The COVID-19 Pandemic and the Sri Lanka's Economy: How Does it Affect Export and Import Trade?

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Abstract

The reporting of the first Sri Lankan case of COVID-19 in March 2020 led the government of Sri Lanka to quickly adopt a precautionary policy response and lockdown the entire country, restricting the movement of people. The main objective of the policy was to protect lives from the pandemic. The policy led a successful control of the pandemic as the number of cases and death reported was minimum. This policy however affected the economy badly as complete lockdown measures had negative impact on it. This study by analysing monthly data in a univariate modelling framework found that export and import trade of the country was severely affected by the pandemic during the months of March, April and May. Extending the analysis to a second wave with a potential end in December 2020, the study estimates that the country's overall exports and imports will drop by 67% and 45% respectively due to the pandemic. Further, the negative shock created by the pandemic will disturb behavioural patterns of different components of exports and imports of the country significantly. The passive nature of policy responses adopted by the government in the face of the second wave of COVID-19 targets the maintenance of economic activities during the pandemic. If the policy, however, leads to a community level spread of the pandemic, it will create a huge and an extended negative impact on foreign trade and economy as the lifetime of the virus becomes endless and as a result it will have a lingering effect on the economy.

Keywords: *Economic Effect of COVID-19, Export and Import Trade, Univariate Modelling, Decomposing Variability*

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Introduction

It is recorded that the globe was hit by three major pandemics in the 20th century, the Spanish Influenza (Great Influenza Pandemic) during 1918-1920, the Asian Influenza in 1957 and the Hong Kong Influenza (1968) in which the great influenza was the most severe (Kilbourne, 2005). Smith et al. (2009) highlighted three major health disasters observed in the early part of the 21st century, SARS (2003), H1N1 Influenza (2009) and sporadic H5N1 influenza virus. The year 2019 marks another milestone of the world history by the recurrence of another global health disaster called Coronavirus or COVID-19 after about 100 years from the 1918-20 Great Influenza Pandemic. Given the nature of the virus and its spread, COVID 19 is estimated to have a far-reaching impact in terms of mortality, health risks, socio-economic and political impact on nation states and countries. The COVID-19 pandemic, beyond its impact on health expenditures and mortality, has seriously affected stock-markets, financial stability, nominal interest rates, public spending and borrowings, banking and financial sector, etc. The real sector of a country has also been seriously affected as the pandemic led to a lockdown and restricted movement of people which hindered operations of ports, harbours and airports, travel and transport services, international trade, labour migration, income generation, consumption and investments, etc. As Baldwin and Weder di Mauro state, there is a greater degree of uncertainty about the final scale of COVID-19 and its economic implications on country-wise and global economies as the state of the life-cycle of the virus is still unknown. The immediate future of any country/state in the face of COVID-19 is bleak and nobody knows when, where and at what level the virus, hits back (Baldwin and Weder di Mauro, 2020).

Like in other countries, the COVID-19 has already made a significant impact on the economy of Sri Lanka in addition to its imminent impact on public health, government's budget and mortality of people. By 23rd November 2020, about 20,500 cases of confirmed corona patients and 90 deaths have been reported officially in the country. This indicates a low level of corona mortality rate (0.44%) compared to an estimated global coronavirus death rate of 5%. However, from 10th of March, the date the first local corona case was reported, to the 1st of October, there were only 3380 confirmed cases

and only 13 deaths. This indicates that the number of cases and number of deaths have increased by more than six times (at an average daily rate of 9.5%) and about seven times (at an average daily rate of 11.2%) respectively in a period of less than two months, from October 1 to November 23, indicating an alarming situation of the pandemic in the country which can worsen if the government fails to implement appropriate policy measures soon.

In response to the reporting of the first local coronavirus case on the 10th of March the government of Sri Lanka rapidly introduced island-wide lockdown measures within six days with the prime objective of protecting lives (World Bank, 2020). This complete shutdown of the country and isolation of the population for about three months restricted most of the economic activities, especially industrial and services sectors and has created a huge economic impact island-wide. The government had to inject more money to provide public health protection systems and relief packages for vulnerable groups and loss of livelihoods (World Bank, 2020). This has significantly affected the country's main foreign exchange earning sectors such as the garment industry, travel and tourism services, tea exports, labour migration, ports, harbours and airport operations, etc. The surge of COVID-19 cases in the month of October mainly from garment factories and export processing zones may have severe and extended effect of the pandemic on the country's economy. Given the lack of data and proper estimates, the impact of COVID-19 on the Sri Lankan economy is not yet properly measurable and it is of course premature to make such appropriate estimates as the state of the pandemic within the country is not yet known.

The objective of this paper is to analyse how the first wave of the COVID-19 pandemic affected the export and import sector of the country and discuss potential impact of the second wave of the pandemic on the sector. Though the pandemic has clearly impacted other macroeconomic sectors such as production, consumption, savings, investments, public finances, etc. this paper limits the analysis to export and import performance of the country. As Baldwin and Tomiura (2020) explain, both supply-side and demand-side shocks associated with COVID-19 will impact international trade in goods and services. Since the pandemic has already created great impact on the economies of the USA, the UK, EU, China, India, Brazil, Russia, and many

other countries it is expected to have a greater effect on exports, imports and supply chain network of smaller countries (Baldwin and Tomiura, 2020). Therefore, this paper recognizes the importance of examining the impact of COVID-19 on the export and import trade of Sri Lanka. (The rest of the paper is organized as follows: Section 2 discusses the literature on economic effects of pandemics, Section 3 discusses how the pandemic affects the trade sector of the country and Section 4 concludes the paper.)

Economic Impact of Pandemics

In addition to direct health impact on mortality and morbidity, the economic impact of a pandemic earns greater concern and attention (Smith et al., 2009) as the loss of economic activity and livelihoods creates huge sudden and long-term burden on the wellbeing of individuals and the macro-economy[2]. As Smith et al. (2009) note, the preparedness planning for a pandemic requires balancing two policy strands: (i) educating and encouraging people to follow good health practices and maintain social distancing, and (ii) maintaining as much as possible the usual business and economic activity. The promotion of good health practices will help mitigate and control the spread of the pandemic while continuation of economic activity as usual prevents the loss of livelihoods and income sources. In a situation in which there is a great risk of losing livelihood and income, public responses may increase the spread of the pandemic making both health and economic losses greater because of the mutual reinforcing nature of health and economic effects during a pandemic.

Many studies have attempted to quantify and measure the macroeconomic impact of historical pandemics and diseases in terms of loss of output, employment, consumption, etc. According to Tuchman (1978), Cameron and Neal (2003) and Koyama, et al. (2019), the Black Death was the largest and the hardest pandemic that hit Europe as it killed about 20 million people or about 40% of population of the region between 1346 and 1352 A.D.[3] The plague created by a bacteria from black rats and fleas started in Asia and spread to Europe through trading ships. As Tuchman (1978) states "*So lethal*

[2] See Bell and Lewis (2004) for a survey of macroeconomic consequences of pandemics.

[3] See Benedictow (2005) and Voigtlander and Voth (2008, 2013) for extensive studies on the Black Death.

was the disease that cases were known of persons going to bed well and dying before they woke up. ... So rapidly did it spread from one to another that to a French physician ... it seemed as if one sick person 'could infect the whole world"" (pp. 92-93). The Black Death created a huge population loss in the cities of the region creating a large short-term negative impact on the economic activity, mainly the crop production. However, as explained in Malthusian demographic model this impact decreased in the long-run as the population recovered to its pre-plague situation. In fact, in the long run, the high mortality evidenced during the period may be considered as having a positive effect on the well-being of the people who survived.(Young, 2005; Esteban et al. 2015). Because more lands and tools were available for the remaining workers to work, they became more productive and their output increased and as a result they were paid better wage rates. The shortage of labour results in changes in production from labour consuming crop production to labour saving farming such as raising sheep. As a result, landlords were able to generate more profits which were reinvested in productive means. These evidences suggest that the Black Death resulted in a positive economic impact in the long-run despite its short-term negative economic impact. Further, there is evidence to conclude that the Black Death was more harmful for marginalized groups than the well-off groups in society (Young, 2005; Esteban et al.2015). The people at the greatest risks were the poor and the minorities as such groups had limited access to medical care and nutrition and were not able to work from home.

The Great Influenza Pandemic that occurred between 1918 and 1920 was another serious pandemic experienced by the world after the Black Death. As Barro et al. (2020) record using data from 43 countries which accounted for 89% of the world population and majority of global GDP, the great influenza pandemic killed more than 39 million people, a 2% of the population at the time and reduced the global GDP by 6% during the period. According to their estimates, India recorded the highest flu death rate of 5.2%. The lowest death rate recorded country was Uruguay (less than 0.2%). The flu mortality rate of Sri Lanka was about 1.8% which is slightly less than the world average of 2% (Barro et.at.2020). Barro and Ursúa (2008) also report the macroeconomic impact of the great influenza pandemic as 'significant'. Baldwin and Weder di Mauro (2020) analyse the effects of the great influenza pandemic on population, GDP, consumption and financial markets.

In addition to obvious loss of lives, they find a significant negative impact of the flu on output growth and consumption. The flu destabilized the financial markets of the affected countries as it reduced real rates of return significantly.

By evaluating the economic effects of the great influenza, Brainerd and Siegler (2003) suggest a positive effect of the pandemic on the US economy while Almond and Mazumder (2005) argue that the great influenza had a very long negative effect observed even after 65-80 years after the pandemic. Young (2005) argues that the HIV/AIDS epidemic will increase, future net per capita consumption while Bell and Gersbach (2004) find strong negative economic effects of AIDS. Fan (2003), Wong (2004) and Keogh-Brown and Smith (2008) analyse the economic effects of SARS and how policy intervention may prevent recurrence of such a pandemic. Studying the economic impact of a hypothetical pandemic on the European macro-economy, Jonung and Roeger (2006) conclude that such a pandemic would not create a significant impact on the macro-economy though its health effect is significant. Meltzer et al. (1999) estimate the potential impact of the next influenza pandemic on the US economy and Hak et al. (2006) estimate the potential health economic impact of a possible pandemic on the economy of Netherlands. Bloom et al. (2005) examine the potential economic impact of an Avian flu pandemic with the possibility of human-to-human transmission in Asia. Pandemics can also affect social equality by either undermining or reinforcing existing societal power structures (Wade, 2020).

Before the outbreak of COVID 19, one optimistic view negates any future pandemic having major health and economic disasters in the light of considerable progress in medical science since the great influenza pandemic. Baldwin and Weder di Mauro (2020) point out that the probability that COVID-19 has an effect close to the Great Influenza Pandemic is very low given better health conditions and practices, wellbeing of people and preventive and mitigating measures implemented by nation states. However, they argue that there is a trade-off between lives saved versus economic losses as through various stringent lockdown measures countries acted mainly to save lives from COVID-19. Therefore, economic losses of COVID-19 in many countries would be significantly high. To quote Weder di Mauro (2020), “A macroeconomic flu -i.e. a temporary negative supply or

demand shock-causes output to fall for a little while, only then lead to a quick recovery and possibly a full catch-up on the shortfall … But that is a normal flu, or rather a macroeconomic sneeze – not a pandemic, not a panic" (p. 31). Given that COVID-19 is a pandemic which can create huge health havoc and hazards, its macroeconomic impact will be large and persistent (Weder di Mauro, 2020). The estimated average GDP loss of a country due to the COVID-19 pandemic would be 6.7% (McKibbin and Fernando, 2020).

Some widely discussed major macroeconomic issues associated with COVID-19 includes: decreasing global GDP, trade volume, foreign remittances, loss of employment opportunities, increasing pressure on public funds for relief measures, decreasing commodity prices, increasing food insecurity and collapse of highly vulnerable sectors such as travel and tourism, labour oriented industrial production such as textiles and garments, educational, financial, health care services, etc. United Nations Women (2020) predict that more informal sector employees will lose their jobs as there is an increasing risk for families of people engaged in foreign jobs such as unskilled women migrant workers in domestic service industry so that worker remittances drop by 20%. The World Bank estimates that (April, 2020), COVID-19 will push 40-60 million of the world population into extreme poverty, create additional burden on women as their volume of unpaid work increases under the pandemic situation, increase unemployment among women and vulnerable groups as lockdown strategies affect the informal sector significantly.[4]

One common method of analysing effects and consequences of a pandemic is socioeconomic impact assessments (SEIAs). Given that the biggest economic impact of COVID-19 is still to be felt, SEIAs target at assessing the impact on (i) the economic activity at macro level, (ii) the livelihoods of vulnerable and marginalized groups; and (iii) the performance of businesses, particularly of micro small and the medium enterprises (MSMEs) sector. The majority of the assessments include micro household and business surveys using simple analytical techniques. These surveys are often conducted

[4] Both World Bank (2020) and United Nations Women (2020) predict that COVID-19 affects children, women and vulnerable groups such as internally displaced people, people living in high density areas greatly due to loss of educational opportunities, loss of informal sector jobs and being subjected to domestic violence and sexual abuse and discrimination.

repeatedly to assess and evaluate the impact over a period of time. Some studies use sophisticated modelling techniques such as computable general equilibrium models or macroeconomic models. The United Nations also supports information gathering through these SEIAs in support of national governments' efforts to fight the pandemic and recognizes the central role played by governments. With the support of the UN and other international agencies, countries are conducting sectoral and deep-drive assessments on loss of livelihoods and employment, drops in worker remittances, drops in visitor arrivals and tourism industry, impact on peace social harmony and cohesion, impact on vulnerable groups such as children, the elderly, women, indigenous people, refugees, people with disabilities, etc.

The United Nations in agreement with the Government of Sri Lanka in June produced a COVID-19 socioeconomic impact assessment report with the purpose of informing and supporting the national socioeconomic response effort. The United Nations (2020) recognizes the government's policy response to the first wave of COVID-19 in March as commendable.[5] The government policy response included quick action on enforcing social distancing, lockdown measures, quarantine process, delivering food and essential services and providing relief measures to people who lost their livelihoods and income sources. However, in order to deal with the pandemic crisis in the long-run, the UN required the country to pay attention to areas such as strengthening capacity and preparedness of the health system, scaling up of social protection policies and efforts, improving the distribution system of food and essential items, securing sufficient and fair learning opportunities for all children and youth, provision of better utility services, protecting workers from health risks at the work place, protecting jobs and income sources, ensuring continuous operation of the business sector especially the MSMEs, improving community resilience, ensuring equal treatment and service delivery among different groups, promoting social dialogue, protecting fundamental freedom and the Rule of Law, assessing short-term and long-term fiscal situation and financing options, and undertaking short-term and long-term policy reforms for financing the log-

[5] In another assessment report, UNICEF (2020) also expressed similar views on the government's policy response during the first wave of the pandemic.

term recovery and development process (United Nations, 2020).[6] Whether some of which were really applied in the country is questionable.

The likelihood of the pandemic having a harder impact on Sri Lanka's economy is high as the country's export sector, tourism, foreign employment and income repatriation, labour intensive production sectors are greatly affected. UNICEF (2020) reveals that Sri Lanka is at risk of severe economic recession of about an 8% drop in annual GDP if the pandemic continues for an unexpected longer period. The UNICEF in an island wide telephone survey of 2067 households found that 71% of households experienced full or partial loss of income sources and more than 30% of households cut down their food consumption expenditure in early May (UNICEF, 2020). Based on an online survey of 1087 respondents from 22 administrative districts and in-depth interviews, the University of Ruhuna has conducted an economic analysis of COVID-19. Another similar study reveals that 64% of income sources of the household sector has been affected while 7% of the households lost the entire income sources during the first wave of the pandemic (MOR, 2020). It reports that 2% of households lost their saving, debt/borrowing increased among households by 6% and 10% relied on mortgaging of jewellery and other valuable items during the crisis. Further, the report indicates that 45% of the households required financial assistance for loan repayment and redeeming of mortgaged items and estimates that about 80% of the MSMEs were largely affected by the pandemic while tourism, travel and hotel and restaurant sector were the hardest hit.[7]

In addition, there are several other studies and reports by individuals and institutions assessing the impact of COVID-19 on the Sri Lankan economy.[8]

[6] UN has supported various countries conducting sectoral and thematic deep-drive assessments on employment/labour market, remittance flows, tourism sector and the impact assessment of COVID-19 on peace, stabilization and social cohesion and how it affects on special vulnerable groups such as women, children, elderly, informal sector workers, migrant workers, internally displaced people, refugees, people with disabilities, unemployed youth, ethnic minorities, indigenous people, etc.

[7] However, the numbers revealed by the report on loss of income sources, savings, borrowings and indebtedness of households seem to be inconsistent.

[8] For example, see ESCAP (2020) and Gunawardana (2020). Economic and Social Commission of Asia and the Pacific, ESCAP (2020) has evaluated the impact of COVID-19 on the South Asian economies. The report reveals that the South Asia

They predict that the impact of the COVID-19 pandemic on the economy of Sri Lanka would be large and persistent and the level of screening of the negative impact on the economy would depend on the length of time that the country would take for complete recovery from the health crisis. Further, the time taken to completely eliminate the virus from the country would be a decisive factor of the final impact of the pandemic.

Foreign Trade Performance

As stated in Section 1, the main objective of this paper is to assess how the COVID-19 pandemic affects the export and import performance of Sri Lanka. The trade performance will reveal the effects of both domestic supply-side shocks and international market demand-side shocks of the pandemic. The pandemic may affect exports and imports of a country through (i) direct supply disturbances occurred within the domestic economy; (ii) supply chain contagion through restricted supply of inputs and capital goods; (iii) demand disturbances in importing countries due to drops in aggregate demand because of low income or movement restrictions and postponed purchases by consumers and firms due to uncertainty (Baldwin and Tomuira, 2020). ESCAP (2020) reveals that the collapse of the world-wide trade due to the pandemic, affects South Asian countries significantly as many export orders of key labour-intensive industries such as garments have been cancelled or postponed. This paper will analyse variations in export and import variables during the COVID-19 pandemic period compared to variations in other periods. We use the univariate modelling approach to decompose the variation of a series into trend, seasonal and irregular components. Suppose the variable in our concern is given as y_t, then a univariate model of the variable can be written as

$$y_t = \mu_t + \gamma_t + \varepsilon_t$$

where μ_t is the stochastic trend , γ_t is the seasonal variation and ε_t is the irregular (shock) component; and it is required that ε_t is normally and

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entered the COVID-19 crisis with a low level of health preparedness. The pandemic may create huge health disaster, national output loss, livelihoods and income sources losses pushing up to 132 million people into extreme poverty, high inequality, food insecurity, etc. in the region. Gunawardana (2020) analyses the impact of COVID-19 on the MSMEs sector in Sri Lanka.

identically distributed with zero mean and constant variance (see Koopman et al. 1995).

In this paper, stochastic trend, seasonal variation and irregular variation of the data series are separated. The seasonal component is not influenced by sudden shocks such as COVID-19. The COVID-19 pandemic is considered as a sudden health disaster/shock and therefore its effect is represented in the irregular component of the data series. However, if the shock later affects the mean of the data series, the trend component can also be changed over time, so the inclusion of stochastic trend captures that effect.

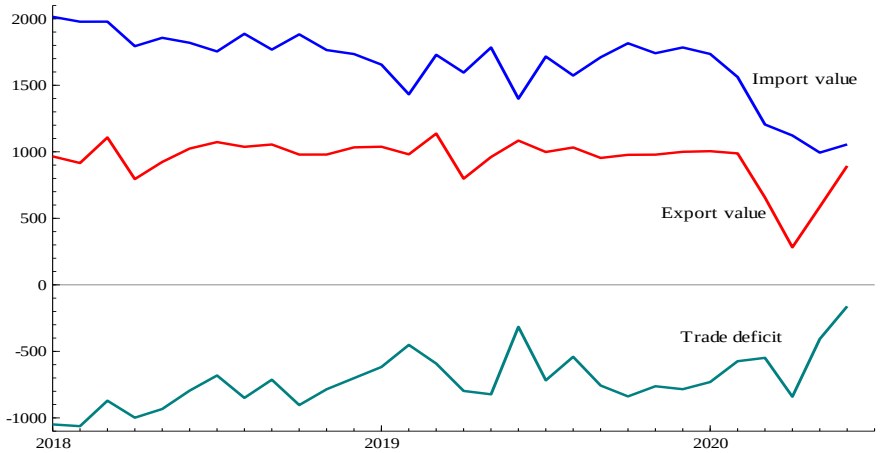
Monthly trade data from *Monthly Bulletin* of the Central Bank of Sri Lanka from January 2018 to June 2020 (the latest date of data availability at present) are used in the analysis. The information from January 2018 to the present is sufficient to estimate trend, monthly seasonal and irregular components of exports and imports over time. The variables used in the analysis include values of export, import and trade balance in US dollar millions and export and import volume indices (2010=100) for total exports and imports and different components of exports and imports. The use of trade volume indices in the analysis removes price dynamics in variables. The maximum likelihood method of estimation and *PcGive* and *STAMP* statistical software packages are used for estimation and decomposing of variance of a variable into the above components. The estimation procedure states 'very strong convergence' which indicates that the maximum likelihood estimation has been carried out by numerical optimization successfully (Koopman et al., 1995). As implied by strong convergence and satisfactory diagnostic tests, the estimated models seem to be reasonable.

Impact on Total Exports and Imports

Figure 1 gives the time paths of import value, export value and the trade deficit value of the country in US dollar millions. The export value series indicates a clear downward seasonal variation in the month of April as the production drops in the main festive month of the country. The export value in US dollar millions dropped by 28% in April 2018 and by 30% in April 2019 compared to the export value of the month of March. Normally this downward seasonal variation will occur after a significant increase in exports in the month of March, 21% increase in 2018 and 16% increase in 2019. As the cases of COVID-19 in Sri Lanka started to report from the month of

March 2020, it was expected that exports of the country would drop in March 2020 and afterwards. Seasonal increase in exports was observed in March 2020 as in the previous years but export value dropped in March 2020 by 34% compared to the previous month and continued to drop in April by 57%. The compound decrease in exports in the months of March and April was about 71% compared to the export value of February 2020. This significant drop in export value can be clearly seen in Figure 1. The export value has resorted to its trend line by June after the passage of two months from the end of April. This implies a quick recovery of export value of the country.

Figure 1: Exports, Imports and Trade Balance of Sri Lanka, Jan 2018- Jun 2020 (US $ millions)



Source: Based on the Monthly Bulletin of the Central Bank of Sri Lanka

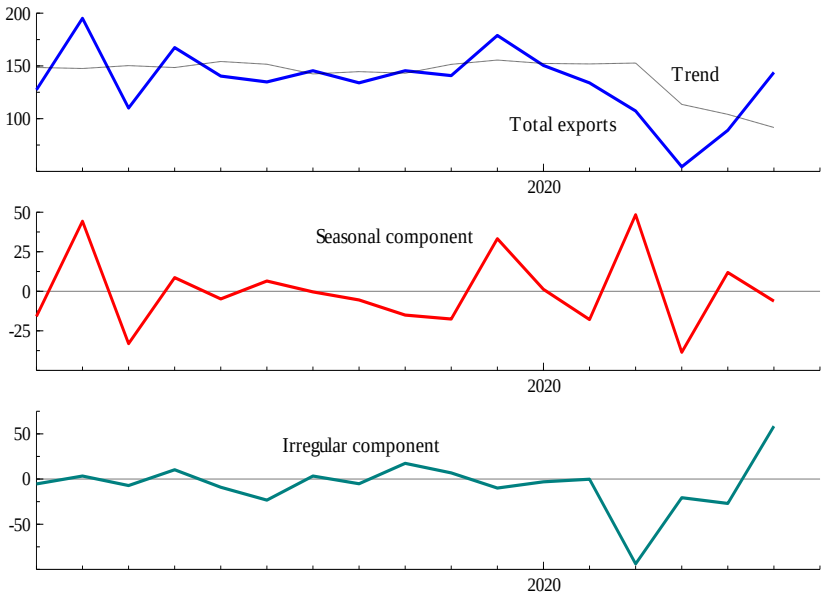
The general pattern of the behaviour of the import value series shows fluctuations from February to May. However, the pattern of fluctuation in import value was not observed in 2020 and it shows a continuous drop from January to May. The decrease in imports value in January (by -2.7%) and February (by -10%) compared to the previous month may be due to the surging pandemic in other countries such as China, USA, European Union and other countries. The reporting of cases from March and then due to lockdown measures introduced from the end of March to May the import value of Sri Lanka in terms of $ millions dropped by 23% in March, 6.8% in April and 11.5% in May 2020 compared to the previous month while it reported a 6.2% increase in June 2020. The reasons for this decrease in

imports may be market uncertainty and low demand due to low income or loss of livelihoods, low demand for intermediate and investment goods, international trade troubles due to lockdown measures implemented by other countries, import restrictions imposed by the government of Sri Lanka in response to foreign exchange crisis and to stabilise prices of commodities, especially food items. Therefore, a gradual decline in import value from the end of 2019 to May 2020 is observed. Despite the continuous drop in import value, the trade deficit of the country was sharply increased in April 2020 contrary to the gradual decline occurred since November 2019. The reason for this sharp increase in the trade deficit was the sudden and large drop in export value. However, the recovery of exports value in May and June with declining import value improves the trade deficit of the country to its best position during the period from January 2018 to June 2020.

Figure 2 decomposes trend, seasonal and irregular variation components of export volume index. The trend of the export volume index is almost constant up to March 2020 and it demonstrates a sharp decline in April and registers a gradual decline for the next two months of the year. The decline in the trend of export volume is due to the impact of COVID-19. The second and third panel of Figure 2 give seasonal and irregular components of the variation of export volume index. There is evidence for a sharp seasonal increase in export volume in the month of December and then a decline until February. There is a sharp increase in export volume in March which is followed by a sharp seasonal decline in April. The export volume index recovers to the trend line in May.

As depicted in Figure 2, the irregular variation in export volume index was not very large before March 2020. In March 2019, the irregular variation in export volume is a small positive value, but it has turned to a significantly large negative value in March 2020. Though the size of the negative shock (irregular variation) decreased in April, it increased a little further in May 2020 before it reports a large positive shock in June 2020. As Figure 2 indicates, the irregular variance of export volume index increased with the first wave of the COVID-19 pandemic which occurred from March to May.

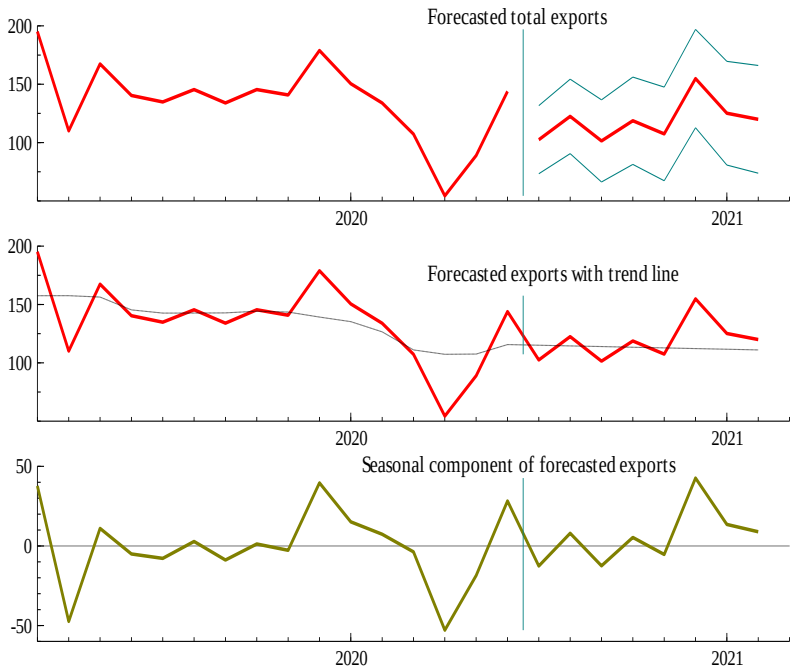
Figure 2: Decomposition of Variation in Export Volume Index



Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 3 depicts, the forecasted value of the export volume index of the country for 8 months from July 2020. In the absence of another major shock such as the first wave of COVID-19, the fluctuations of total export volume seem to be stable around the trend line. However, after the COVID-19 shock, the trend line of the export volume index becomes stable around a lower mean, indicating a longer-term negative impact of COVID-19 on the export volume.

Figure 3: Forecasted Values of Export Volume without a Second Wave

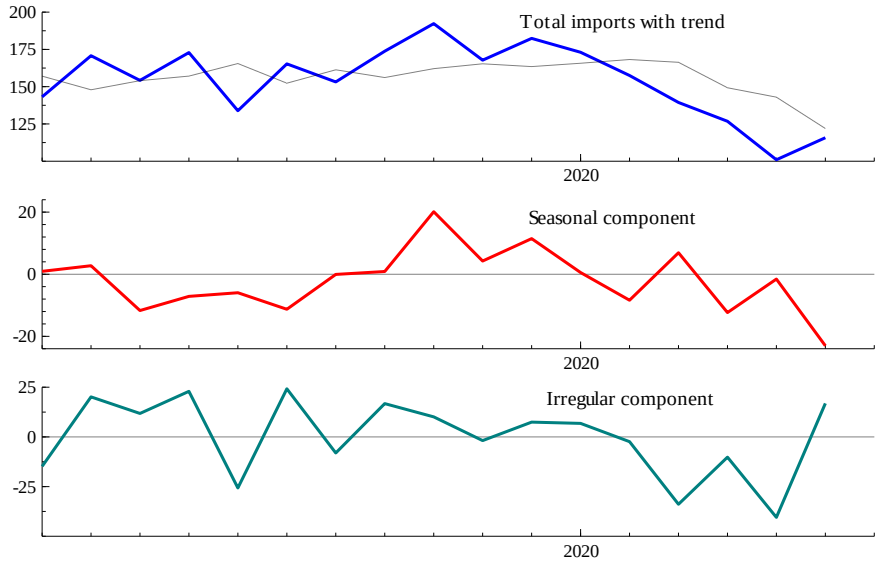


Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 4 decomposes the variation of the import volume index of the country into trend, seasonal variation and irregular components from January 2018 to June 2020. Compared to the general movement of the import volume index before November 2019, the period from December 2019 to May 2020 records a gradual decline in the import volume index. The spread of COVID-19 in major trade partner countries of Sri Lanka and the new government's import restriction policy might be the main reasons for the decline in the import volume of the country. In order to identify the impact of the spread of COVID-19 within the country since March 2020, the irregular variation in import volume over time is observed. The irregular variation of import volume index in March, April and May 2019 is positive with a slight decline in April compared to the other two months. But in 2020, the irregular component of the import volume index for the above three months becomes negative, recording large negative values in March and May. This indicates

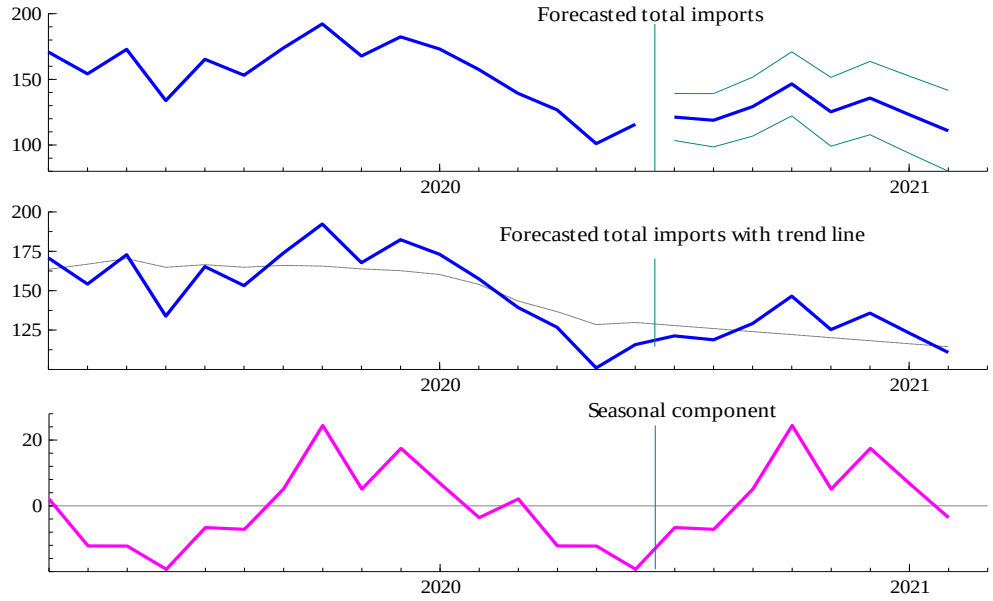
that the shutdown of economic activities, ports and airports has had a significant negative impact on the import volume of the country.

Figure 4: Decomposition of Variation in Import Volume Index



Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 5: Forecasted Values of Import Volume without a Second Wave



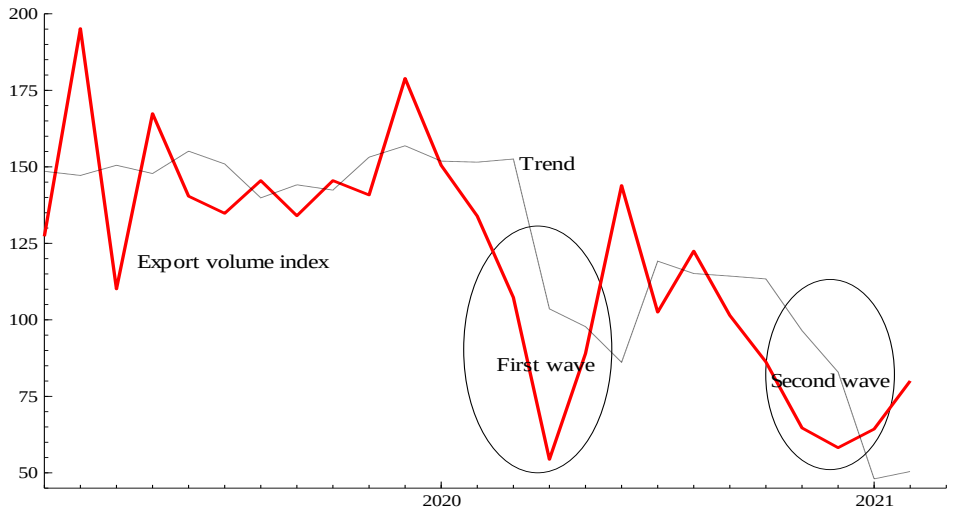
Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 5 depicts the forecasted import volume index up to February 2021. Though the import volume index reports a slow and gradual recovery after the first wave of the pandemic, the trend of the series seems to decline further, even 8 months after the shock. Given that the country imports significant amounts of intermediate and investment goods in addition to consumer goods, the decline in import volume signals a potential shrink in the production of the country which will create more unemployment, low income, low consumption, low savings and investment and low outcome in many rounds.

As the second wave of the pandemic is in progress since October, the impact of COVID-19 on exports and imports of Sri Lanka would be higher than observed in reported actual data. To analyse the impact of the second wave, the forecasted values of exports and imports depicted in figures 4 and 5 are used. Since the government did not introduce complete lockdown measures in the face of the second wave of the pandemic; we assume relatively lower rates of decline in export and import volume indices and slightly longer

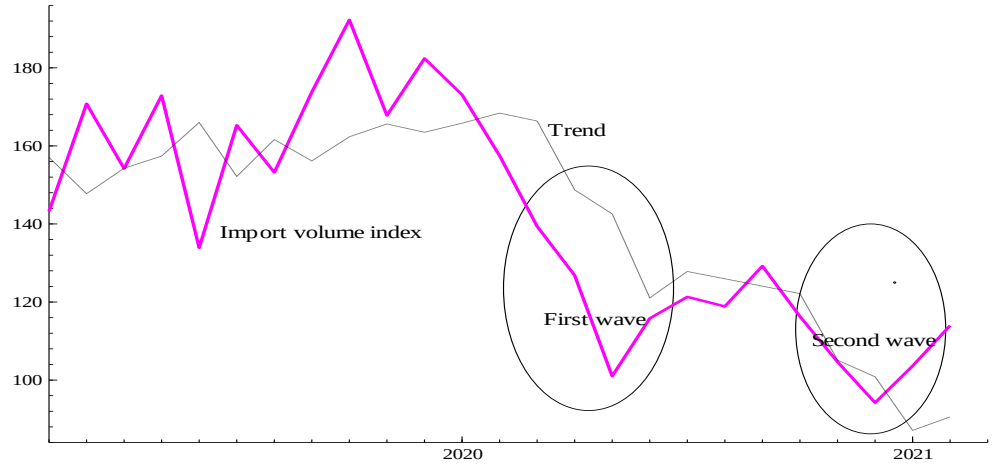
downturn and recovery periods. Further, we adopt an optimistic view that the second wave will come to an end by January 2021. Accordingly, it is assumed that the second wave will reduce export volume by 15% in October, 25% in November and 10% in December and these rates are significantly lower than the negative rates that occurred in the first wave (i.e., -34% in March and -57% in April). The recovery starts from January 2021 by increasing exports by 10% in January and by 25% in February. Figure 6 illustrates the time paths of the export volume index and its trend up to February 2020. As there are no complete lockdown measures, the depth of the downturn is less but its duration is longer. Under the above assumptions, the export volume index is expected to drop to 60 unit by December 2020. Impacting together with the first wave, the second wave of the pandemic will reduce the trend value of the export volume index to its lowest figure in the sample that is by about 50 unit. Compared to the pre-pandemic trend value (about 150 units), this is equivalent to a 2/3, or 67%, drop in the export volume of the country due to the COVID-19 pandemic compared to the pre-pandemic situation.

Figure 6: Forecasted Export Volume Index with a Second Wave of the Pandemic



Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 7: Forecasted Import Volume Index with a Second Wave of the Pandemic



Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Similarly, it is assumed that the import volume index will drop by 10% every month from October to December 2020. The compound decline under the second wave is assumed to be less than the compound decline reported during the first wave of the pandemic (-10% in February, -23% in March, -9% in April and -11% in May). Further, it is assured that the import volume will also start to recover from January 2021 at a rate of 10% each month, January and February. Accordingly, the second wave of the pandemic will reduce the import volume index of the country in December to its lowest figure in the sample, that is about 94 units. As Figure 7 illustrates, the first wave and the second wave of the pandemic will bring down the trend value of the import volume index from 160 units pre-pandemic value to about 88 units by December 2020. This indicates about a 45% drop in the import volume of the country during the pandemic period if the end occurs in December 2020. If the second wave of the pandemic stretches or more waves come in, the impact of the pandemic on export and import volume is expected to be greater than the above estimates.

Impact on Components of Exports and Imports

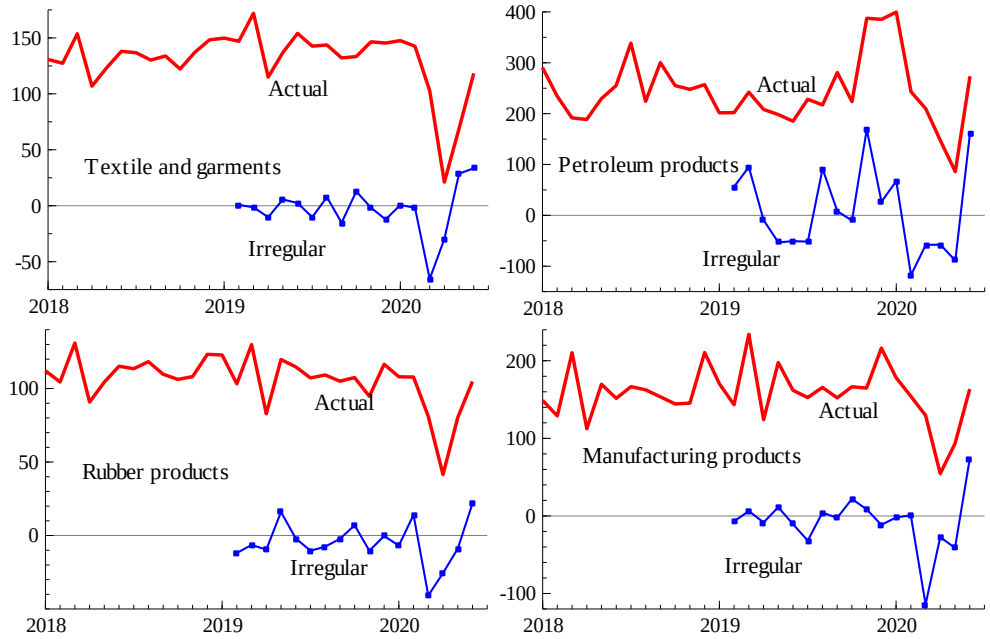
This section discusses how the first wave of COVID-19 pandemic affects the various components of exports and imports of Sri Lanka. The impact on the industrial/ manufacturing sector exports and its major components such as export of textile and garment products, petroleum products and rubber products based on the availability of monthly data are examined. The impact on exports of tea, rubber, coconut and total agricultural exports and components of imports is also analysed separately.

As Figure 8 depicts, the time paths of the export volume indices of manufacturing products have been greatly disturbed in the months of March, April and May 2020. The export volume indices of textile and garment products, petroleum products, rubber products and total manufacturing sector exports recorded their lowest figures during the period. In order to find the size of the impact of the first wave of COVID-19, we compute the monthly rate of change of export volume indices of these products. The rate of change in textile and garment products export volume index was -17% in March, -30% in April, -41% in May and +71% in June 2020. The rate of change in petroleum products export volume index was -25% in March, -49% in April, +93% in May and +218% in June 2020. The rate of change in rubber products export volume index was -28% in March, -80% in April, +227% in May and +31% in June 2020. The rate of change in the manufacturing sector export volume index was -16% in March, -58% in April, +71% in May and +75% in June 2020. Though the volumes of other export products were generally recovered from decline in May, the export volume of petroleum products continued to decline until May and a huge increase in June 2020 was reported. This is clearly due to restricted operations of airline and shipping industries during the lockdown period.

Since these rates of change figures include both seasonal variation and irregular component, we report irregular component of export volumes in Figure 6 to find the impact of COVID-19. Except in petroleum products, the irregular variations in textile and garment products, rubber products and total manufacturing sector exports were not generally high before the spread of the pandemic in Sri Lanka. But the pandemic has created a huge drop in all manufacturing exports in March and April which resulted in an unusual positive shock in May again with the exception of petroleum products. That

effect of COVID-19 on petroleum product exports were negative in the month of May is also due to the restricted operations of airlines and shipping industries. These figures clearly indicate that the spread of COVID-19 in the months of March, April and May has had a serious negative impact on the export of industrial products of the country and a large positive shock in June created through inventory accumulation of export goods.

Figure 8 :Actual and Predicted Irregular Variation in Industrial Export Goods

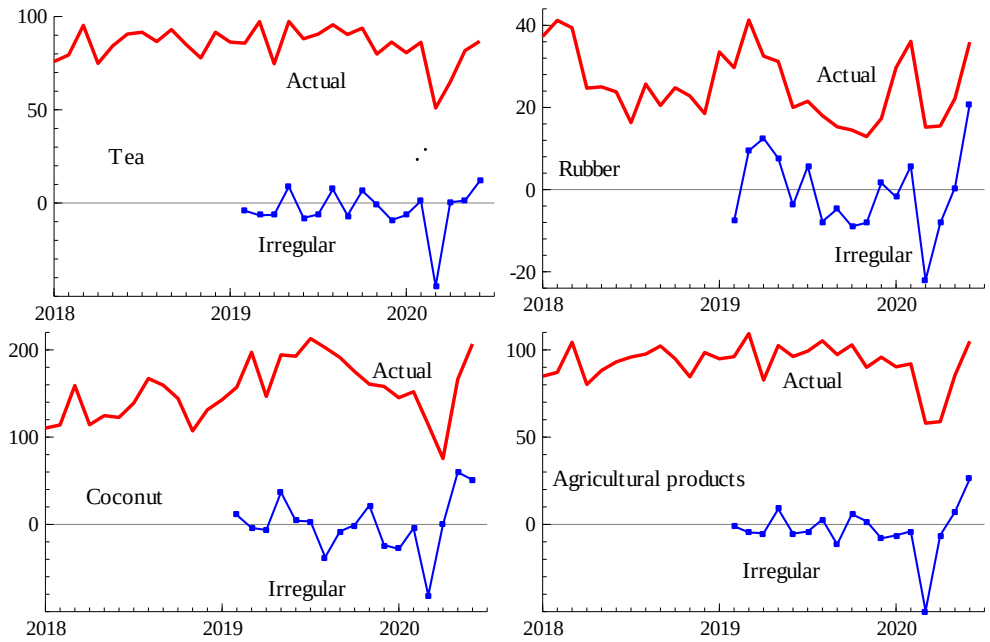


Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

Figure 9 demonstrates the time paths of export volume index of a few selected agricultural exports and their estimated irregular components. Depending on the availability of data, three major conventional agricultural exports, tea rubber and coconut and the total agricultural sector export volume were selected for the analysis. Similar to industrial sector export behaviour, the export volume indices of agricultural products fell sharply in the face of the first wave of the pandemic in Sri Lanka in March and April, and recovered in May and June 2020. But the movement of irregular components of these export volume indices shows a sharp difference

compared to that of export volume indices of industrial sector exports. That is, the sharp and sudden decline in export volume created by the pandemic was recovered quickly, by April, especially in tea and coconut exports and total agricultural exports. This indicates that the production of agricultural goods was not hindered seriously by the pandemic and as a result, agricultural export volume quickly recovered from the negative shock. The accumulation of products in March and April created a large positive shock in export volume indices of agricultural products too.

Figure 9: Actual and Predicted Irregular Variation in Agricultural Export Volume

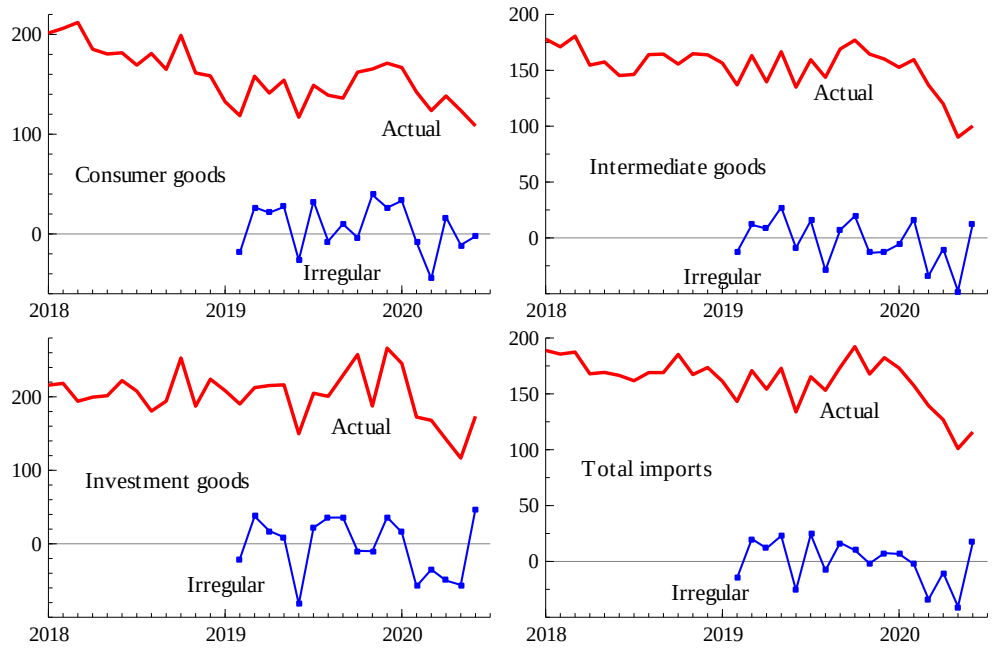


Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

The variation in the different import components of Sri Lanka is depicted in figure 10, in order to analyse the impact of COVID-19 on them. Depending on the availability of monthly data and the import of consumable goods, intermediate goods and investment goods were selected for the analysis together with the total import volume. As displayed in Figure 4, the total import volume index shows a slight decline from January 2018 to November

2019. Thereafter the import volume index registered a sharp decline until May 2020. This decline is a result of the new government's decision to restrict import of goods as a solution to foreign exchange and balance of payment crises and trade difficulties due to the pandemic in partner countries. The sharp decline in import volume since November 2019, with the establishment of the new government, is clearly visible not only in the importation of consumer goods but also in intermediate and investment goods. There is no argument that import control of intermediate and investment goods will have a long-term negative impact on the production, exports and therefore on the foreign exchange earning capacity and balance of payments status of the country. As Figure 10 illustrates, the import volumes are subject to frequent large shocks and the spread of COVID-19 seems not to have a big sudden impact on importation of goods as in the case of export of goods.

Figure 10: Actual And Irregular Variation in Import Volume



Source: The author's estimates based on the Monthly Bulletin of the Central Bank of Sri Lanka

A close look at the irregular components of import volume indices reveals that import volumes have not fallen sharply though there is a negative impact in the face of the pandemic. The COVID-19 pandemic has not caused significant fluctuations in import volume indices compared to the irregular variations in other time periods.

Conclusion

The first case of COVID-19, the deadliest pandemic that has occurred since the 1919 influenza pandemic, was reported in Sri Lanka in early March 2020 and as it showed signs of spreading quickly, the government decided to lockdown the entire country and imposed an Island-wide curfew, restricting the movement of people. The government continued the strict lockdown measures until May and then gradually opened the country for normal operations. This quick policy response prevented the spread of the pandemic and a relatively small number of people were infected (5500 cases) and only 13 deaths were reported during the first wave of the pandemic. The lockdown of the country, closure of economic activity and resulting loss of livelihoods and income, created serious impact on the macroeconomic performance such as production, consumption, savings and investment, employment (or unemployment), businesses, foreign trade, public finances, etc. of the country. The purpose of this paper was to discuss in detail the impact of COVID-19 on export and import trade of the country. The export and import trade was selected as it depends both on local and foreign conditions of the COVID-19 pandemic. The export and import trade of the country will be disturbed by local and foreign lockdown measures and restrictions on international transactions.

Variations in export and import variables at the times of COVID-19 pandemic was compared to variations in other periods and analysed. The Univariate modelling approach was used to decompose the variation of a series into trend, seasonal and irregular components. Stochastic trend, seasonal variation and irregular variation of the data series were separated. The COVID-19 pandemic as a sudden health disaster/shock was considered and therefore its effect is represented in the irregular component of the data series. Monthly trade data from January 2018 to June 2020 taken from the Monthly Bulletin of the Central Bank, Sri Lanka was used in the analysis.

The data series used in the analysis include values of export, import and trade balance in US dollar millions and export and import volume indices for different components of exports and imports.

It was found that the export sector of Sri Lanka has been seriously affected by the pandemic. It has severely disturbed the normal time path of export value and the value of exports dropped in March 2020 by 34% compared to the previous month and continued to drop in April by 57%. The compound decrease in export value in the months of March and April was about 71% compared to the export value of February 2020. The export volume index of the total exports of the country also showed a sharp decline in March and April and showed signs of gradual recovery thereafter. The time path of the irregular component of the export volume index confirmed the occurrence of a large negative shock in March. This negative shock continued in April and May before it turned to a large positive shock. It was estimated that the pandemic in its two waves that have occurred so far would reduce the country's total exports by 67% at the end 2020 compared to its pre-pandemic figures. The analysis using monthly data of industrial and agricultural product-wise exports also confirmed the large and negative impact of the pandemic. This suggests that the COVID-19 pandemic has created a huge negative shock to the export performance of the country.

The general pattern of the behaviour of the import value series shows fluctuations in the import value of the country from February to May. In 2020, this pattern was not observed and instead, the import value demonstrates a continuous drop from January to May 2020. It is clear that during the months of the first wave of COVID-19 the import value of the country fell significantly. The import volume index of the country also fell from December 2019 to May 2020. Notwithstanding the positive values reported in previous years, the irregular component of the import volume index in March, April and May in 2020 became negative in which the negative values of March and May were exceptionally large. The import volume of the country would be down by 45% at the end of 2020 compared to its pre-pandemic figures. The analysis of monthly figures of components of imports also suggests that the first wave of the COVID-19 pandemic has resulted in large negative shocks in import volume indices of consumer, intermediate and investment goods, in which declines in intermediate and

investment goods imports may create further supply shocks. This again indicates that the spread of COVID-19 pandemic in Sri Lanka has a significant negative impact on the import trade of the country.

The quick policy responses of the government to contain the spread of the pandemic and precautionary behaviour adopted by the public was instrumental in the successful control of the first wave of the pandemic in the country. In October 2020, the second wave of the pandemic occurred especially with Gampaha and Colombo as the epicentres. Contemplating the non-threatening effects (low death rate), high economic costs in terms of loss of livelihoods, income sources and heavy relief measures and the burden on the public exchequer, the government adopted 'a wait and see policy' and did not impose island-wide lockdown measures and restrictions. This policy response indicates a clear government policy shift in response to the two waves of the pandemic: (i) the first wave - impose immediate lockdown measures, provide full information of the pandemic to the public, educate and encourage people to follow health practices and maintain social distancing and implement protection measures for vulnerable; (ii) the second wave - maintain normal business and economic activities as usual as possible by downplaying the severity of the pandemic and highlighting high recovery rates and low mortality and not imposing coordinated lockdown measures. Adopting an aggressive policy to protect economic activity may be too dangerous as it increases the contagion effect of the pandemic. As is evident in the second wave of the pandemic, the pandemic has penetrated the community and as a result more cases and deaths are reported daily. The community spread will of course increase the lifecycle of the virus and also the lifespan of the shock creating a lingering negative impact on the economy.

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