to grow because of the limitations in the domestic market. Hence, the growth rate to be attained is slower than the potential growth as well as the growth rates achieved by peers who have got integrated to the global economy.

Figure 5 shows the per capita income of Sri Lanka, Singapore and South Korea during 1960-2017. All these three countries started at the same level of per capita income in 1960.

Figure 5: Per capita income of Sri Lanka, Singapore and South Korea during 1960-2017



Source: World Bank

However, Singapore and South Korea adopted export led economic growth policies since around 1970. As a result, the per capita income of both countries began to break away from that of Sri Lanka, rising to higher levels at each successive year. Both Singapore and South Korea

have been able to successfully beat the middle income trap and become rich countries within a generation.

The challenge for Sri Lanka is to beat the middle income trap through a viable export development policy. This is because Sri Lanka's domestic economy alone is not sufficient for the country to produce goods and services in volumes that would push the country up to the level of a rich country in view of the limitation of the market. Sri Lanka's domestic market is limited by both size and income. It has a population of 22 million but its middle class – the segment of population that creates a demand for products – is estimated to be 3.6 million or 16% of the total population.²⁵ In comparison, USA's middle class numbering 232 million amounts to 74% of the population.²⁶ The larger the middle class, the larger the domestic market that enables a country to rely on domestic economy based economic policies. The choice for Sri Lanka is, therefore, to adopt a strategy of selling its outputs outside its borders. This is known as export-oriented economic development policies. A classic example of how exports would facilitate a product or an industry to grow is provided by Sri Lanka's tea sector which produces about 330 million kg of tea annually. But its domestic consumption is about 30 million kg, making it necessary for the country to seek external markets to sell the extra production. If these markets are not found, the country's GDP will shrink by 1%, export earnings by 12% and employment by 2.5% as per data for 2017. Similarly, if the volume of tea exports can be increased by 25%, it will provide a significant boost to Sri Lanka's economy.

Sri Lanka's main manufactured export – textiles and garments – face a major challenge due to two related developments. The textiles and garments sector benefitted from the wave of globalisation that took place in the global economy in 1980s. Accordingly, the rich countries in the world taking advantage of the low wage costs in low income

²⁵ Kharas, Homi, (2011), 'The Rise of the Middle Class' in Ejas Ghani (ed) *Reshaping Tomorrow: Is South Asia Ready for the Big leap?* Oxford University Press/World Bank, New Delhi (p 65).

²⁶ Ibid.

countries began to set up their mass consumption product factories in the latter category of countries. This process was known as off-shoring.²⁷ However, an unintended consequence of this process was the development of the bazaar effect in which the rich countries simply became trading nations – bazaars in a traditional sense – with manufacturing off-shored to low income countries.²⁸ With the consequential decline in manufacturing jobs in rich countries, there was a wide public outcry against off-shoring which became a political weapon for leaders to gain popularity among the masses. Hence, the production model was changed to locate the mass production consumption goods industries near the final markets – called near-shoring – or on the land itself – called on-shoring – through product automation. The textile and garments industry has been the first industry to exploit these new production models.

A recent survey conducted by McKinsey and Company on the apparel sectors in North America and Europe has revealed that both near-shoring and on-shoring have become the most popular production model adopted by a large segment in the final consumer countries.²⁹ According to the survey, about 67% of US apparel executives and 80% of global chief procurement officers have indicated that the top-most priorities in the apparel sector have been the speed at which the final products should be delivered to the market and how the goods could be procured within the season. In the past, fashions developed by apparel companies had been forced on consumers. But, that trend is fast changing and instead, a bottom-up consumer preference system in which the consumers will inform garment manufacturers to produce the fashions they desire is developing in the apparel sector. To gain capacity to produce and supply these products, apparel trading

²⁷ A vivid description of how this practice got rooted as a new production model is found in Friedman, Thomas L (2005), *The World is Flat: A Brief History of the Twenty First Century*, Farrow, Strauss and Giroux, New York.

²⁸ Mainly due to Sinn, Hans-Werner, (2006), 'The Pathological Export Boom and the Bazaar Effect: How to Solve the German Puzzle', [CESifo Working Paper Series](#) 1708, CESifo Group Munich.

²⁹ McKinsey and Com (2018), *Is Apparel Manufacturing Coming Home? Near-shoring, Automation and Sustainability-Establishing a Demand-Focussed Apparel Value Chain*, Available at: https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/is%20apparel%20manufacturing%20coming%20home/is-apparel-manufacturing-coming-home_vf.ashx (Accessed on 17.11.2018).

companies need to have manufacturing facilities near the markets. That is the reason for near-shoring and on-shoring to get established in the apparel sector value chain. On-shoring has been facilitated by automation of apparel manufacturing brought in by such technological advancements as 3D print manufacturing, gluing and bonding instead of stitching and robotic employment. As a result, the cost advantage enjoyed by low income countries with respect to garment manufacturing is fast eroding.

The McKinsey Survey has predicted that by 2025, a large segment of both the North American and European markets will be supplied by both on-shoring and near shoring. Table 1 presents the countries that are located around North America and Europe standing to benefit by adopting the new value chain model.

Table 1: Suppliers of apparel to North American and European Markets by 2025

North America		Europe	
Near-shoring		Near-shoring	
Country	Percentage of the market	Country	Percentage of the market
Mexico	20	Turkey	29
Guatemala	7	Morocco	10
Haiti	7	Tunisia	5
El Salvador	5	Macedonia	5
Honduras	5		
On-shoring		On-shoring	
USA	30	UK	7
		Portugal	5
Total	74	Total	61

Source: McKinsey and Company Survey 2018, p 9

Both North America and Europe are Sri Lanka's established markets for apparel products. During the 5 year period from 2013 to 2017,

European Union absorbed 43% of Sri Lanka's apparel exports, while North America absorbed 46%. Thus, these two markets had accounted for 89% of the country's apparel exports. Accordingly, if they move to near-shore and on-shore apparel supplies, Sri Lanka's traditional apparel industry will face a serious risk of maintaining sustainability. It is therefore necessary for Sri Lanka to change the focus of its production to new export commodities to avert possible downside development of its export sector.

But there is a way forward strategy for the country.

Taking into account the above mentioned global developments today, Sri Lanka released a new National Export Strategy (NES) in April, 2018.³⁰ The strategic vision of the document has been to develop Sri Lanka as an export hub, driven by innovation and investment. The hub component of the vision has no practical value since Sri Lanka produces only a limited number of exportable products. NES has also identified four strategic objectives to pursue in order to attain its goal of setting up an export hub in the country.

1. To have a business-enabling, predictable and transparent policy and regulatory framework that supports exports;
2. To strengthen Sri Lankan exporters' market-entry and compliance capacities;
3. To become an efficient trade and logistics hub to facilitate exports; and
4. To drive export diversification through innovation and by strengthening emerging sectors.

According to the NES, an enabling business environment will be created by improved logistics, trade information and promotion,

³⁰ National Export Strategy of Sri Lanka 2018-2022, Export Development Board, Colombo, (Available at: <http://www.srilankabusiness.com/pdf/nes/sri-lanka-nes-4-3-web.pdf>) (Accessed on 18.11.2018)

developing a national quality infrastructure and inculcating a culture of innovation and entrepreneurship. Given Sri Lanka's present endowments and comparative advantages, six main focus sectors have been identified for development during the strategy period.

1. Information Technology (IT) and Business Process Management (BPM);
2. Development of a wellness tourism sector;
3. Boat building;
4. Manufacture of electrical and electronic components;
5. Manufacture of processed food and beverages; and
6. Spices and concentrates.

The NES has attempted to break away from Sri Lanka's reliance on the three tree crops and apparels as the main source of export earnings and develop 6 new areas that include the export of services as well. This vision was expressed by the Prime Minister in November 2015 when he presented the first economic policy statement of the government to Parliament.³¹ It was reiterated in subsequent statements³² as well as the policy document titled Vision 2025 released in June 2017.³³ However, it is after three years that this vision was codified and presented as an export development strategy document by the bureaucracy.

The NES has diagnosed the ailments faced by the country's export sector correctly. But its strategic vision should be converted to a

³¹ Economic Policy Statement of the Unity Government presented to Parliament on 5 November 2015 (Available at: <http://www.lankabusinessonline.com/full-text-economic-policy-statement-made-by-pm-in-parliament/>) (Accessed on 19.11.2018)

³² Second and Third Economic Policy Statements presented to Parliament in Nov 2016 and Nov 2017, respectively. (Available at: The second statement could be accessed at: https://economynext.com/Sri_Lanka_Prime_Minister_s_policy_statement-3-6467.html and the third statement at: <https://www.colombotelegraph.com/index.php/economic-policy-statement/>) (Accessed on 19.11.2018)

³³ Vision 2025, Government of Sri Lanka, Colombo, (Available at: http://www.treasury.gov.lk/documents/10181/66400/Vision_2025_English.pdf/8d93e8db-2c3a-4e15-9ab2-fc619817e6fd) (Accessed on 18.11.2018).

concrete policy action plan.³⁴ For implementation of the plan, there should be a number of programmes involving the key sectors covered in the NES. Each programme should have its own targets, key performance indicators, a time bound action plan and the resource base to achieve goals. Third, each programme should be split into a number of sub projects that should be assigned to different implementation units. It is this ground force that should deliver results to the nation. Therefore, these units should be provided with necessary resources – both financial and logistical – on the one hand and properly incentivised, monitored and directed, on the other. The fourth process is the most crucial for attaining the goals of NES. That is to give political leadership to the implementation of NES at the national level. It involves coordination of work among different agencies, troubleshooting and acquiring resources for the implementation of the national plan to be developed under NES.

Exports will not happen automatically simply because a government body has made a pronouncement. To change the structure of exports of a country within a short period, it is necessary to disrupt the whole economy from top to bottom and across all the sectors. The government machinery which usually moves at a snail's pace should be accelerated to the maximum speed possible to provide support services. Labour markets which are rigid and ruled by uncompromising trade unions should be made flexible with respect to entry, exit, on the job training and new skill and talent acquisition. The biggest disruption to be effected to the labour market is the conversion from the present 'seniority and fixed salary based system' to a 'merit and output-based system'. When a society has lived hundreds of generations in a seniority and elders-worshipping society, it is normally embedded irrevocably in the genes of its members. Thus, the introduction of a merit based system to such a society, however much it is desired, will be a painful exercise. It requires the disruptors to inflict mental violence

³⁴ Wijewardena, W A (2018a), 'Part I: National Export Strategy 2018-2022: Disrupt the Economy Fast, if the Goals are to be Attained' in Daily FT (Available at: <http://www.ft.lk/columns/Part-I--National-Export-Strategy-2018-22--Disrupt-the-economy-fast-if-the-goals-are-to-be-attained/4-659860>) (Accessed on 18.11.2018)

on the subjects who are to be changed; but the reaction of the subjects too is characterised by a similar response making it difficult to introduce the disruption without social costs. This may appear to be difficult but is not at all impossible to attain. It involves the change of the mindset of people through a back and forth consultative process removing fears and providing assurance. It is quite a challenge and Sri Lanka's NES will also be subject to this challenge.

A glaring deficiency in the NES is the absence of measurable annual targets for exports during the strategy period.³⁵ Though EDB claims that it is working on some internal numbers, without targets fixed for each year, the progress of the strategy cannot be measured.³⁶ It also becomes an opaque exercise since the authorities can always claim that they have reached the targets set in NES, despite the fact that independent reviewers are unable to verify such claims. Without measurable physical export targets, NES has just become a paperwork incorporating some academic exercise. The rationale and wisdom embodied in NES are appreciable and should be used for developing a concrete plan with time bound goals for Sri Lanka to promote its exports and beat the middle income trap.

As presented earlier, Sri Lanka's production system is based on simple technology, borrowed from Western nations when they moved from simple technology to complex technology. According to MIT's Economic Complexity Index, in 2000, Sri Lanka was ranked at 78 out of 120 countries, implying a low technology based production mix.³⁷ Since then, it has more or less remained at that level before slightly improving its position to 70 by 2016. The export items which Sri Lanka had been producing mostly have been apparels and the three tree crops. That level of technology can no longer support Sri Lanka's planned

³⁵ Wijewardena, W A (2018b), 'Part II: National Export Strategy 2018-2022: Introducing Measureable Physical Targets' in Daily FT (Available at: <http://www.ft.lk/columns/Part-II--National-Export-Strategy-2018-22--Introducing-measurable-physical-targets/4-660298>) (Accessed on 18.11.2018).

³⁶ Wijewardena, W A (2018c), 'Part III: National Export Strategy 2018-2022: Focus on Selected Sectors Welcome but Challenging' in Daily FT (Available at: <http://www.ft.lk/columns/Part-III--National-Export-Strategy-2018-22--Focus-on-selected-sectors-welcome-but-challenging/4-660762>) (Accessed on 18.11.2018)

³⁷ <https://atlas.media.mit.edu/en/profile/country/lka/> (Accessed on 18.11.2018).

goal of creating an export hub supported by inventions and entrepreneurship as envisioned in NES. Simple technology has the advantage of being used en masse and helps a country in its initial phase of economic development where mass production is the order of the requirement. Yet, once a country has passed that stage, hanging onto simple technology will become an impediment for further growth. It also makes a country's economy vulnerable to new competition since it is quite easy for new comers to adopt such simple technology and get into mass-production systems. At a firm level, this was experienced by the General Electric Company (GEC) when it was competed out of the market in the 1970s by Japanese electric goods producers who adopted the simple technology which GEC had been using for producing household electrical appliances. Hence, to make a turnaround in the company, its CEO, Jack Welch had to move from simple technology to complex technology and concentrate on producing jet engines, sophisticated medical equipment and electricity generating turbines.³⁸ Since the high technology involved in producing these products could not be available to mass producers, GEC was able to shield itself from unwarranted competition coming from technology adopters. Hence, what is relevant to a firm is relevant to a nation as well.

Technological advancements are disruptive and therefore painful. Those who are able to predict and adapt to the disruption will be winners, while others will be destined to be losers. Human history has often taught this painful lesson to mankind. When the motorised vehicles emerged, the horse-driven carts were driven out of the road; when the spinning machines were invented, handlooms had to give in. They made thousands of people around the globe jobless but created new jobs for people who could train themselves to adopt the new technologies. However, a concern for many societies today has been that disruptive technologies are emerging at an exponential rate. It is almost as if a person wakes up every morning to be surprised by the next big thing that has hit the world. It is happening so fast, that it is

³⁸ Welch, Jack, (2001), *Straight from the Gut*, Headline Book Publishing Com, London.

difficult even to keep pace of them let alone getting trained to adopt them. Yet, this frightening pessimism has also given rise to hopeful optimism as presented by Peter Diamandis in a TED lecture in 2012.³⁹ What Diamandis said was that the fear of scarcity is unfounded. The emerging technology can make this world a place of abundance. One has to create a need for it and wait patiently until the next big thing happens in the scientific world. The global community is creating this need for technology creators to meet that need. Then, technology adopters have been able to supply the same in collaboration with the technology creators. In this manner, the four famous technology adopters in the initial phase, Singapore, South Korea, Taiwan and Hong Kong, were able to beat the middle income trap successfully in 1990s. Today, they have been upgraded from the status of technology adopter to that of technology creator in competition with the rich Western nations.

This offers an opportunity for Sri Lanka to be a partner of the present technological advancement wave. With this objective in mind, the government had announced that it would set up a techno city under its Megapolis project in Pitipana, Homagama with a planned investment of over Rs 19 billion.⁴⁰ This is a part of the Technopolis to be set up in the land area from Malabe to Pitipana under the government's Megapolis project that aims at elevating the Western Province of the country to the status of wealth creator for the nation. The objective of the authorities has been to develop the Techno City as an innovation centre making available the inventions to be made at the Techno City to entrepreneurs for commercial production, a process known as 'innovation'.⁴¹ It has also been pointed out that if Sri Lanka could get back the Sri Lankan scientists working in USA, the country could make a true quantum leap in developing its scientific and technological invention base. According to media reports, five institutions are to

³⁹https://www.ted.com/talks/peter_diamandis_abundance_is_our_future (Accessed on 18.11.2018).

⁴⁰<http://www.ft.lk/article/569426/Govt--aims-for-hi-tech-with--Techno-City-> (Accessed on 18.11.2018)

⁴¹ Wijewardena, W A, (2016a), 'Technocity is the first step in the right direction, but there is much more to be done to attain the goals' in Daily FT (Available at: <http://www.ft.lk/columns/techno-city-is-the-first-step-in-the-right-direction-but-there-is-much-more-to-be-done-to-attain-the/4-569655>) (Accessed on 18.11.2018).

locate their research centres at the Techno City initially. They are the National Science Centre, Arthur C Clarke Institute for Modern Technologies and Universities of Moratuwa, Sri Jayewardenepura and Colombo. Of them the University of Sri Jayewardenepura has got the lion's share of RS 7.5 billion or US \$ 50 million as a start-up technology based university in the country.⁴²

In the past, Sri Lanka had missed the 'global technology-bus' by being a passive spectator of the emerging technology developments. But it need not continue to do so. The other countries in the region had teamed up with world's giants in technology and extracted a high external benefit by being a partner of technological developments. Singapore did so by linking its universities to the best universities in USA and attracting foreign direct investments or FDIs from large corporations which had already developed high technology. South Korea, Malaysia, Taiwan and Thailand had attracted FDIs with high technology. Sri Lanka could have been a breakout nation in the early 1980s but the costly ethnic war and the insane reaction of the majority of Sri Lankans had prevented worthwhile FDIs from coming in. An often cited example is the shifting of the proposed manufacturing plants of two major electronics multinationals, Motorola and Harris Corporation, from Sri Lanka to Malaysia and elsewhere, respectively, due to the ethnic riots of 1983.⁴³ Therefore, it has been suggested that Sri Lanka should now restart its efforts at converting its economy into a complex economy which also includes development of nanotechnology.⁴⁴

Technological advancements have changed the way industries operate in the world during the last 250 years. A chronological examination reveals that what is termed today as Industry 1.0 started around 1784 with the mechanisation of industrial operations through steam power first applied to weaving in the textile industry. Then came Industry 2.0

⁴² Ibid.

⁴³ Kelegama, Saman (2006), *Development Under Stress: Sri Lankan Economy in Transition*, IPS, Colombo, p 57

⁴⁴ Wijewardena, W A (2014), 'Sri Lanka can 'leap-frog' into the future through nanotechnology' in Daily FT (Available at: <http://www.ft.lk/opinion/sri-lanka-can-leap-frog-into-the-future-through-nanotechnology/14-348176>) (Accessed on 18.11.2018).

around 1870 in which goods were produced on a mass scale in assembly lines using electric energy. The third phase was Industry 3.0 in which operations were automated by engaging computers and electronics. The next phase to which the world is moving today is Industry 4.0 in which cyber-robotics guided by artificial intelligence and the internet of things coupled with networks to support mankind is being introduced competitively by the world's advanced nations. Sri Lanka with its goal to beat the middle income trap and become a rich nation has no choice but to join the race.

According to McKinsey Global Institute (MGI), there are twelve miracle technologies that are disrupting the world today.⁴⁵ The list is not exhaustive but provides a guideline for nations to follow.

- i. **Mobile Internet.** Increasingly inexpensive and capable mobile computing devices and internet connectivity: If you have a smart phone with an internet connection today, you have the entire world at your finger tips. A comparison has been made by MGI on this count with computers of yesteryear: It has said that the most powerful computer in 1975 costing \$ 5 million had the same performance of an iPhone today costing only \$ 400.
- ii. **Automation of knowledge work.** Intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments. The distributed intelligence now being developed in the USA and elsewhere in Europe seeks to replicate the human brain and pretty soon most of the brainy work handled by humans will be outsourced to these smart and intelligent computers.
- iii. **The Internet of Things.** Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization: software applications are now being developed in the Western world at a rate that makes it practically

⁴⁵<https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/disruptive-technologies>
(Accessed on 18.11.2018).

possible to beat the limitation created by time and space when it comes to human interaction.

- iv. **Cloud technology.** Use of computer hardware and software resources delivered over a network or the Internet, often as a service: This system of data protection and storage will help people to use only a fraction of the installed capacity in their computers and travel abroad just with a bag of clothes but still access their data files from any place in the globe. The only requirement is that they should remember their password, but today with new apps, even password management has become possible.
- v. **Advanced robotics.** Increasingly capable robots with enhanced senses, dexterity, and intelligence used to automate tasks or augment humans: These robots will not only handle monotonous routine jobs but also are capable of making decisions faster than humans having processed all the necessary information. Thus, the concept of a bounded rationalist which Herbert Simon came up with in 1955⁴⁶ which proposes that people are not rational because they cannot access all the information, and even if they have access, are constrained by a lack of time and ability; will be a thing of the past.
- vi. **Autonomous and near-autonomous vehicles.** Vehicles that can navigate and operate with reduced or no human intervention: These are smart vehicles and already vehicle manufacturers have started to fix their products with all types of software packages that help drivers to better control their vehicles while avoiding fatal accidents or crashes.
- vii. **Next-generation genomics.** Fast, low-cost gene sequencing advanced big data analytics, and synthetic biology (“writing” DNA); This is the most disruptive of the new technologies

⁴⁶ Simon, Herbert A (1955) ‘A Behavioural Model of Rational Choice’, QJE, Vol 69, No 1, pp 99-118 (Available at: <http://www.math.mcgill.ca/vetta/CS764.dir/bounded.pdf>) (Accessed on 19.11.2018).

because sequencing one's genome will not only be cheaper but also be quicker. This will help the diagnosis of ailments more accurately and find treatments by simply changing the copy of the genome just like we write computer software programmes today to handle processing problems.

- viii. **Energy storage.** Devices or systems that store energy for later use, including batteries: This is a real contributor to energy saving because it will help the world to develop more energy efficient machines and thereby conserve energy.
- ix. **3D printing Manufacturing.** Additive manufacturing techniques to create objects by printing layers of material based on digital models; The invention of 3D printers from around the early 1980s and reaching its adulthood in the early 2010s⁴⁷ has been termed as the second industrial revolution because it has enabled producers to use 3D printers to produce practically anything from precise parts of airplanes to cars to body parts.
- x. **Advanced materials.** Materials designed to have superior characteristics (e.g., strength, weight, conductivity) or functionality: Nano carbons and other strong materials are to replace steel as the main input in producing machines and constructing buildings.
- xi. **Advanced oil and gas exploration and recovery.** Exploration and recovery techniques that make extraction of unconventional oil and gas economical. USA and Canada have been able to come up with hydraulic fracturing and octopus horizontal drilling for tapping what was hitherto inaccessible as shale oils and natural gas that lie in shale rocks about 5 miles deep down in the interior of the earth. USA is to be self-sufficient in natural gas and fossil fuel by 2025 by tapping its vast shale oil fields in the northern parts of the country.

⁴⁷ See: <https://3dinsider.com/3d-printing-history/> (Accessed on 18.11.2018).

- xii. **Renewable energy.** Generation of electricity from renewable sources with reduced harmful climate impact: The development of new nano solar photovoltaic solar power harvesters will revolutionise the world's new renewable energy production methods.

Sri Lanka should orient its education, research and development systems to be a partner of this changing technological base in the world. For this purpose, the resources that are presently directed toward consumption in the budget should be pruned and rationalised to enable the government to divert them to research, development and promote innovative practices.

In conclusion, Sri Lanka is at a crossroads today because it is ensnared in what is known as the middle income trap. It was easy for Sri Lanka to move up from a low income country to a lower middle income country by using its abundantly available cheap labour resources. However, moving up further to become a rich country poses a greater challenge since the country will have spent about 24 years in the lower middle income country category before it makes a breakout. Unless it attains an economic growth rate of about 9% per annum in the next 15 year period, it is unlikely that it will be able to beat the middle income trap. The way to do so is to produce for a market bigger than the market in Sri Lanka and supply goods that are demanded by that market. It requires the country to convert its production system from a simple technology based one to a complex technology one and join the global production sharing network to keep its presence in the market. The flipside is that these are challenging targets but not impossible since there are many countries that have done so with appropriate investment in science and technology leading to research, development and marketing.

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Prof. H.A. de S. Gunasekera was Professor of Economics and Head of the Dept. of Economics of the then University of Ceylon. He succeeded Prof. Das Gupta to become the second occupant (and the first Sri Lankan occupant) of the Economics Chair in 1961. He also served as the Dean of the Faculty of Arts at Peradeniya (1963-1969) and later on as Secretary, Ministry of Planning (1970-

1977) under Prime Minister Sirimavo Bandaranaike. He was a much respected academic and public servant. A large number of his students have made outstanding contributions to both academic and public life in Sri Lanka and overseas.



Dr. W.A. Wijewardena, was a career Central Banker with experience in almost all areas of central banking. He retired from the Bank in 2009 as Deputy Governor in charge of economic research, monetary policy and price stability. He has served as Adjunct Faculty at the Asian Institute of Technology, Thailand and has functioned as the President of

Business Management School, Sri Lanka from 2010 to date. He is a writer, newspaper columnist, public speaker and economic analyst.