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Foreign Remittances: Challenges and Opportunities for Sri Lanka

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1. Introduction

Remittances play a significant role in the Sri Lankan economy by providing a healthy cushion for external sector imbalances, and thereby stabilizing the Sri Lankan rupee. Further, remittances received by the household sector contribute to the poverty alleviation, socio-economic development and mitigating disparities in the income distribution. Nevertheless, exporting of labour is said to have adverse repercussions; for example, labour migration leads to instabilities and irregularities at the family level and skilled labour migrations lead to brain drain of the sending country.

What are remittances?

As per the Balance of Payment and International Investment Position Manual of the International Monetary Fund, remittances represent household income from foreign economies arising mainly from the temporary or permanent movement of people to those economies. They largely consist of funds and non-cash items sent by individuals who have migrated to a new economy and become residents there, and the net compensation of border, seasonal, or other short-term workers who are employed in an economy in which they are not resident. Accordingly, remittances include (a) personal transfers including all current transfers in cash or in kind made or received by resident households to or from non-resident households, (b) compensation of employees, i.e., the income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of residents employed by non-resident entities and (c) capital transfers between household, i.e., a personal transfer is the main component of the remittances.

Given the economic importance, Sri Lanka has recognized promoting foreign remittances as a national policy, especially in the skilled segment and by establishing an institutional infrastructure to oversee foreign employment sector. Over the years, foreign employment sourcing, promoting and bringing down forex has emerged as a separate industry. The value chain participants are as diverse as recruitment agencies, government participants, commercial banking sector, foreign governments…etc.

Strategizing for promoting remittances inevitably requires a situation audit of challenges and opportunities at the global level as well as the domestic level.

2. Importance of remittances

Foreign exchange received as remittances continues to play a vital role in Sri Lanka's socio-economic development. It has shown buoyancy over the last decade and provided a strong support to mitigate the impact of bloating trade deficits in recent times and thereby contributed to preservation of the external value of the rupee.

Economic value of remittances

The economic value of remittances as a percentage of selected macro indicators is shown in the Table 1, below.

External balance

Remittances are a more stable source of foreign exchange than private capital flows, less volatile to changing economic cycles and since they are unilateral transfers, they do not create liabilities for the receiving country (Sri Lanka). It is noted that more than 50% of the trade deficit (merchandise deficit) has been compensated by remittances except in 2021. Therefore, one can conclude it plays a pivotal role in mitigating external sector imbalances.

Social well-being

The utilization pattern of remittances by recipients suggests that it cannot only make the lives of the migrant workers less vulnerable but can also uplift them from poverty. At least one in every fourteen households receives foreign remittances according to Weeraratne (2019), and Ranasinghe (2008) suggests that out of the total income, remittance recipient families spend around 56% on food and 18% on education, which meets the basic needs of the families trying to move out of poverty. Also, remittances create a multiplier effect that may lead to accelerated income generation.

In addition to financial benefits, migration of labour provides opportunities to build the country's human capital and social assets. Returning migrants usually bring new skills during employment abroad through what is today recognized as beneficial transfer of know-how and competencies called 'brain gain'. Additionally, even though some of

Table 1: Economic value of remittances

	2015	2016	2017	2018	2019	2020	2021
Remittances as a % of trade deficit	83.21	81.62	74.48	68.69	83.99	118.24	67.47
Remittances as a % of merchandise exports	66.19	70.24	63.06	59.76	56.26	70.71	43.93
ME[1] remittances as a % of total	54.00	53.70	51.80	50.56	51.50	51.70	51.61
Remittances as a % of GDP	8.66	8.79	8.19	8.08	8.01	8.77	6.50
Remittances/Total exports[2]	54.2	54.9	48.9	45.4	45.4	65.4	39.0

1 ME – Middle East

2 Total exports = Merchandise exports + Labour exports (remittances)

Source: CBSL

their other contributions can be less tangible than remittances, it is not necessarily less relevant.

3. Challenges faced by Sri Lanka in promoting foreign remittances

Remittance composition bias towards Middle East

Sri Lanka receives over 50% of its total remittances from the Middle East (ME) by deploying more than 85% of its migrant worker force[1]. This represents the labour demand from the ME that usually concentrates on low skilled, blue-collar workers.

However, in addition to other external reasons, the Government of Sri Lanka has taken steps to discourage the migration of potential female domestic workers, in order to promote upskilling Sri Lanka's migrant labour force. As a result, the gender composition of foreign employment is gradually shifting away from female dominance. The decrease in unskilled workers and housemaids by almost 50% could influence the changes in remittances channeled from the ME, which absorbs the larger share of housemaids and unskilled workers from Sri Lanka[2]. However, unskilled labour is always accompanied with a lower wage rate and the potential to lose employment. Many developing countries in the region supply unskilled labour for which the demand is elastic. Sri Lanka is compelled to face this high competition with rivals such as India, Philippines and Bangladesh.

Increased regulations in host countries

In addition, increased regulations, norms or rules that govern migrant workers and their entry to host countries have been strengthened in the recent past in the West and the Far-East Asian countries such as Canada, the UK and New Zealand. Policy makers address rising unemployment issues in these countries by curtailing the migrant workers entry. There is also a trend in some of the ME states towards 'nativisation' and 'Arabization' of the labour market where localization is preferred. In addition, the UAE has adopted new visa policies that require foreign workers to have at least matriculated/High School education, which would strike off a significant portion of the unskilled labour force from South Asia. This potential decrease in sourcing opportunities is to exert pressure on remittance volumes in the near future unless our labour proposition is upgraded, and new job sources are explored.

Ensuring safety: Rights of migrant workers and infringements

Migrant workers are often subjected to neglect, harassment and violation of rights both in the sending and receiving countries since sending states are reluctant to take up the issue seriously for fear of loss of labour market. The violations of rights of migrant workers start at home by agents and recruitment agencies and continue in the receiving countries. As most of the migrant workers come from rural areas, such people have very little access to and knowledge of pre-departure information. In 2007, the Centre for Women's Research (CWR) estimated that around 10% of the female migrant workers from Sri Lanka were victims of some form of physical, psychological or sexual abuse (CWR 2020). Lack of adequate information has caused adverse recognition to Sri Lankan labour force in the ME and they become the subjects for brutality; and the grievances are not given a fair hearing.

In addition, the use of terminology for protection of migrant workers is very tricky in the Gulf region, especially when it comes to women migrant workers.

1 Central Bank of Sri Lanka (CBSL). Quarterly Bulletin of Workers' Remittances and Labour Migration. 2022 – Q4 CBSL, Annual Report 2021. 2021

2 ILO (2020)

Challenges affecting the social development

Irrespective of whether they are from urban or rural areas, in many cases, migrant workers are the primary breadwinners of the family. Lack of parental guidance and additional responsibilities originating from migration of unskilled female labour may increase school absenteeism or dropouts, reduction in nutrition and healthcare for younger children and more increasingly, substance abuse by elder children.

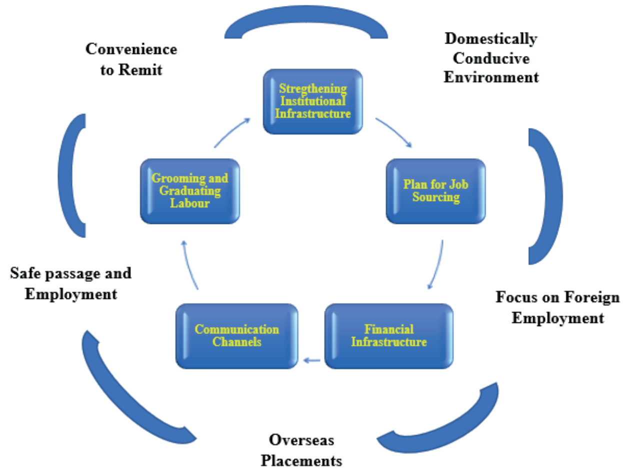
4. Opportunities

Sri Lanka, along with many other Asian emerging economies, has acknowledged the importance of remittances in national development and has thus created several incentives to improve the inflow of money sent by migrant workers into the country. In the Sri Lankan context, there are ample opportunities for promoting influx of foreign exchange in remittances with a well-articulated master plan. Going forward, the primary target should be promoting the export of high yielding quality labour and creating a conducive, and safe environment for such labour in the foreign workplaces.

A master plan to streamline and promote remittances

Sri Lanka has the potential to formulate all encompassing policy for promoting foreign employment to harness the full potential in the remittances market. The diagram below highlights the essential components of a policy to promote foreign remittances. The model as depicted in the Diagram 1, below is built on five basic premises and the areas on that policy considerations to be given are also mentioned of which the details are given underneath the Diagram.

Diagram 1: A Master Plan in nutshell



Source: Author's own compilation based on practices adopted in other countries

A sourcing plan: Global demand and Sri Lankan potential

Sri Lanka's potential to expand the remittances market is largely dependent on the changing employment landscape and regulatory frameworks in the global context. A comprehensive sourcing plan entailing the destinations and potential industries would not only assist potential job seekers to find placements but also to form ancillary plans for grooming prospective workers and addressing infrastructural issues. For instance, from time-to-time Australia relaxes rules and regulations applicable for professionals, especially accountants; it would create an opportunity for the country to promote migration of professional accountants to Australia. In the past, Italy and South Korea embassies have been able to secure employment opportunities in numbers at the diplomatic level, identifying niches where there is a lack of labour supply in the host country. This way the labour supply could be streamlined in line with government policies to ensure ample and safe workplaces for Sri Lankan labour.

Regulatory improvements

There is a need for more professional training, better knowledge of migration issues, institutions and laws, as well as the need for better understanding of the way in which migration and other issues impact on the socio-economic culture of the country at the official level. In order to maintain the standards of the industry, Sri Lanka Bureau of Foreign Employment (SLBFE) needs be further empowered and strengthened to seek more opportunities in the overseas labour market, regulate employment agencies, register emigrants and to provide attractive welfare services to migrants and their families. Making the intermediary or sub-agents accountable through licensing and their supervision are essential, as well as linking the renewal of the license to their performance. The performance criteria need to be linked to not only in terms of the number of workers they send abroad, but also under what terms they are sent and how do they respond when they have problems.

Focused tailoring and sourcing

A long-term strategy should be developed in line with the sourcing plan described above in order to prepare the labour force. The SLBFE could identify and initiate focused training programmes island-wide including language proficiency and life skills such as professional nursing, teaching,…etc. The feasibility of a central training institution could be explored positively to cater to the training demand. Job banks could be established for the youth to be registered whereby suitable candidates for foreign employment can be offered suitable training.

Safe migration

Appropriate policies should be developed to ensure safe migration. Recommendations for such policies include developing awareness campaigns both in the country and destination; establishing bilateral labour agreements (BLAs) and memoranda of understandings (MoUs) to ensure rights through formalizing wages, obligations and privileges; and expanding the role of consular services in the destination countries to protect the rights of migrants. When negotiating BLAs and MoUs, it is essential to keep in mind the rights of the migrant workers.

Improved infrastructure:

Financial sector

Structural reforms in Sri Lanka's formal financial infrastructure through improved technology and outreach are essential for long-term development. This will improve remittance flows, help migrants manage their savings, and decrease their economic risks, while also increasing the volume of account-to-account transactions. Increased outreach would allow a higher number of people to access formal networks, particularly in rural areas where most remittances are received. Banking sector should be encouraged to offer technologically advanced to convenient services to facilitate remittances with low cost such as door-to-door banking, investment advisory services and encouraging recipients to invest a portion of remittances with an enhanced ability to leverage funds.

Communication channels

A cost-effective IT infrastructure could support strengthening/maintaining the relationships between the migrant worker and his/her family in Sri Lanka. At present, there are private radio channels offering such platforms, targeting specific countries, e.g., Sri TV in Italy. However, these channels promote some commercial interests only. Authorities could consider having a dedicated digital terrestrial TV channel or a radio station to provide a platform for migrant workers to communicate with their families. This could further be used as a channel to promote investments opportunities available in the country.

Learning from Best Practices

A number of countries in the region provide incentives to migrant labourers and services to assist in the reintegration of returning migrants. A number of incentives and services to migrant labourers can be provided to assist their reintegration. In order to encourage Sri Lankans abroad to remit their funds to their home country, incentive schemes such as housing opportunities on government land developments, enhanced limits for duty free imports, non-resident Sri Lankans may be provided with a merit-based quota system assigned in all public professional colleges and universities, participation in a lottery for choice plots in public housing schemes at attractive prices if paid in foreign currency, and expedited allocation of shares on the Colombo Stock Exchange and further liberalization of investment opportunities in government securities. Sri Lanka can be guided by the strategies adopted by Philippines in this regard. Over the past 20 years, the Philippines have built up legislations designed to attract resources of its sizeable diaspora. These laws include incentives and privileges for them to invest, donate, purchase real estate property or open local enterprises in areas that are normally meant for Filipino citizens.

5. Conclusion

There is little or no doubt as to the significance of worker remittances in the Sri Lankan economy. Historically, the volume of the remittances has been adequate to compensate for more than 60-80% of the trade deficit. It contributes to poverty alleviation, socio-economic development and mitigating disparities in the income distribution. Remittances are of special importance in the present context where larger trade deficits demand larger forex flows in direct investments, foreign debt or remittances. Unlike other forex flows, remittances do not create a liability to pay back later either in the form of debt servicing or investment payback, therefore, is identified as the healthiest source of foreign exchange.

However, remittances are not devoid of costs. They arise due to the export of labour. Whilst migration of local workforce (specially the skilled labour category) leads to an opportunity cost where domestic development initiatives are compelled to import expertise from overseas, it has continued to create social issues at the heart of the society – the family level and ultimately to the society at large. Promoting remittances requires a planned and concerted effort from authorities and there is enough room to increase the remittance volume by merely offering state-of-the-art remittance systems, communication channels and some incentives for the existing migrant workforce.

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The Role of Bilateral Currency Swap Lines

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1. Introduction

Subsequent to the outbreak of the global financial crisis, a series of currency swap arrangements among central banks have been signed, and many other short-term ad hoc mechanisms adopted during that period have been later transformed into permanent institutions. These swaps agreements allow a central bank in one country to exchange currency, usually its domestic currency, for a certain amount of foreign currency. Currency Swaps facilities involving the U.S. Federal Reserve were the most important of all the cross-border policy responses to the crisis helping to ease potentially devastating dollar funding problems among non-U.S. banks. In a swap arrangement, the US Fed provides dollars to a foreign central bank, which, at the same time, provides the equivalent funds in its currency to the Fed, based on the market exchange rate at the time of the transaction. The parties agree to swap back these quantities of their two currencies at a specified date in the future, which could be the next day or even three months later, using the same exchange rate as in the first transaction. These swap operations carry no exchange rate or other market risks, as transaction terms are set in advance. The absence of an exchange rate risk is the major benefit of such a facility. The recipient central bank can then lend these foreign currencies to its domestic banks, on its own terms and at its own risk. The purpose of a swap line is to keep liquidity in the currency available for central banks to lend to the private banks to maintain their reserve requirements. Liquidity is necessary to keep financial markets functioning smoothly during crises.

The evidence of existing studies highlight that mostly swap lines are extended only to fundamentally sound and sound emerging markets. Importantly, sound fundamentals include healthy levels of foreign exchange (FX) reserves. The highly selective nature of swap recipients means that a majority of developing countries will not have access to swap facilities. For those countries, swap lines cannot possibly be a substitute for reserve accumulation, for the simple reason that the central banks of large countries will be unwilling to provide them with swap lines. According to Aizenman et al (2011), evidence show that large central banks tend to extend swap facilities only to those countries with which they have strong financial and trade linkages. Accordingly, while swaps can contribute to the global public good of global financial stability, in reality, large central banks provide liquidity support only when it is in their self-interest to do so.

2. How bilateral currency swap agreements work

A bilateral currency swap is when two central banks from different countries exchange two different currencies with each other. Initially, one country (eg. Sri Lanka) borrows currency (eg. USD) from another country while simultaneously lending its own currency (LKR) to the other country. At the origin of the swap, Central Bank (CB) A sells a specified amount of currency X to CB B in exchange for currency Y at the prevailing market exchange rate. CB A agrees to buy back its currency X at the same exchange rate on a specified future date. CB A then uses the currency Y it has obtained through the swap to lend on to local banks or corporations. On the specified future date that the swap unwinds, the funds are returned and CB A, which requested activation of the swap, pays interest to CB B.

Swap lines which basically can be executed as discussed above are of two-fold, dollar swap line and the other foreign currency swap line.

2.1 The Dollar Swap Line

The Fed provides dollars to a foreign central bank in a dollar swap line. The Federal Reserve opened a dollar swap line with the European Central Bank (ECB) and the Swiss National Bank on December 12, 2007. It subsequently expanded swap lines with other nations' central banks. The Fed worked in conjunction with other central banks around the world to stop the banking panic that temporarily shut down money market accounts. This followed the bankruptcy of Lehman Brothers and the unprecedented bailout of the American International Group (AIG).

The Fed then extended its dollar swap to Australia, Norway, Denmark, New Zealand, Brazil, Mexico, South Korea, and Singapore from September 24 to October 29, 2008. This move indicated how the banking panic, which started in New York, had spread throughout the world in just six weeks. It also shows the steps the Fed had to take to support the U.S. dollar's position as the world's global currency. The dollar would have collapsed at that time if it were ever going to do so.

The Fed maintained a permanent swap line with the Bank of Canada, the Bank of England (BOE), the European Central Bank (ECB), the Bank of Japan (BOJ), and the Swiss National Bank (SNB). The other swaps were allowed to expire after the crisis subsided. The Fed added swap lines with the banks of Australia, Brazil, Denmark, South Korea, Mexico, New Zealand, Norway, Singapore, and Sweden. These agreements were for at least six months and ensured there were no monetary crises during the pandemic.

2.2 Other Foreign Currency Swap Line

The foreign central bank provides its currency to the Fed. The Fed announced currency swap lines with the central banks of England, ECB, Japan, and Switzerland in April 2009.1 It wanted to reassure U.S. banks that there would be enough of those countries' currencies on hand if they needed it. These swap lines terminated on February 1, 2010. The Fed authorized new swap lines with Canada and the above countries in November 2011. The central banks made the agreements permanent until further notice in October 2013. These are bilateral agreements among the six banks to ensure that their countries have enough of all currencies involved.

3. History of Currency Swap Arrangements

The most initial currency swap agreement between central banks dates back to the Bretton Woods era when, on February 28, 1962, the U.S. Federal Reserve and the Central Bank of France signed a currency swap agreement, for the U.S. when they were influencing European countries to intervene in the foreign exchange market to maintain stability of the US dollar exchange rate against their respective currency such as franc. By this agreement the Central Bank of France credited 500 million francs into the U.S. Federal Reserve account, while the Federal Reserve credited US$50 million into the account of the Central Bank of France. This swap initially executed for short-term valid for three months. However, with the worsening of the US dollar crisis, the United States expanded the scale of its swap transactions to include Austria, Belgium, Britain, Germany, Italy, Holland, Switzerland, Canada and several other countries, with a total credit amount of swaps of $900 million by 1963.

It is noteworthy that most currency swaps are carried out between the USD and other national currencies, as the USD remains the most significant international reserve currency. However, since the 2008 global financial crisis and the European debt crisis demonstrated the volatile value of the USD as well as the Euro, some countries have begun to mitigate the risk by diversifying their reserve currencies. The Federal Reserve extended swap lines to the European Central Bank (ECB) and Swiss National Bank (SNB) on December 12, 2007, when European bank demand for dollars and affecting the U.S. dollar interest rates. The objective of the swap lines were to address high pressures in short-term funding markets, without the U.S. Federal Reserve having to fund foreign banks directly. Just after the collapse of Lehman Brothers, on September 16, 2008, the Federal Reserve Open Market Committee (FOMC) gave the foreign currency subcommittee the power "to enter into swap agreements with the foreign central banks as needed to address strains in money markets in other jurisdictions." This enabled to extend swap lines to other central banks and to expand the size of the existing swap lines. Two days after the subcommittee was granted this power, the U.S. Federal Reserve expanded the size of the swap lines with the ECB and SNB, and extended three new swap lines, to Canada, the United Kingdom (UK), and Japan. On September 24, 2008, further swap lines were extended to Australia, Denmark, Norway, and Sweden. On October 28, 2008, a swap line was extended to New Zealand.

3.1 Bilateral Currency Swap Agreement (BCSA) signed by Emerging Countries with developed countries

The U.S. Federal Reserve extended swap lines to emerging countries Brazil, Mexico, South Korea, and Singapore in October 2008. Owing to the risks associated with swap lines, the Fed has been much more cautious in extending the swap lines to emerging economies than it has been with other developed economies. The Fed claimed on provisions allowing it to seize their assets at the New York Fed in the case of failure to repay by the emerging country's Central Bank.

Further, the ECB initially agreed to provide euros to Hungary, Latvia, and Poland only through repurchase agreements, in which bonds rather than currency are held as collateral, but eventually extended a normal swap line to Hungary. Switzerland also provided Swiss francs to Poland and Hungary in exchange for euros. The Scandinavian economies facilitated small euro swap lines to neighboring emerging economies to support financial stability in these countries. The Swedish central bank agreed to provide euros to the central banks of Latvia, Estonia, and Iceland while Norway provided euros to Iceland, and Denmark provided euros to Iceland and Latvia. The loans granted to Latvia from Sweden and Denmark were bridging loans.

3.2 Swap lines by China

Since 2009, China has signed bilateral currency swap agreements with thirty-two counterparties. The stated intention of these swaps is to support trade and investment and to promote the international use of renminbi. Broadly, China limits the amount of renminbi available to settle trade, and the swaps have been used to obtain renminbi after these limits have been reached. In October 2010, the Hong Kong Monetary Authority and the People's Bank of China (PBoC) swapped 20 billion yuan (about $3 billion) to enable companies in Hong Kong to settle renminbi trade with the mainland. In 2014, China used its swap line with Korea to obtain 400 million won (about $400,000). The won were then lent on to a commercial bank in China, which used them to provide trade financing for payment of imports from Korea.

In addition to using the swaps to facilitate trade in renminbi, China used the swap lines to provide loans to Argentina in order to bolster the country's foreign exchange reserves. In October 2014, it was reported that the renminbi Argentina receives through the swap could be exchanged into other currencies. Argentina had difficulty borrowing dollars on international markets since it defaulted on its debt in July 2014 and has faced shortages on a range of imported goods as a result. Swapping renminbi into dollars would enable companies to import more than they would be able to otherwise.

Much as the Fed faced domestic criticism for "bailing out" European banks during the financial crisis, the PBoC was subjected to public reprimanding for signing a swap agreement with Russia shortly before the plunge in the value of the rouble in late 2014. The PBoC felt compelled to respond through Chinese social media, explaining that swaps are collateralized based on the exchange rate prevailing at the time they are actually used, and not at old rates prevailing at the time agreements are signed. Past movements in the value of the rouble were, therefore, irrelevant, in fact, well protected. But the controversy highlighted how sensitive the issue of swaps had become in an era of global financial turbulence.

4. BCSA during the Covid-19 pandemic

The U.S. Federal Reserve opened temporary swap arrangements with the central banks of Australia, Brazil, Denmark, South Korea, Mexico, Norway, New Zealand, Singapore, and Sweden in March 2020, to be in place for at least six months for a combined $450 billion. The Fed already had permanent swap arrangements with the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank.

According to the findings mentioned in the IMF Working Paper in 2021 by Michael Perks, Yudong

Rao, Jongsoon Shin, and Kiichi Tokuoka, it was revealed that,

- Countries are more likely to sign and roll over a BSL designed to alleviate balance of payments (BOP) needs, as their external position weakens.
- Countries are more likely to sign a BSL with China if they have strong trade linkages. Analysis also suggests a stronger link with countries with a larger export exposure to Chinese goods than with countries that exhibit a major import exposure to Chinese goods.
- Fed BSLs appear to have been effective at stabilizing market conditions during the COVID-19 pandemic. The positive impact of Fed BSLs during the pandemic exceeded that typically associated with other BSLs. This finding demonstrates the vital role that BSLs can play in the Global Financial Safety Net (GFSN), especially at times of severe market disruption and U.S. dollar liquidity shortage.

Few of such BCSAs signed among regional Central Banks are as follows;

A. Bilateral Swap Arrangement between Bank Indonesia and Bank of Korea

In March 2020, Bank Indonesia (BI) and Bank of Korea have extended a BCSA to strengthen the rupiah and the South Korean won and to promote trade. The arrangement, which was signed by Bank of Korea Governor Juyeol Lee and BI Governor Perry Warjiyo, allows for the exchange of their currencies between the two central banks for up to Rp 115 trillion (US$8.14 billion) or 10.7 trillion won. The facility was effective from March 6, 2020, to March 5, 2023, and can be extended by mutual consent.

B. Renewal of Bilateral Swap Arrangement between Japan and Thailand

The BOJ, acting as agent for the Minister of Finance of Japan, and the Bank of Thailand renewed the existing Bilateral Swap Arrangement (BSA) between the two countries on July 23, 2021. The BSA is a two-way arrangement, in which both authorities are able to swap their local currencies in exchange for the US Dollar. The arrangement also enables Thailand to swap the Thai Baht against the Japanese Yen. The size of the BSA remains unchanged, that is, up to 3 billion US Dollars or its equivalent in Japanese Yen.

The renewed BSA introduces a precautionary scheme, which is a new feature to supplement the existing crisis-resolution scheme. It also incorporates amendments to align the BSA with the recent amendments to the Chiang Mai Initiative Multilateralisation (CMIM) Agreement. Both authorities agree that continuing such bilateral financial cooperation will help preserve financial stability in both countries, and support the close bilateral economic and trade relations between Japan and Thailand.

C. Singapore and Indonesia Central Bank Extend Swap Arrangement

In October 2021, BI and the Monetary Authority of Singapore (MAS) have agreed to extend a $10 billion bilateral financial arrangement for another year. The extension will support monetary and financial stability in both countries amid the COVID-19 pandemic. This is the second extension of the arrangement, which was launched in 2018 for one year. It enables the two central banks to access foreign currency liquidity from each other, if needed, to preserve monetary and financial stability. It comprises a local currency bilateral swap agreement that allows for the exchange of local currencies between the two central banks of up to S$9.5 billion or IDR 100 trillion ($7 billion equivalent), and an enhanced bilateral repo agreement of $3 billion that allows for repurchase transactions between the two central banks to obtain USD cash using G3 government bonds as collateral.

D. Renewal of Bilateral Swap Arrangement between Japan and Indonesia

Japan and Indonesia renewed the Bilateral Swap Arrangement (BSA) in October 2021. The Bank of Japan, and the Bank Indonesia signed the third Amendment and Restatement Agreement of the third BSA. The BSA enables Indonesia to swap its local currency in exchange for the US Dollar and the Japanese Yen. The size of the BSA remains unchanged, that is, up to 22.76 billion US Dollars or its equivalent in Japanese Yen. The renewed BSA incorporates amendments to align the BSA with the recent amendments to the Chiang Mai Initiative Multilateralisation (CMIM) Agreement. Japan and Indonesia expect that the BSA, which is aimed at strengthening a financial safety net, will further help deepen financial cooperation between the two countries and contribute to regional and global financial stability.

E. Renewal of Japan and India Bilateral Swap Arrangement

In March 2019, the BOJ, who has the second highest dollar reserves after China, and the Reserve Bank of India (RBI) signed a currency swap agreement that enables both countries to swap their local currencies (i.e., either Japanese yen or Indian rupee) against US dollar for up to $75 billion. In February 2022, the BOJ, and the RBI signed the Amendment and Restatement Agreement of the BSA, of up to $75 billion, where both authorities can swap their local currencies in exchange for the US Dollar. Japan and India believe that the extension of BSA, which aims to strengthen and complement other financial safety nets, will further deepen financial cooperation between the two countries and contribute to regional and global financial stability.

The Indian rupee has been losing ground versus the dollar due to the country's expanding current account deficit (the difference between imports and exports of goods and services). As a result, importers' demand for dollars rises well above what exporters bring into the country. A swap agreement with Japan provides substantial confidence to India, as Japan is the world's second-largest holder of dollar reserves, after China, with over $1.250 billion in cash on hand. As a result, while Japan is unlikely to request a dollar loan from India, India can benefit from such a loan at extremely low-interest rates. This agreement could also be seen as a payoff for lucrative investment deals that assist Japanese corporations in setting up companies in India.

The RBI could sell these dollars (or yen) to importers to settle bills or to borrowers to repay foreign borrowing. The RBI could even keep the money to shore up its own foreign exchange reserves and protect the rupee. While the RBI had $426 billion in foreign currency reserves by April 2018, it has had to use part of it to keep the rupee afloat. Though the RBI's current FX reserves of over $390 billion are sufficient, having a $75 billion loan-on-demand from Japan provides an additional buffer. On the other hand, the RBI also offers similar swap lines to central banks in the SAARC region within a total amount of $2 billion.

5. Importance of BCSA to Sri Lanka in recent times

As declared by the International Monetary Fund, COVID-19 pandemic was expected to cause a global recession in 2020, and it predicted to cause a much greater financial and economic impact for emerging economies, compared to the global financial crisis in 2008-2009. Domestic economic activity in Sri Lanka continued to be affected by Covid -19 via various channels. Increased foreign exchange outflows, following the trends observed in other emerging market economies, resulted in a sudden loss of reserves and added pressure on the Sri Lankan rupee. As a result of these recently faced challenges on the external front, in order to meet the government loan repayments and intervention requirement of the Central Bank of Sri Lanka (CBSL) into the domestic foreign exchange market to curb the excess volatility of the exchange rate, the Gross Official Reserves (GOR) and CBSL invested reserves declined significantly during first half of 2020.

Therefore, with a view of providing some cushion with short-term foreign exchange liquidity until longer term funding arrangements are made, on request by the CBSL, the Reserve Bank of India (RBI) expressed their interest in entering into a BCSA with the CBSL, under the RBI's programme for bilateral Swap Agreements with SAARC countries.

A. The Central Bank of Sri Lanka enters into a BCSA with the Reserve Bank of India

In July 2020, the Central Bank of Sri Lanka (CBSL) and the Reserve Bank of India (RBI) entered into a currency swap agreement under the Framework on Currency Swap Arrangement for South Asian Association for Regional Cooperation (SAARC) countries for 2019 - 2022. This provided short-term financing to the CBSL to meet the country's balance of payment requirements. The intention of the CBSL in entering into this Swap agreement was to be able to maintain a sufficient short-term foreign exchange liquidity buffer while preserving the foreign currency reserve position of the country intact. Under the Swap agreement, USD 400 million was received by Sri Lanka, initially for a period of 3 months and rolled over subsequently, subject to agreement on terms and conditions of the existing SAARC Framework. The SAARC currency swap facility was launched by the RBI in November 2012 with the goal of providing a standby line of finance for short-term foreign exchange liquidity requirements or balance of payment crises until longer-term arrangements are made. Subsequently, the CBSL made the second withdrawal of USD 400 mn in January 2022 for a period of 3 months with two potential roll-overs fell due in July 2022.

B. The CBSL enters into a BCSA with the People's Bank of China

In March 2021, the CBSL and the People's Bank of China (PBoC) entered into a bilateral currency swap agreement with a view to promoting bilateral trade and direct investment for economic development of the two countries, and to be used for other purposes agreed upon by both parties. The People's Republic of China remains Sri Lanka's largest source of imports. In 2020, imports from China amounted to US$ 3.6 billion (22.3% of Sri Lanka's imports). Under this agreement the CBSL is entitled for a swap facility amounting to CNY 10 billion (approximately US$ 1.5 billion). The agreement is valid for a period of three (3) years and funds were drawn under the Agreement in December 2021.

C. The CBSL enters into a BCSA with the Bangladesh Bank

With the continuation of the COVID-19 pandemic, Sri Lanka's external sector was further disrupted significantly in 2021. The CBSL having to honour government debt repayments while facilitating other outflows in the distressed domestic foreign exchange market has led the CBSL foreign reserves to decline significantly. Moreover, reserves were expected to decline further as per the country's debt repayment schedule, without any assurance of inflows to the reserves. Therefore, to help maintain the stability in the balance of payments and foreign exchange reserves, the CBSL sought a Bilateral Currency Swap facility from the Bangladesh Bank (BB). In August 2021, the CBSL and the BB signed a BCSA for a maximum amount of US dollars 250 million, and to roll-over the said facility further, on mutually agreeable basis on terms and conditions indicated in the Agreement. Under the above BCSA, the CBSL was able to draw US dollars 200 million in three (3) tranches of US dollars 50 million, US dollars 100 million and US dollars 50 million on 19 August, 30 August and 21 September of 2021 respectively. This swap facility was initially for three (3) months period with the possibility of renewing twice with the mutual consent. The swap facility got matured in August / September 2023.

6. Conclusion

The Sri Lankan rupee had also been depreciating against the dollar during 2021-2022 due to the country's expanding current account deficit. As a result, importers' demand for dollars rises well above what exporters bring into the country. Bilateral Swap agreements signed with the RBI in 2020 and with PBoC and BB in 2021 provided substantial confidence to Sri Lanka as well as some cushion with short-term foreign exchange liquidity until longer term funding arrangements are made. Sri Lanka could sell these dollars to importers to settle bills or to borrowers to repay foreign borrowing. The CBSL could even keep the money to shore up its own foreign exchange reserves and protect the rupee.

Although the swap lines prevented sales of assets and other actions that would have aggravated the crisis, the fact that the swap lines now appear permanent may actually encourage these "huge currency mismatches" to grow. Banks will now expect their central banks to provide them with foreign currency if market stresses once again make this funding difficult to obtain in private markets, and those who lend to foreign banks will continue to do so in the expectation that, in a crisis, they will be repaid with funds borrowed from the central bank. The existence of swaps therefore makes restraints on banks' reliance on short-term funding, and requirements that foreign banks hold high quality, liquid, local currency assets, all the more important.

While the terms of bilateral currency swap agreements are considered to protect both central banks, there is some risk that a central bank will refuse, or be unable, to honor the terms of the agreement. Since the 2007-2008 financial crisis, the swaps have been used by central banks to obtain foreign currency to boost reserves and to lend on to domestic banks. Therefore, lending through currency swaps is a meaningful sign of trust between governments. It can also be a sensitive domestic political issue, however; legislators in the United States, and even public commentators in China, have expressed concerns about the level of risk their respective central banks are taking in extending swap lines to certain nations.

As a final note, the developing world needs more than just short-term swaps of currency to avert what could become a humanitarian catastrophe. They need long-term loans, grants, and debt relief. And, for that, the burden falls mostly on the IMF, the World Bank, and the advanced economies.

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Strategic Technologies with Potential to Influence Future Payment Services in Sri Lanka

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Introduction

In this era of financial technology (fintech) characterized by emerging technologies, digital payment services play a vital role in the country while enhancing financial inclusion. Rapid technological development in payment systems has turned out to be a keystone in the improvement of the financial sector. It has the power to deliver financial services in an efficient manner, alleviating market failures that arise from traditional payment services. Fintech development and the evolution of payment instruments are the two main elements of forming a cashless society. With the recent rapid evolution of fintech innovations, the Payments and Settlements Department of the Central Bank of Sri Lanka (CBSL) has taken several regulatory decisions to enhance the quality, security, efficiency and accessibility of the financial services in Sri Lanka. The year 2020 was named as the year of digital transactions in the country to promote the use of digital financial services and thereby encourage people to use digital payment methods such as payment cards, mobile phone-based payments, internet banking, mobile banking and LANKAQR code. CBSL is also currently evaluating the likelihood of implementing a shared know your customer (KYC) facility in Sri Lanka. Meanwhile, there are several applicable strategic technologies with the potential to influence future payment systems in Sri Lanka, such as biometric authentication, open banking, blockchain technology, big data analytics and artificial intelligence.

Biometric Authentication

Biometric authentication is an effective form of identification that use biological characteristics of an individual such as fingerprint, finger vein and palm vein patterns, retina or iris, face and voice recognition or a combination of these characteristics. It is a reliable authentication tool that can be implemented in the financial services sector to perform secure transactions with minimum frauds. Financial sectors in several countries have increasingly applied biometric authentication to secure financial information and customer identification (Thales Group, 2022). Aadhaar authentication is a biometric-based authentication process used in India to identify the customer using a 12-digit unique number called Aadhaar number and biometric information stored in the Central Identities Data Repository (CIDR) (Unique Identification Authority of India, 2020).

As a robust alternative to the traditional authentication methods of payment cards, biometric authentication is now gaining momentum in several countries as a highly secure method. Biometric information such as a mathematical representation of fingerprint details is securely stored in the payment card to identify the genuine cardholder thereby preventing identity theft. Meanwhile, biometric eye scanner technology is a more secure method that can be implemented in mobile banking. It will allow the customer to sign into the mobile application by scanning the eye using the camera on the mobile phone. Moreover, fingerprint technology and facial recognition have also been applicable as biometric authentication technologies in mobile banking services. Voice-based biometric authentication is another rapidly growing technology in the financial services sector and is a most effective method. Additionally, voice-based biometric authentication can be implemented in mobile banking technology as a part of multi-factor authentication (Arthur & Frank, 2019; Dossey, 2018).

Traditional authentication methods, which rely on PIN, user IDs and passwords, are still highly vulnerable for various types of attacks such as brute-force attacks, phishing attacks and cyber-attacks. Since biometric information cannot be guessed or counterfeited, biometric authentication is the best alternative for traditional authentication methods. Furthermore, biometric authentication will enhance the trustworthiness of the payment system, and it can be popularized among customers as a very convenient method.

Open Banking

Open banking is a promising concept of open innovation that facilitates third-party developers to access consumers' financial information in financial institutions with their consent through application programming interfaces (APIs). It is an excellent opportunity for third-party developers to build innovative financial products using consumers' financial data in a secure environment in order to deliver value-added services for the customers. Open banking is evolving in global banking practice in many countries as a unique driving force of financial services. To enhance financial inclusion and promote fintech solutions, CBSL is planning to develop an open banking framework in Sri Lanka (Central Bank of Sri Lanka, 2020). An open banking framework should consider the access level granted to the third-party developers for accessing the customers' data based on read/write access to open APIs[1]. Read access allows third parties only to replicate the customer's data and perform activities without any alteration of the original data set. Meanwhile, write access allows third parties to make modifications for the customers' data on behalf of the customers such as payment initiation, fund movements between accounts and opening/closing accounts. (Deloitte, 2019).

Account aggregation with read access is one of the most common applications in open banking, which connects financial accounts across participating financial institutions. Through this, customers will be able to access all financial data in multiple financial institutions from a

1 Open API also referred to as a public API (Application Programming Interface), which gives programmatic access to a software application or web service for software developers.
https://en.wikipedia.org/wiki/Open_API

single view of transaction history or the account balances (Kearney, 2017). Based on the derived insights and recommendations by third-party developers, customers will have the opportunity to make informed decisions regarding their cash flow management, debt management and personal financial management. This is an extremely useful method for customers to manage their financial position accurately. In addition, if account aggregation is allowed through read/write open APIs, then the financial data alteration services such as account modification and payment initiations. could be handled by third-party developers. However, regulators should make comprehensive rules and regulations on open banking to mitigate the risks associated with sharing and enabling the modification of customers' data by third parties.

Blockchain Technology

Blockchain technology is a global revolutionary technology, which can be integrated into various industries. The financial services sector together with payment services has embraced blockchain technology in order to provide more secure and efficient services. A blockchain represents a chain of blocks that are secured using cryptography principles. A timestamp, which is the cryptographic hash value of the previous block and transaction data, is stored in the blocks with a unique hash value to distinguish one block from another. Meanwhile, the invaluable features of decentralization, transparency, immutability, and security have upgraded the effectiveness of blockchain technology from other technologies (Jung, 2019). Each node replicates a copy of the blockchain, and it does not rely on a central location due to the characteristics of decentralization. Therefore, blockchain applications are highly available and strongly resistant to malicious attacks and system failures. Once the data in each node is processed, it cannot be modified further. This is referred to as the immutability of the blockchain, and it is achieved using cryptographic hashing (Binance_ Academy, 2018). Therefore, it is very hard to transform data in blockchain systems and due to this reason, it is one of the best technologies to be applied in financial-related applications. Further, the transparent flow of data enhances trust among all parties of a blockchain. Sri Lanka is exploring the possibility of applying blockchain technology for implementing KYC processes in the financial industries.

Meanwhile, there is also great potential to use blockchain solutions for payment services as an alternative to traditional methods. One such usage is cryptocurrencies. Cryptocurrency is a virtual currency that is created and stored in blockchains to perform secure financial transactions using strong cryptographic protocols. Bitcoin, Ethereum, Ripple, Bitcoin cash, NEM, IOTA, NEO, Dash and Litecoin are some popular cryptocurrencies (Cointelegraph, n.d.). Out of these many cryptocurrencies, Bitcoin has gained some amount of acceptability among certain merchants compared to other cryptocurrencies.

Also, blockchain technology is an appropriate technology for solving the challenges associated with cross-border payments. Since blockchain transactions are cost-effective, transparent and efficient, many global financial institutions and government authorities are interested in implementing cross-border payments using blockchain technology (Khandaker, 2019). Trade finance is a sector which is highly dependent on paperwork and fax or mail to complete the process between multiple participants. Blockchain is a cost-effective technology for trade finance to enhance efficiency by reducing the processing time for paperwork (Belin, 2018). Therefore, blockchain is a desirable technology for the financial institutions to transform their traditional operations into a more effective, efficient, cost-effective, and secure solution.

Big Data Analytics

Big data analytics involves the techniques of analyzing a high volume of diverse and complex data in order to discover valuable insights which would help organizations to make decisions effectively. The potential of big data analytics for the financial sector has increased exponentially in recent years in several countries (Lochy, 2019). The payment sector has become a data-driven sector managing large volumes of a wide variety of data such as customer transactions, customer details and merchant details. Moreover, significant diversification of data can be observed due to diverse payment channels such as cash, payment cards, mobile phones, digital wallets, and Internet-based payments. Therefore, big data analytics is a key element for financial institutions, payment service providers, fintech companies and governments to make effective data-driven decisions to drive the payment sector forward.

Fraud detection and prevention have been prioritized as a top requirement by many financial institutions because fraudsters are continuously discovering innovative techniques to get around any sophisticated security measures that are initiated. Financial institutions in several countries use big data analytics for payment fraud management to identify fraudulent activities. Graph analytics is a more accurate technique to identify frauds efficiently by eliminating false positives (IFC Bulletin, 2019). Meanwhile, according to Coelho et al. (2014), some global AML/CFT supervisors and Financial Intelligence Units (FIUs) are exploring the methods to use customer-transactional data with non-transactional data such as tax data, custom data and property registration details for strong analyses to identify money laundering activities. In addition, some of them are attempting to use text analytics techniques with unstructured data from non-traditional sources such as newspaper articles and social media to derive more accurate results. Therefore, through the application of big data analytics, the financial sector will be able to perform more effectively and ensure cost-efficient compliance according to the volatile requirements.

As mentioned by the Irving Fisher Committee on Central Bank Statistics (2019), big data analytic techniques can be applied to interbank payments data in order to identify the flow of funds between various parties for evaluating the systemic risk by the Central Bank. Moreover, big data analytics plays a crucial role in mobile application development to identify hidden insights using large volumes of diverse data sets, ranging from consumer details to transaction details. Amazon, Uber and Starbucks are applying big data analytics using client-centric information to analyze consumer behavior and to align mobile applications to consumer requirements. Grab is a prominent mobile application in Southeast Asia that offers various services, including efficient and affordable transport service, food delivery, mobile payments, and financial services. (Grab (company), n.d.). Even though there are usable mobile applications in Sri Lanka, there is a greater potential to improve these applications to provide more customer convenience similar to the other global mobile applications, such as Grab. Therefore, with the arrival of the big data revolution, the financial sector has a greater opportunity to utilize payment system-related data to provide a high-quality service to the public.

Artificial Intelligence

Artificial Intelligence (AI) is a technology which simulates human intelligence through computer systems to perform tasks such as problem-solving, reasoning, knowledge representation and learning. As a subcategory of AI, machine learning enables systems to learn and improve from existing data without any human intervention while deep learning uses complex algorithms which learn high-level features of data as part of machine learning. According to a report published by CII-Deloitte (2020), the cognitive technologies of AI are natural language processing, natural language generation, machine learning and computer vision. Artificial intelligence has altered several industries such as finance, healthcare, hospitality, cyber security, transport, and logistics. as one of the most popular technologies in the current decade. Moreover, artificial intelligence has led to significant improvements in payment services to provide secure, efficient, and effective services.

Fintech companies apply artificial intelligence to mobile payment applications enabling them to evolve into advanced applications offering efficient digital payment services. Financial institutions in many countries have leveraged the use of AI-driven chatbot applications to provide customized banking experiences for the customers. Bank of America has introduced chatbot-Erica to communicate with customers through a mobile application effectively. Customers can interact with Erica through voice and text messages or on-screen gestures to obtain several useful services such as viewing transaction details, locking and unlocking payment cards, money transferring and navigating the application to get useful information such as closest ATM locations. As a virtual finance assistant, it sends proactive notifications on bill payments, recurring charges, annual subscriptions, and deviations of credit score. Further, based on the insights gained through analyzing consumer habits, Erica informs the users on the future status of bank balances (Bank of America, 2018; Mejia, 2019). AI-driven chatbot could help derive the ideal solutions for financial institutions to assist customers with proactive guidance for offering convenient financial services.

Meanwhile, traditional fraud detection systems have become obsolete and are deficient in detecting real-time frauds. The integration of artificial intelligence for fraud detection systems, would enable the identification of and prevention of fraudulent transactions in real time (NIMBLE APPGENIE, 2020). Moreover, "Card linked marketing" can be performed by financial institutions by doing predictive analysis using customer details such as demographic details and transaction details. Then financial institutions will be able to offer customized promotions for each person with a minimum cost for marketing (Mejia, 2019a). Therefore, the development of artificial intelligence is the driving factor to gain exponential growth in the financial sector. Further, it will be able to provide effective, efficient, and secure payment instruments with proactive customer guidance through the integration of artificial intelligence.

Conclusion

Technological innovation will increasingly accelerate the use of digital payment services in the country. Several significant strategies have been initiated by CBSL to enhance the digital payment services in Sri Lanka. Moreover, biometric authentication, open banking, blockchain technology, big data analytics and artificial intelligence are strategic technologies which have the potential to enhance the payment services in the country. The benefits of the stated technologies are likely to prove attractive to the public because they ensure efficient, effective, and secure payment systems that would make a profound impact in improving the livelihoods of people. Therefore, all stakeholders associated with payment systems in Sri Lanka, should adopt strategically important technologies to enhance the financial inclusion in the country.

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Living Wills:
Planning in Advance for Resolving Problem Financial Institutions

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"Resolution plans have been a valuable tool. At the same time, the process has imposed meaningful cost and burden on the firms and, frankly, the agencies"

\- *Jelena McWilliams (2018), Federal Deposit Insurance Corporation* -

1. Introduction

Since the disruption following the collapse of some systemically important financial institutions during the Global Financial Crisis of 2007-8, regulators around the globe have attempted to include the lessons learned from different financial catastrophes into new regulatory frameworks. Although the aims of introducing specific regulatory measures differ, the macro-objective is to restore the public and market confidence in the financial system and thereby the financial system stability. One such regulatory measure is the *'Recovery and Resolution Plans'* commonly known as *'Living Will*[1]*'* (Seal, 2012). This novel measure was first mandated in the US as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) that was enacted in 2010. The salient objectives of this Act are to promote the financial stability in the US system by improving accountability and transparency in the financial system, to end 'too big to fail', and to protect the taxpayers by ruling out bailouts. The Living Will of a financial institution, much like a person's living will that fixes terms for medical treatments at the end of his life, describes how that financial institution would manage its own potential distress situations and failures in the future. A living will requires the financial institution to detail how it could unwind itself in a bankruptcy without distrusting and disturbing the broader financial system. It provides a roadmap to facilitate recovery and resolution either in an event of stress or winding up in a case of a failure. Hence, a living will ensures that the stress or a failure in a financial institution can be resolved quickly and safely without destabilising the financial system and possible bailouts by using taxpayers' money (Seal, 2012).

1 The term 'living will' is used interchangeably by different countries/authorities to refer either to a recovery plan of a financial institution or a resolution plan, or both recovery and resolutions plans. For instance, the Federal Reserve System refers to the liquidation/bankruptcy planning of financial institutions as living wills, whereas the International Monetary Fund considers both recovery and resolution plans as parts of living wills.

Sri Lanka is in the recovery path after passing through a distressed period initially instigated as a balance of payments crisis and subsequently extended to the whole macroeconomy including the financial sector. The ensuing imbalances manifested in all the sectors – fiscal, external, monetary, and real – with interconnections. Consequently, the financial sector was a casualty of the macroeconomic crisis, affecting individual firms, on one side, and the aggregate sector, on the other. Accordingly, the individual financial firms were affected by maturity mismatches, liquidity drains, reduced interest margins, and potential bankruptcy. The experts believe that the country, including the financial sector, is gradually coming out of the danger zone, although there are several challenges to overcome ahead. If a financial institution runs through unprecedented challenges or into distress, it is advisable to have an advance resolution/recovery plan in place as a proactive measure. In this context, getting financial firms to prepare living wills that outline how they will address the insolvency issues once the firms have actually been insolvent would benefit resolving financial institutions without disturbing the financial system.

2. Why Living Wills

2.1 Mandating a Living Will: Global Perspectives

During the 2007-2009 financial crisis, the US government injected a large amount of money into big banks to protect the financial system from further stress. In order to mitigate risks involved in the occurrence of such costly events in the future, Section 165(d) of the Dodd-Frank Act requires that bank holding companies with total consolidated assets of USD 50 billion or more and nonbank financial companies designated by the Financial Stability Oversight Council for supervision by the Federal Reserve periodically submit a living will to the Federal Reserve System (FED) and the Federal Deposit Insurance Corporation (FDIC).[2] Financial institutions are categorized according to the size and complexity for the purpose of determining the frequency and the informational content requirements for resolution plan submissions. Currently, the largest and most complex banking organizations also known as global systemically important banks (G-SIBs) supervised by the Board of Governors of the Federal Reserve System (BGFSS) are required to file resolution plans by July 1 of each year. By July 2021, eight such banks namely Bank of America Corporation, The Bank of New York Mellon Corporation, Citigroup Inc., The Goldman Sachs Group Inc., JPMorgan Chase & Co., Morgan Stanley, State Street Corporation, and Wells Fargo & Company filed their living wills with BGFSS.[3] Agencies announced results of the resolution plan reviews for these banks in November 2022[4]. Other large domestic and foreign banking organizations are required to file a resolution plan every three years. A third group of firms are required to submit abbreviated resolution plans every three years. Accordingly, each living will requires a description on the financial institution's strategy for rapid and orderly resolution in the event of material financial distress or failure. It was also mandated to include both public and confidential sections in a living will. However, when the financial institution submits a living will to

2 Please see 2019-23967.pdf (govinfo.gov).

3 Please see Federal Reserve Board - Agencies release public sections of resolution plans for eight large banks.

4 Please see Federal Reserve Board - Agencies announce results of resolution plan review for largest and most complex domestic banks.

the FED and the FDIC, the institution itself designates the material that will be included in the publicly released section of the document and this will be published and accessible by the other stakeholders.

In the meantime, some other financial sector regulators around the globe have mandated their big and systemically important financial institutions to file their living wills. Specifically, the big UK banks including Lloyds Banking Group and Royal Bank of Scotland that have retail deposits of more than GBP 50 billion (USD 61 billion) were required to publicly disclose living wills by June 2021 as mandated by the Bank of England.[5] In June 2021, China's financial sector regulator, China's Banking and Insurance Regulatory Commission (CBIRC) ordered banks, rural credit cooperative and other deposit-taking institutions with consolidated assets at home and abroad of no less than 300 billion yuan (USD 46.96 billion) to prepare resolution plans.[6] CBIRC has not given specific deadlines for the implementation and announced a grace period for the implementation of the rules. However, CBIRC has already informed China's largest state banks including the Industrial and Commercial Bank of China, Bank of China, Agricultural Bank of China, and China Construction Bank, and a large insurance company Ping An Insurance Group to set up the living wills.[7] In this backdrop, some other financial sector regulators around the globe would potentially consider introducing living wills to mitigate possible bailouts of the financial institutions by using taxpayers' money. Hence, the contents and the standards of living wills would be highly dynamic and have been evolving on a continuous basis across time and space.

2.2 Objective of a Financial Institution's Living Will

The objective of mandating the living will is to help ensure the failure of a financial institution would not bring serious adverse effects on financial system stability. Although regulators do not want to see the systemically important financial institutions failing as they have detrimental effects on the financial system stability, it is also the responsibility of the regulators to prevent aggressive behaviour, imprudent practices, complex nature of businesses and high risk taking by the financial institutions starting from the time when such financial institutions are performing well. This prevents the moral hazard of over-relying on public rescues and support, and regulators do not shoulder too many risks. Living wills ensure, the financial institutions should first make use of their own assets and ask for help from their own shareholders before turning to the regulators or the government for support when running into trouble. Particularly, it is aimed at strengthening the resolution planning capabilities of financial institutions.

The resolution planning process requires financial institutions to demonstrate that they have adequately assessed the challenges that their structures and business activities pose to an orderly resolution and that they have taken action to address those issues. The regulators do not prescribe any specific resolution strategies for financial institutions. Instead, the resolution plans can be based on a preferred strategy

5 Please see UK's big banks told to publish 'living wills' from 2021 | Financial Times (ft.com).

6 Please see China Regulator Orders Large Insurers, Banks to Prepare 'Living Wills' to Handle Risks. (insurancejournal.com).

7 Please see lbid.

that the financial institutions believe would be the most effective in achieving an orderly resolution. However, the regulators are very strict on the credibility of the submissions made by the financial institutions. For instance, if the filed living wills appeared failing to meet their objectives, regulators force the institutions to resubmit amended plans. In the worst- case scenario, if regulators find the plans are not credible, they could impose restrictions on activities of the institutions or even instruct them to divest.

2.3 Contents of a Living Will

The Dodd-Frank Act and related guidance describe that the resolution plans should be comprehensive to cover several key vulnerabilities in plans for an orderly resolution under the US Bankruptcy Code. The areas required to be covered include capital, liquidity, governance mechanisms, operational, legal entity rationalization and separability, and derivatives and trading activities. The financial institutions are expected to satisfactorily address these vulnerabilities in the resolution plan by developing sensitivity analyses for certain underlying assumptions and providing detailed analyses. A living will contains two main sections i.e., the confidential section and the public section. In the confidential section, the financial institutions are required to submit extensive business information including an executive summary. The financial institutions should also map assets and liabilities for all core business lines in the confidential section. Therefore, it contains any confidential supervisory and proprietary information. However, the public section is available for all the stakeholders of the financial institution. It is essentially informative and transparent for external stakeholders to make informed judgements of the realisable resolution in a potential failure of the institution.

Public Section

The purpose of the public section of the living will is to inform the regulators of the public's understanding of the entity's resolution strategy and how it works. The public section discusses the steps that the financial institution is taking to improve the resolvability under the bankruptcy code. In the context of the US, law is not very specific about the contents of the public portion of the living will. Hence, the public section varies across financial institutions and depends on the business portfolios. Although the compiling financial institutions have broader discretions in preparing the public portion of the living will, as per the guidelines issued by the FED[8], it should necessarily include the following elements.

(i) The names of material institutions

(ii) A description of core business lines

(iii) Consolidated or segment financial information regarding assets, liabilities, capital, and major funding sources

(iv) A description of derivative activities and hedging activities

(v) A list of memberships in material payment, clearing and settlement systems

(vi) A description of foreign operations

(vii) The identities of material supervisory authorities

(viii) The identities of the principal officers

(ix) A description of the corporate governance structure and processes related to resolution planning

8 Please see 2019-23967.pdf (govinfo.gov).

(x) A description of material management information systems

(xi) A description, at a high level, of the institution's resolution strategy, covering such items as the range of potential purchasers of the institution, its material institutions and its core business lines

For each material institution, the public section of the living will should provide clear strategies for continuity, transfer, or orderly wind-down of the institution and its operations. There should also be a description of the resulting institution upon completion of the resolution process.

Regulators consider four main aspects when public sections of the living wills are evaluated. They are (1) complexity – a simple organizational structure is easy to resolve; (2) inter-firm interconnectedness – orderly resolution requires to ensure financial institution's subsidiaries continue to receive critical services; (3) cross border activities – executing an orderly resolution is difficult if it involves more than one jurisdiction; and (4) parent company balance sheet – parent company's clean balance sheet is important for orderly resolvability.

3. An Assessment of the Current Level of Compliance

Even though there is no strong evidence to suggest that the living wills have met the standards of the regulators, the compliance level of the financial institutions have gradually been improving. One potential reason for poor compliance is the complexity and lengthy documentation procedure that is difficult for financial institutions to deal with. Particularly, the information provided in the public sections during the early periods was not sufficient for regulators to determine whether those financial institutions could go through bankruptcy without the extraordinary government support. Even the limited information in public filings appears to confirm some concerns of regulators and most of these plans were rejected as they did not show that the financial institutions had made their operations less complex (Bright et al., 2016). Additionally, preparation and evaluation of living wills are costly and time-consuming for both financial institutions and regulators. Further, even if financial institutions present plans that make them resolvable, the purpose will not be achieved if the stakeholders do not believe that the public information is adequate. Another challenge for the regulators is striking a balance between transparency and confidentiality. The right level of public transparency for a living will is still a growing and an unresolved question. The regulators have been amending the guidelines and extending the compliance deadlines depending on the financial sector needs to ensure the essential compliance level to safeguard the stability of the sector. In this backdrop, it is vital for both financial institutions and regulators to work collectively towards making the living will a workable solution that delivers benefits to all stakeholders in the broader financial system.

4. Relevance for Sri Lanka

The Central Bank of Sri Lanka (CBSL) is the regulatory authority of Sri Lanka's banking and non-banking financial institutions. The applicable key laws for the licensed institutions are the Monetary Law Act, No. 58 of 1949[9], the Banking Act, No. 30 of 1988, the Finance Business Act, No. 42 of 2011, the Finance Leasing Act, No. 56 of 2000, and the directions and guidelines issued under these Acts. The Bank Supervision Department

9 To be replaced by the Central Bank of Sri Lanka Act once it is enacted.

(BSD) and the Department of Supervision of Non-Bank Financial Institutions (DSNBFI) are the main departments entrusted with the supervision of the licensed financial institutions. In addition to these two departments, the Resolution and Enforcement Department (RED) was established in 2018 to strengthen the resolution process of the financial institutions. One of its main objectives is to resolve distressed financial institutions. RED is currently in the process of developing a comprehensive resolution framework to include resolution mechanisms for the entities supervised by the CBSL with clear legal empowerments. According to the Banking (Special Provisions) Act to be enacted, licensed banks are required to have recovery plans as a part of their risk management process, which provides for measures to be taken by the licensed banks in the event of a deterioration of its financial position prior to the CBSL taking resolution actions on such licensed banks. In the meantime, the CBSL will design a resolution plan for each licensed bank having systemic importance or impact. In June 2021, BSD issued a direction to licensed banks on the requirement of maintaining recovery plans identifying the full range of recovery options available to deal with shocks to capital, liquidity and all other aspects that may arise from institution-specific stresses and market-wide stresses.[10] Currently, DSNBFI is also in the process of amending the Finance Business Act with the objective of strengthening the resolution process for the licensed finance companies. These are indeed much-needed developments as Sri Lanka has had a few distress events and failures in its financial sector in the past fading the public confidence that exerted a pressure on the financial system stability to a certain magnitude. Though the affected financial institutions did not have cross border activities as extensively discussed in the context of the living wills for countries with big and complex financial entities, some of those financial institutions in Sri Lanka were sufficiently larger having complex organisational structures. Also, those institutions were interconnected with subsidiaries and associates, and the balance sheets of the parent companies were not clean, preventing those institutions from going for safe and quick orderly resolutions. Past experiences have taught the regulators and financial institutions sufficient lessons, where best practices should be implemented proactively to protect the financial system that has broadened and become complex in nature.

By end-2022, the share of assets of licensed banks represents 61.9 per cent of the total asset base of Sri Lanka's financial sector. Therefore, the health of the country's financial system largely depends on the soundness of its banking system, primarily on the performance and financial strength of the large licensed banks, generally referred to as the Domestic Systemically Important Banks (D-SIBs). These D-SIBs are subject to stringent regulations, especially in terms of capital. The asset-share of the licensed finance companies represents only 5.1 per cent of the total asset base of the financial sector. The asset base of five licensed finance companies exceeds Rs. 100 billion each, and the share of assets of these five companies represents nearly 55 per cent of the total asset base of the non-banking financial institutions sector. All the licensed finance companies, including larger ones are also subject to stringent regulations on capital requirements and other supervisory aspects.

As the regulator, in the CBSL's purview these large financial institutions are 'too big to fail' at any

10 Please see https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/cdg/Banking_Act_Directions_No_9_of_2021.pdf.

instance as it will collapse the very foundation of the whole financial system. As already discussed, history has delivered such experiences, where a few financial institutions had to be bailed out at a high cost. Hence, living wills could be made applicable on such D-SIBs and large finance companies. It may not be appropriate to attempt to directly apply the directions and guidelines practiced in pioneered countries. However, several laws are in the process of being amended with special focus on strengthening the resolution of financial institutions, which are regarded as appropriate measures at this juncture for the CBSL to consider the importance and applicability of living wills on Sri Lanka's large financial institutions. These new initiatives would direct the financial institutions to rethink their business models, governance structures, resolution capabilities and resource allocations. These also direct the regulators to broaden the supervision purview covering wider aspects to ensure the soundness of financial institutions.

5. Conclusions

A living will requires a financial institution to detail how it could continue, transfer, or orderly wind-down the institution and its operations in the event of material financial distress or failure without disrupting the broader financial system. It contains two main sections i.e., the confidential section and the public section. Although the confidential section of the living will has a standard format, the public section may vary in style and information presented. Since different financial institutions have different business portfolios, some variations can be accommodated. However, information appearing in a standard format in the public section would facilitate comparison across financial institutions and time by the external stakeholders. Therefore, more consistent, more content and greater standardized public portions of the living wills would enable comparison across time and space, boost public confidence, while minimising the cost and time spent on compliance. Even though filing of a living will has been getting the attention of the developed countries, those who have big and complex globally connected banks, it would be a proactive regulatory measure that can be considered by relatively small countries like Sri Lanka to prevent possible bailouts of financial institutions by using taxpayers money. Such living will preparation guidelines should be made in line with the context i.e., considering the complexity, intra-firm interconnectedness, cross border activities and parent company balance sheets of the financial institutions of the respective countries. However, the structure of a living will should be simple, transparent, and well targeted to serve its purposes, while saving time and cost of both regulators and financial institutions.

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Stagflation: Economic policy makers' nightmare

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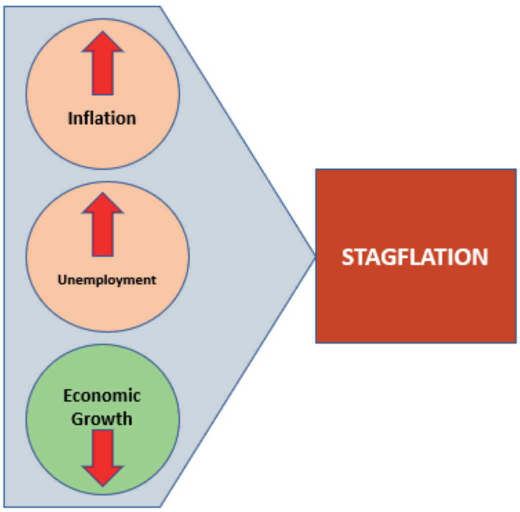
Introduction to Stagflation

There has been renewed interest in the term 'stagflation' following the resurgence of global crude oil prices after Russia began a war in Ukraine in February 2022 and the related sanctions imposed on Russian oil products, aggravating the worsening economic situation induced by supply-demand mismatches during and after the Covid-19 pandemic.

Stagflation comprises a crafty mix of economic 'stagnation' and 'inflation'. The word was coined by the British politician Ian Macleod in the mid-1960s to explain a period where a dangerous combination of sluggish economic growth, rising unemployment, and rising inflation existed simultaneously, which was previously believed to be non-existent as unemployment and inflation often move in opposite directions. The world witnessed a few stagflationary situations and the most notable stagflation occurred in the 1970s (1974-1975 and 1978-1982) in the United States. However, by analyzing key indicators of major countries of the OECD, Marston et al. (1987) and Helliwell (1988) observed that stagflation was common for many advance economies during the period 1973-1982[1].

Figure 1: Components of Stagflation



This article aims to broaden the understanding of stagflation by providing a brief overview of 'stagflation', and its related topics to general readers. The article presents key insights into the main

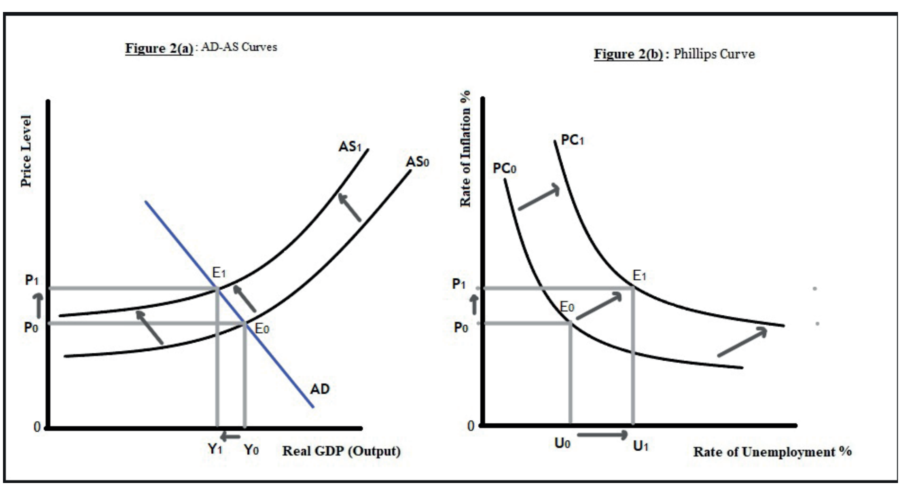
1 A very close situation occurred in Argentina during 2018-2019-2020, where the annual average inflation rate was 43.3%, while GDP contracted by 4.9% p.a. Unemployment rate increased from 9.2% in 2018 to 11.6%. (World Economic Outlook database: April 2022)

aspects of stagflation, starting from a theoretical/ graphical explanation, followed by indicators used to identify stagflation which mainly covers the Misery Index. The following two sections are devoted to the causes of stagflation and remedies. These sections outline key arguments that supply shock, as well as poor economic policies as causes for stagflation. The last section discusses the possibility of occurring a stagflation anytime soon, which explains Sri Lanka's situation as well. Readers would notice that the stagflation that occurred in the U.S. during the 1970s was taken frequently as an example, as it is the most famous and well-documented case of stagflation.

Theoretical explanation using AS-AD framework and Phillip curve.

Supply shock moves price level and real output in opposite directions[2]. An adverse supply shock causes prices to increase while output decreases. During the adverse supply shock experienced in the 1970s, prices surged, and the supply shortage of an essential commodity (crude oil) caused a significant increase in production cost, forcing suppliers to reduce their output. As illustrated using standard AS-AD diagrams, in Figure 2(a), depicting upward-slopping short-run aggregate supply (AS) curves and downward-slopping aggregate demand curve (AD). The aggregate supply of the economy before the supply shock is represented by the AS_0 curve, which intersects the AD, representing the aggregate demand of the economy at E_0, determining the price level (P_0) and real output (Y_0) for the economy. Due to the supply shock, the economy can supply less than what was supplied at each price level, pushing the short-run aggregate supply curve to the left (AS_0 shift to AS_1). Then the equilibrium (E_1) is set where the AS_1 intersect AD (assuming no demand shock[3]), and determined price level and output of P_1 and Y_1, respectively. Accordingly, the economy has moved to a point (E_1), proving that a higher price level (P_1) and a lower real GDP (Y_1) can exist simultaneously, illustrating stagflation.

Figure 2: Graphical illustrations of stagflation (a) AS-AD framework (b) Phillips Curve



2 By contrast, Demand Shock moves price level and real output in the same direction.

3 This assumption is to make the illustration simple. However, in reality, it is hard to believe that there is no demand shock as when essentials like energy/oil become more expensive, the consumers' real income declines and, in turn, reduces demand at each price.

Meanwhile, the Philip curve, generally stating that inflation (or wage inflation) and unemployment have an inverse relationship, can illustrate how high inflation and high unemployment coexist. The rationale behind the downward sloping (and concave) Philip curve is that lower the unemployment rate, lesser workers would be available for recruitment to enhance production, and hence employers must raise pay to attract workers who have become scarce resources. As shown in Figure-2(b), before the shock, the economy operates on the Philip curve PC_0 and at point E_0, where the inflation rate is P_0 and the unemployment rate is U_0. However, when the supply shock appears, particularly when wages are indexed to inflation, at each price level, it can employ a lesser number of workers meaning that a higher unemployment rate exists, shifting the Phillips curve to the right (PC_0 to PC_1), ending up at a worse off point (E_1) where higher inflation (P_1) and higher unemployment (U_1) exist simultaneously.

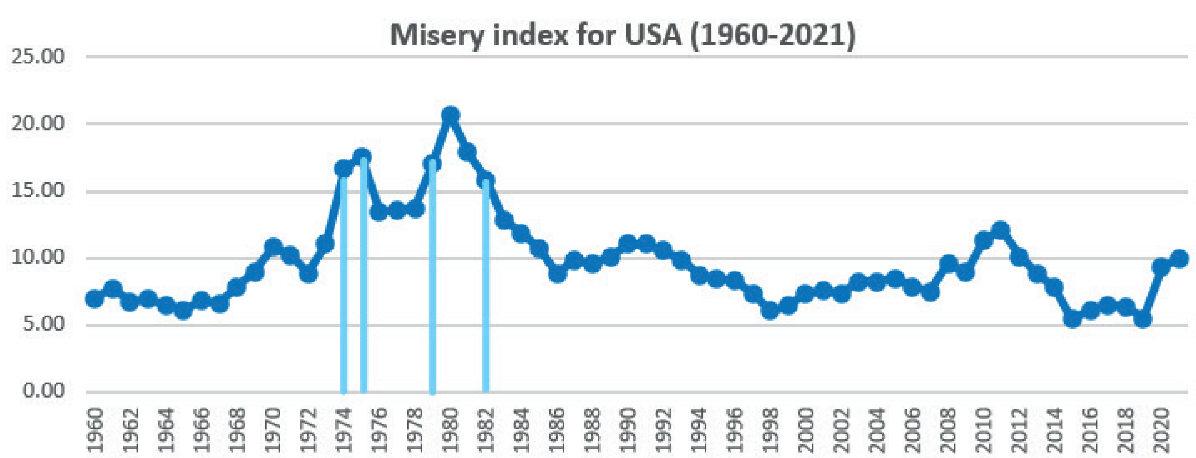
Misery index as a stagflation indicator

Stagflation used to be understood by examining the direction of various data and indicators, such as unemployment and inflation over the period, rather than looking at a single data point. Meanwhile, the misery index, first introduced by U.S. economist Arthur Okun to measure the degree of economic distress felt by people, gained popularity as an indicator of the severity of stagflation in the mid-1970s. As the misery index is simply calculated by summing the inflation rate and unemployment rate, it is not difficult to interpret that a high misery index indicates a period of stagflation. Figure 3 is an illustration of the misery index for the U.S. economy.

However, Okun's misery index was criticized as an inefficient indicator mainly due to the fact that it did not consider the economic growth rate. Since then, scholars have tried to improve it by adding more economic indicators and broadening its application beyond the United States.

Apart from the original misery index and underlying unemployment and inflation data, there are a variety of indicators that can be empirically tested in determining stagflation in the present context; *interest rate* which has become an important determinant since the 1990s (as evidence for monetary induced stagflation), *unit labour cost*,

Figure 3: Misery index for USA



Source: Authors calculations using IMF-IFS data *labour productivity*, and *oil/commodity prices* (Berthold & Gründler, 2013). There were several attempts to modify Okun's misery index; Robert Barro created the Barro-misery index in 1999, incorporating consumer lending interest rates and the output gap. More recently (2011-2021), Steve Hanke modified it with bank lending rates and real GDP per capita, and presented it as an annual cross-country index[4].

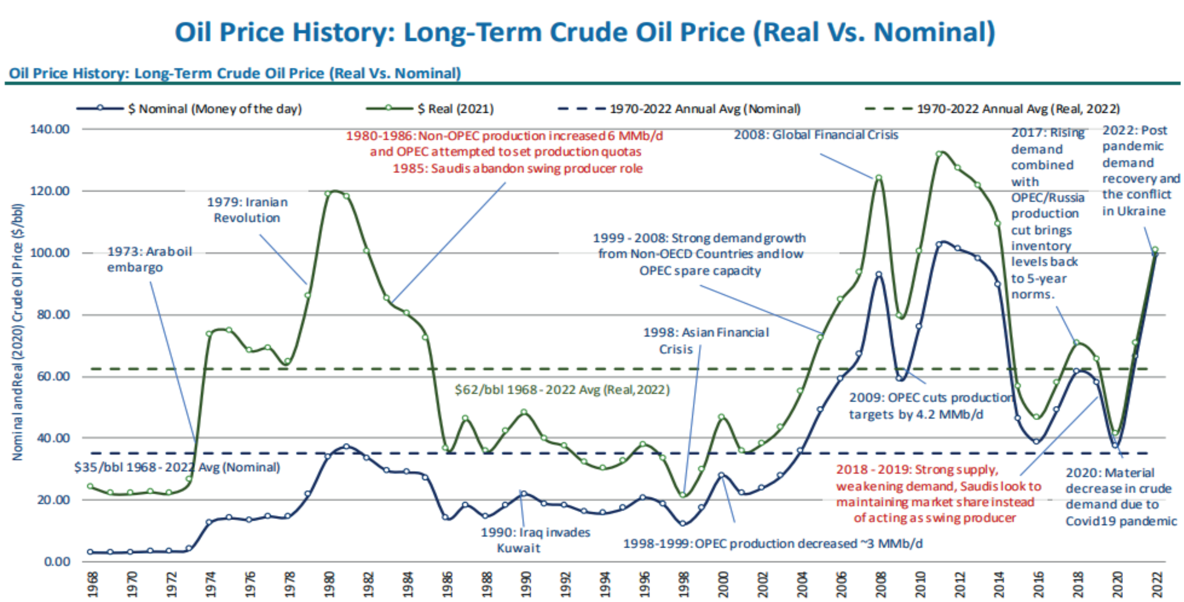
Causes of stagflation: Historical perspective

Economists have no consensus on what causes stagflation, but many believe that supply shocks or/and poor economic policies were responsible for the stagflation that occurred during the 1970s in the United States and some other advanced economies.

According to the supply shock argument for stagflation, if something essential to the economy, such as energy, is suddenly in short supply or becomes more expensive, most producers will have to cut production significantly (and lay off workers) and prices also shoot up. In such a situation, a negative supply shock might lead to a fall in national output, a higher unemployment rate, and higher general price levels. Therefore, many believe that the Arab nations' oil embargo in 1973 was a major contributor to the stagflation in the U.S. and many other advanced economies during the 1974-1975 period (see Figure 4).

However, others argue that poor economic policies taken during the 1960s and early 1970s were the primary cause of stagflation in the United States in the 1970s, and that the oil supply shock was not the primary cause, but coincided with the many short-sighted economic policies taken during the 1960s and early 1970s[5]. Fiedler (1975) summarises

Figure 4: Annotated History of Oil Prices



Source: ERCE Energy Review Q2 2022

4 Hanke's annual misery index = inflation % + unemployment % + bank interest rate % - % Δ GDP per capita. Hanke publishes his global list of misery index rankings annually. https://www.nationalreview.com/2022/03/hankes-2021-misery-index-whos-miserable-and-whos-happy/

5 Mainly, three major policy decisions, namely, freeze on all prices and wages, imposing a 10% tariff on imports, and withdrawing the U.S. from the gold standard, constitute the well-known 'Nixon Shock.'

the poor economic policies, which led the U.S. economy into stagflation in the 1970s, broadly into four key points.

1. ***Expansionary fiscal policy that allowed rapid growth of government spending and accompanying deficit since the mid-1960s.***

A series of expansionary fiscal policies have been implemented in the United States since the mid-1960s, particularly targeting lower unemployment, driving demand for goods and services above the level that an economy can supply. Then wages and prices increase, pushing up inflation and inflation expectations.

2. ***Expansionary monetary policy that was adopted for about a decade prior to stagflation occurring in 1973-75.***

Similar to expansionary fiscal policy, expansionary monetary policy also leads to high inflation and inflation expectations. During the pre-stagflation period, monetary policy was supposed to target low unemployment and price stability, although policies affect price levels (inflation) and unemployment with different time lags (Romer, 2002; Bryan, 2013). When unemployment and output respond to the policies quicker than inflation, stagflation is a possible outcome. After a lengthy period of maintaining an expansionary monetary policy stance, U.S. Federal Reserve reversed to contractionary policies only in 1973; high inflation persisted throughout the 1970s as a result of expansionary policies adopted earlier, and the Federal Reserve System was subject to severe criticism for the delays in policy actions without properly taking transmission lags into account.

3. ***The exchange rate policy maintained an intentionally overvalued dollar for many years.***

Meanwhile, exchange rate policy is also responsible for stagflation, at least to a certain extent. A sudden devaluation after maintaining an overvalued currency builds inflationary pressures, as it takes time to build the capacity to supply the increased foreign demand. In the early 1970s, the overvalued U.S. dollar prevented the capacity expansion in U.S. heavy industries; however, with the subsequent devaluation, U.S. industries suddenly experienced a surge in demand, adding fuel to inflationary pressures.

4. ***Freeze wages and prices.***

It is impossible to sustainably contain inflationary pressures by freezing prices using price controls (without managing demand or supply), and such price controls frequently lead to overshooting of prices immediately following the removal of such controls. In the United States, the wage and price freeze was among the key policy measures announced by President Richard Nixon - known as the Nixon shocks in August 1971; however, at the end of wage-price controls in 1973, the prices bounced back spontaneously, resulting in a sudden burst of inflation (Blinder & Rudd, 2010).

Apart from the poor economic policies summarized above, the unsustainably low unemployment rate maintained during the 1965-1970 period in the United States contributed to wage-push inflation in the early 1970s, as such environment induced trade unions to demand higher wages, including pegging wages to the Consumer Price Index, leading to a price-wage spiral. The ‘Equal pay for equal work’ program introduced in 1969 also contributed to a rise in real wages.

These arguments that poor economic policies are the root cause of the stagflation that occurred in the

1970s are convincing, yet may not be common for all the economies experiencing stagflation. Therefore, it is reasonable to conclude that stagflation is the combined outcome of adverse supply shocks and poor economic policies.

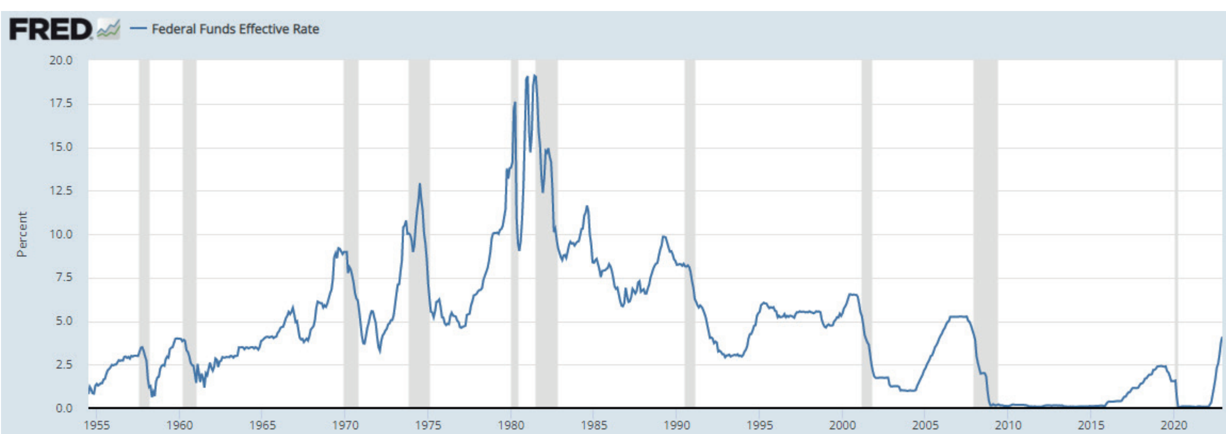
Remedies to Stagflation

Stagflation is one of the most challenging economic issues for policymakers to fight against. Conventionally, central bankers and other policymakers worry about economies with either high inflation or low growth. They can tackle high inflation by adopting contractionary policies while low growth can be address using expansionary policies, but not stagflation, where higher inflation and stagnant economic growth (with high unemployment) exist simultaneously. Usually, Monetary policy effectively manages the overall demand of the economy; however, applying the same against cost-push inflation might end up with a recession and high unemployment, at least for a short period of time (Rehn, 2022). As has been mentioned by David Wilcox (as cited by Bogage & Whalen, 2022 "The only known remedy for stagflation is a recession." Therefore, if an economy is already in stagflation, there are no alternatives but to deploy a sufficiently tight monetary policy, targeting its prime objective of bringing down inflation.

From the early 1970s until 1979, the U.S. Federal Reserve used many strategies to combat stagflation, although it gained limited success. However, under the guidance of Paul Volcker, chairman of the Board of Governors of the Federal Reserve System (appointed in August 1979), they finally succeeded in combating stagflation by controlling the money supply and raising interest rates drastically to 20% in 1980 (see Figure 5). Even though it created a recessionary effect as expected, prices eventually stopped climbing, ending stagflation.

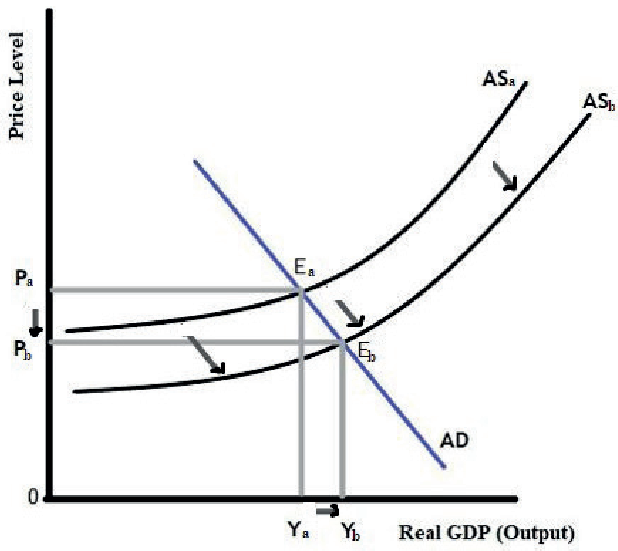
Nevertheless, some emphasize that the only sustainable solution for preventing or getting rid of stagflation is supply-side economic policies, as demand management policies fail to provide a definite solution for stagflation situation wherein high inflation persists amidst high unemployment, simultaneously. According to supply-side economics, the economy's aggregate supply should be expanded to get out of stagflation. Please see the graphical illustration in Figure 6, where the supply

Figure 5: U.S. Policy interest rates (Federal Funds Rates)



Source: Board of Governors of the Federal Reserve System, Federal Reserve Bank of St. Louis (Updated 03.01.2023)

Figure 6: Graphical illustrations of how supply-side economic policies works against stagflation



curve shifted to the right due to supply-side policies that expand an economy's aggregate supply, bringing down inflation while expanding output. Incentives to create employment in productive sectors and encourage productivity improvements across the economy, reducing dependence on the things that are under supply shock (e.g., less reliance on fossil fuels) and investment determine the productive capacity of the economy and, in turn, the output, are among the supply-side economic policies recommended. In addition to the above, measures such as timely conduct the structural, institutional and labour market reforms are vital in sustainably preventing stagflation.

Possibility of occurring a stagflation in the near future

As mentioned at the beginning of this article, stagflation has emerged as a headline in the international media following Russia's military operation in Ukraine commenced in mid-February 2022. Both countries are vital suppliers of energy, food items, and plant nutrients globally. The Russia-Ukraine war-induced global crude oil prices surge to historically high levels signaling another oil price shock. U.S. inflation reached the peak of 9.1% in June 2022[6], recording a 40-year high, popping up stagflation fear, although the unemployment rate remained at a multi-decade low of 3.5% in December 2022. In this context, the question of 'whether or not the western economies are heading for a 1970s-styled stagflation has re-emerged. Although there is no undisputed answer to this question, many believe that it is dictated by how fast monetary policy tightening minimizes inflation compared to how fast the unemployment rate rises and the economic growth rate falls. Several arguments are there for and against the possible re-occurrence of stagflation.

Multi-decade high inflation in the U.S. economy and the historically high oil prices that prevailed in the mid-2022 have led to speculation that the U.S. economy was moving towards stagflation. However, the low unemployment rate and the robust U.S. industrial production data do not reflect any adverse development. Many predict that the U.S. Federal Reserve system's tightening cycle, which began in March 2022, would drive the U.S. economy to a recession rather than stagflation[7].

In contrast, arguments against the possibility of a re-occurrence of stagflation shortly over the short-term, more concentrated on structural differences (or developments) of western economies between periods. Among the key arguments rejecting possible 1970's-styled stagflation in the western world is that; the U.S. and European economies became far less oil-reliance following the oil-price

6 U.S. inflation subsequently declined to 6.5% in December 2022

7 However, stagflation might result if unemployment and economic growth respond to the policy tightening quicker than inflationary pressure.

shocks that happened four decades ago, and trade unions are much less powerful at present compared to the 1960s and 1970s lowering the probability of severe wage-price spiral (Rehn, 2022). One of the most important differences is that the monetary policy focus is now well targeted to price stability, replacing multiple targets, including achieving full employment that prevailed pre-stagflation period of the 1970s.

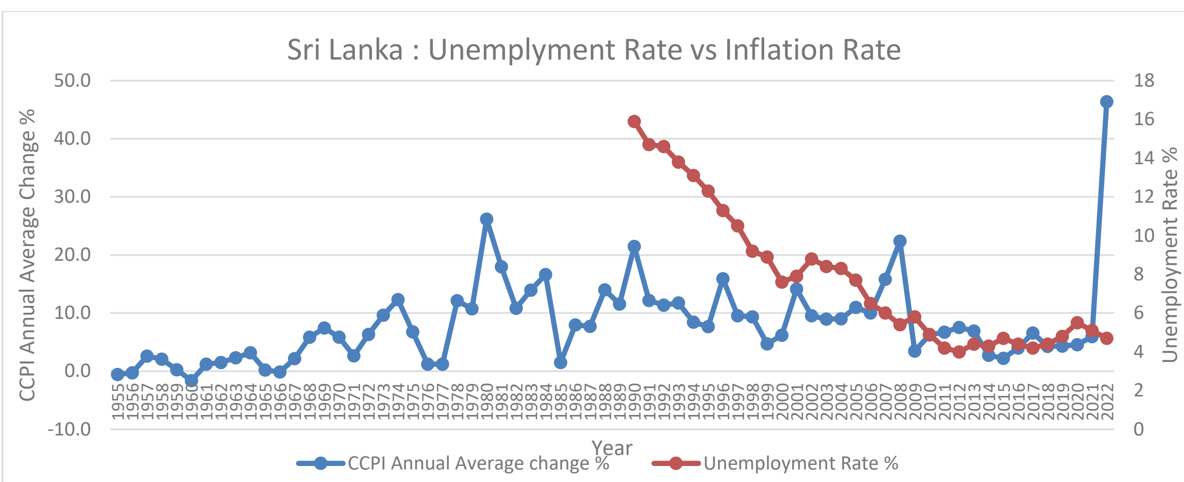
How does Sri Lanka's situation different from the world in general?

Before concluding the article, we explore the circumstances whereby Sri Lanka falls into a stagflationary situation in light of the previous explanations. However, unlike the advanced economies, Sri Lanka suffered from multiple challenges. Lack of intuitional reforms, reducing government revenue, debt unsustainability, essentials/raw materials, high inflation, slow growth and socio-political unrest, etc., indicating that Sri Lanka runs on weak fundamentals.

Aggravated initially by the oil-price shock and other supply-side disruptions, Sri Lanka recorded an all-time-high inflation figure of 69.8%[8] in September 2022, while the real GDP growth is recorded its worst ever contraction in 2022, suspecting a stagflationary condition[9]. On the other hand, since the high inflation that prevailed, particularly in 2022, was partly due to prolonged shortages, it could be argued that the situation in Sri Lanka was closer to 'shortageflation' rather than 'stagflation' as distinguished by Kolodko & McMahon (1987), where the 'shortageflation' is associated with East-European socialist countries in the 1980s which experience persisting allocative inefficiencies.

Against this backdrop, it might be important to consider the situation that prevailed in Sri Lanka,

Figure 6: History of Inflation and Unemployment in Sri Lanka



Source: Department of Census and Statistics/Central Bank of Sri Lanka

currency misalignment, Balance of Payments (BOP) crisis/depletion of foreign reserves, lack of export diversification, declining foreign exchange inflows, loss of agricultural output due to scarcity of plant nutrients, prolonged shortage of many

8 In September 2022, the year-on-year change in the Colombo Consumer Price Index (CCPI) reached the highest of 69.8%, while National Consumer Price Index (NCPI) based inflation reached 73.7%.

9 Even though, the unemployment rate, which is historically less sensitive to either inflation or growth rate partly due to structural rigidities, stood broadly around 5.0%.

keeping in mind the economic policies adopted in the United States immediately prior to the stagflation (as summarized by Fiedler, 1975); there, it could find several similarities. It could be recalled that Sri Lankan government adopted expansionary fiscal policies, particularly by introducing system-wide tax cuts in early 2020, which resulted in the highest overall budget deficits (as a percentage of GDP) in three decades, in 2020 and 2021. At the same time, Sri Lanka adopted a dovish monetary policy stance during and immediately after the Covid-19 pandemic with the view of simulating the pandemic affected economy. Further, Sri Lanka maintained the benchmark LKR/USD exchange rate between 182-202 for over 30 months before it shot-up beyond 360 levels within a mere 3 months, creating heavy inflationary pressure. Further, Russia-Ukraine war caused a surge in petroleum product prices. Meanwhile, maintaining overvalued exchange rate coupled with many other issues, including a sharp reduction of tourism earnings and remittances, led to a BOP crisis and shortage of foreign exchange in the banking system. Lack of forex affected the imports of essential goods, including fuel, cooking gas (Liquefied Petroleum Gas) and critical inputs to industries. Non-availability of sufficient fuel stock interrupted electricity generation and created long queues. These issues arising from both supply and demand side of the economy pushed the prices (inflation) to unprecedented levels while reporting the worst ever GDP contraction in 2022. These issues led to socio-political unrest that peaked in July 2022.

However, a number of corrective policy measures were subsequently adopted to rectify the situation, including allowing exchange rates to determine by market forces, adopting a tight monetary stance including the highest-ever policy interest rate hike (700 bps) in April 2022, rationalizing government expenditure and implementing stern measures to increase government income by increasing indirect as well as direct taxes, establishing a cost reflective pricing mechanism for utilities to minimize the burden to government coffers, negotiating for an IMF program, undertaking debt restructuring process to make external debt sustainable, etc. These resulted in a gradual deceleration of prices (declining inflation) since the last quarter of 2022, although severely contracting the domestic demand and, in turn, GDP.

Way forward...

Stagflation is a combined outcome of adverse supply shocks and poor economic policies. Therefore, developing resilience within economies and implementing prudent policies while keeping transmission lags in mind would help countries avoid stagflationary conditions. In the case of Sri Lanka, a country that faces multiple challenges would need to implement a broader policy package that specifies short-term, medium-term and long-term policy measures; for which the IMF program Sri Lanka already entered is expected to provide the necessary guidance. Accordingly, although the continuation of favourable short-term policies have improved the fragile economic condition to some extent it is crucial to concurrently implement complementary reforms such as public sector reforms, labour market reforms aiming for a productivity boost and industrial reforms that position the country as a technology-driven economy would place the country in high growth path. Therefore, besides consistent policies, implementing broader structural reforms in the Sri Lankan economy is vital to elevate the economy to the next level.

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Addressing Worsening Malnutrition Status of Sri Lanka amid Recent Food Price Crisis

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1. Introduction

At present, most of the countries around the world, in particularly, poor and developing nations are battling against the renewed threats of food insecurity amidst soaring food prices. Since the onset of COVID-19 pandemic, global food prices recorded a notable surge attributing to the pandemic induced disruptions to global supply chains. Along with the lingering effects of the pandemic which led to an uneven recovery in the global economy, the heightened geopolitical conflicts, in particularly in the Eastern Europe region have fueled global food prices with its impact on trade channels, transport cost as well as other input costs, thereby aggravating the food insecurity issues in the world, while disproportionately affecting vulnerable countries. Excessive food price escalations and supply shortages have ultimately affected the food security and thereby the nutritional status of the people, while significantly jeopardizing the marginalized groups of the world's population. Although the global food prices have showed some moderation since the latter part of 2022 supported by the slowing global economic growth, global food prices are expected to remain elevated with upside risks such as geopolitical tension, high energy prices and extreme weather conditions, in particularly under the ongoing El-Nino conditions. In 2022, Sri Lanka also struggled with historically highest levels of food inflation, caused by domestic supply side disruptions, supply shortages as well as increased imported inflation amidst sharp domestic currency depreciation and surge in global commodity prices. The situation grown to alarming conditions, given the country's already fragile macroeconomic conditions, high import dependence, unavailability of buffer stocks as well as the absence of consistent policy approaches to ensure the food security of the people during the past several decades, possibly leading to a notable deterioration in the overall wellbeing of the population.

2. Food price escalations and food crisis

In general, sharp acceleration in food inflation can lead to disproportionate consequences on the population based on their income levels. Accordingly, food inflation can have a severe impact on low- and middle-income groups since they spend a larger share of income on food items compared to the high-income category. In most of the developing countries like Sri Lanka, food accounts for the largest share in overall consumer expenditure. For an example, as per the National Consumer Price Index (NCPI 2013=100), food category accounted for around 44 per cent of the total basket value, while food category in Colombo Consumers' Price Index (CCPI 2013=100) accounted for around 28 per cent. In particular, during a recession, the tendency to shift from non-essentials to essentials, while larger stock holdings by high income earners could drive up the food prices, thereby leading to a rapid deterioration in welfare of the vulnerable and marginalized groups of the population. In the event of a surge in food prices, purchasing power of the vulnerable groups will subsequently degrade thus demanding a cut down in food consumption or a shift away from more nutrient foods, which tend to be more expensive in general, to less nutrient food consumption.

The sudden and notable pick up in essential food items could lead to an immediate deterioration in dietary quality and quantity due to decline in purchasing power of the individual; incurring long term consequences on the nutritional status of the people, particularly on vulnerable groups of population. As an immediate measure to respond to rising food prices, households tend to compromise intake of protein and micronutrient-rich food for high carbohydrate staples which lowers dietary quality, and further rise in food prices would lead to a reduction in caloric intakes as well (Meerman, J. and Aphane, J. 2012). Intake of an inadequate quantity of foods and lack of quality in meals will particularly have adverse consequences on children's growth, their cognitive improvement as well as deficiencies in micronutrient, in addition to its impact on maternal health. In laater stages of the food crisis, intrahousehold food reallocation, could compromise the food intakes of women who are considered as "shock absorbers of the household food insecurity", which may have long term consequences such as intergenerational

Table 01: Integrated Food Security Phases Classification

Phase 1 Minimal/Stable	**Phase 2** Stressed	**Phase 3** Crisis	**Phase 4** Emergency	**Phase 5** Catastrophe/Famine
Families can meet most essential food needs along with non-food needs without unsustainable strategies to access for food and income	Families have the minimum in staple food but may not be able to afford non-food essentials	-Families make decision which affects their ability to feed their families. -Acute malnutrition begins	-Access to food declined drastically -Large food consumption gaps -malnutrition related illness increased	Lack of food, Starvation, death, destitution, and extremely critical acute malnutrition levels are evident.

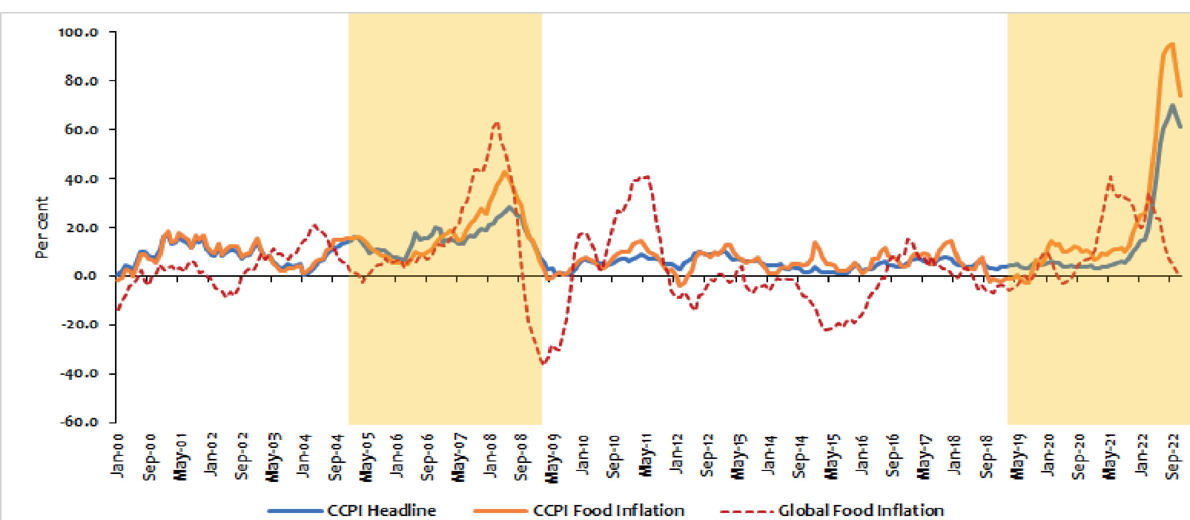
Source: Global Report on Food Crisis-2021(Food Security Information Network) malnutrition (Quisumbing, A. et al, 2008). In addition to these major direct impacts of food price escalations, there are several second order impacts that indirectly affect nutrition. The decline in school attendance and decreased spending on healthcare due to reduced affordability for such services could aggravate the malnutrition, while increased engagement of women in the workforce under distressed conditions could compromise the welfare of the children (Meerman, J. and Aphane, J. 2012).

Accordingly, escalation in food prices, resulting from any kind of supply side disruption such as conflicts, natural disaster, climate changes as well as increase in cost of production can be culminated into a crisis level, thereby threatening the food security which can worsen the nutritional status of the population. As per the Integrated Food Security Phase classification, the food insecurity conditions could be worsened over the period depending on the exposure to inadequate quantity and insufficient quality of food, and eventually propagate into a catastrophic situation, like famine.

3. Recent High Food Inflation Episodes in Sri Lanka and Impact on Nutritional Status:

Historical food inflation episodes reported in Sri Lanka have been largely linked to the global high food inflation episodes, given the country's high import dependency. Before the acceleration in food inflation in Sri Lanka during 2022, the most recent food price inflation in the history was recorded in 2008, with the unexpected surge in global food prices caused by the combined impact of multiple factors, such as decline in agriculture production and global grain stock, increased cost of production due to higher energy prices and fertilizer prices, increased demand from emerging economies as well as speculation in financial markets. Following the global trend in food inflation, Sri Lanka's food inflation rose to 42.8 per cent in May 2008, while average inflation in 2008 was stood at 22.6 per cent, mainly due to the increase in prices of imported items, administrative price revisions for fuel and transport along with global energy price movements as well as higher demand for domestically produced staple foods. Accordingly,

Figure 01: Recent High Food Inflation Episodes in Sri Lanka (CCPI)



Source: Department of Census and Statistics, World Food and Agriculture Organization retail prices of rice rose in the range of 59-81 per cent from August 2007 up to April 2008 partly resulting from the substitution effect caused by the increased price of wheat flour, while domestic fuel prices have been adjusted upward four times during the period from January to July 2008 (Annual Report of the CBSL, 2008). However, the country was able to contain adverse consequences of the rapid surge in food prices during this period by implementing a number of measures to ease the burden on consumers, such as reduction of duties on imported food items, imposition of maximum price ceilings on essential food items, continuation of fertilizer support to farmers, mechanisms to distribute essential food via Government channels such as Lak Sathosa, in addition to the domestic home garden based food production drive of "Api wawamu-rata nagamu.

After a long period of moderate food inflation, Sri Lanka's food prices started to escalate again since the latter part of 2021, reflecting both demand and supply side pressures on inflation amidst worsening macroeconomic conditions of the economy Accordingly, CCPI based food inflation, which was at 9.2 per cent at end 2020, accelerated to 22.1 per cent by end 2021 and reached to 94.9 per cent in September 2022 within a short period of nine months, recording the historically highest food inflation in the country. Although a moderation in food inflation was witnessed since October 2022, food prices remain relatively elevated from the previous years. Domestic supply side disruptions in food production caused by the severe shortage in fertilizer and other agrochemicals have largely contributed to the escalation in domestic food prices during 2022. This is an alarming situation for the country's food security, where Sri Lanka's food system is largely reliant on local food production. Further, heightened macroeconomic instabilities, which culminated as a balance of payment crisis led to severe disruptions in the food supply chains, while sharp depreciation in domestic currency drove the imported inflation further amidst the surge in global commodity prices during this period. Further, upward price revisions in several utilities, including fuel, electricity, transport as well as upward tax adjustments also pushed up the cost of food production in the country to a greater extent.

The recent food price crisis in Sri Lanka is appeared to be the worst of its kind in the recent history, as the country was struggling with the largest economic recession since its independence caused by severe macroeconomic instabilities, which in turn limited the possible policy interventions on safeguarding vulnerable communities amidst this food crisis. Both the availability and affordability of food have been threatened by the supply side disruptions and the loss of livelihoods of the people amidst the economic crisis. With 58.1 per cent of the population engaged in the informal sector employment and a poverty level of 14.3 per cent, possible far reaching adverse consequences of economic turmoil on livelihood, food security and malnutrition conditions are highly likely to be significant in the future, in the context of existing severe inequalities in the nutritional status of the population.

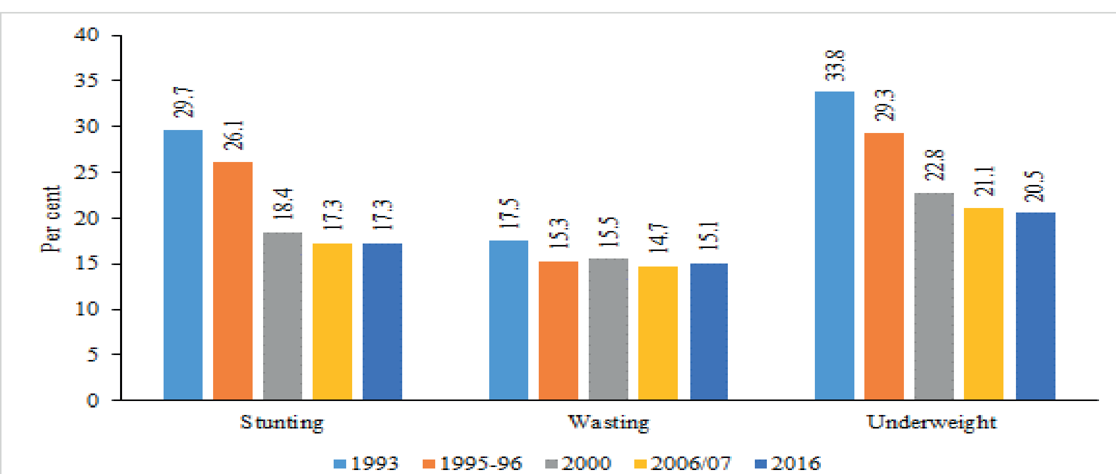
Malnutrition Status of Sri Lanka

As per the Demographic and Health Survey 2016 (DHS), measures of malnutrition, such as stunting (height for age), wasting (weight for height) and being underweight (weight for age) among children under age five, have not shown notable progress during last few decades , despite the impressive progress in other socioeconomic indicators such as life expectancy, literacy, human development, etc. Accordingly, wasting remained at 15 per cent, which is globally recognized as the emergency threshold level, where the severity of the situation is considered high, while the percentage of stunted children have not changed over the last ten-year period. In addition, the regional spread of malnutrition indicators has shown a notable disparity among the districts and economic sectors, reflecting the unresolved nutrition anomaly in the country. Across the residential sectors, estate sector remains as the most vulnerable sector in nutrition status with the highest percentage of stunted and underweight children. Meanwhile, malnutrition conditions are much more severe in several districts[1] due to plethora of factors including economic security and other socio-economic factors.

Further, Sri Lanka's Child Multidimensional Poverty Indicator (CMPI) which is based on Household Income and Expenditure Survey-2019 indicated that one third (33.4 per cent) of children aged 0-4 years old are multidimensionally poor and either underweight or stunted, reflecting the gravity of the malnutrition issue in the country. As per the joint child malnutrition estimates of United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO) and World Bank (WB), Sri Lanka remains as the seventh most malnourished country in the world and the second worst affected country in South Asian region for wasting among children under 5 years age (UNICEF, 2022).

The latest assessment on nutritional status of children under 5 years carried out by the Family Health Bureau of Ministry of Health for the Nutrition month 2022, revealed that the nutritional aspects of children have worsened in 2022 reflecting the deterioration in household wellbeing amidst deepening economic crisis. The assessment has covered around 70 per cent of the child population under 5 years age, while covering all the districts of the country. The assessment revealed a deterioration in all major nutrition indicators, in particular, stunting, wasting and underweight among children under 5 years of age.

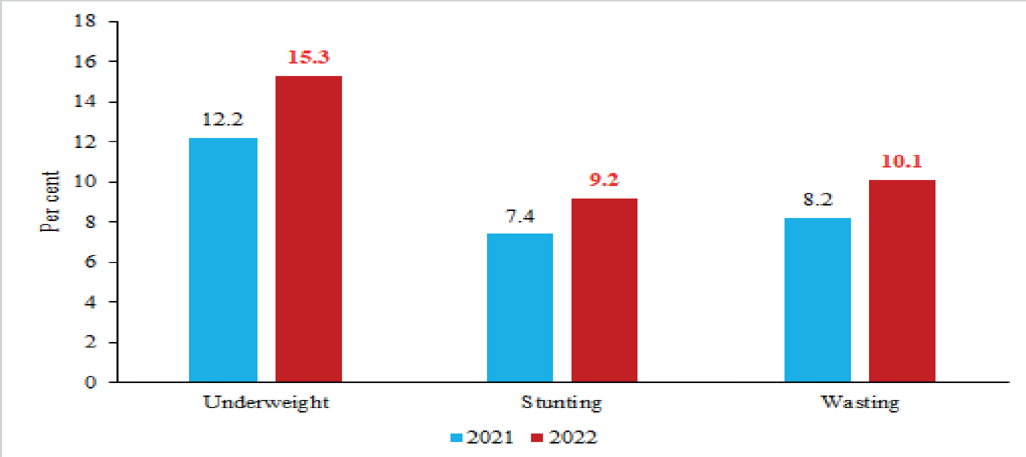
Figure 02: Malnutrition status of Sri Lanka



Source: Demographic and Health Surveys of the Department of Census and Statistics

1 Highest percentage of stunted (32.4%) and underweight (29.6%) children were reported in Nuwara Eliya District as per the DHS 2016.

Figure 03: Updated Nutritional Status of Children under 5 years age



Source: Family Health Bureau, Ministry of Health

At the national level, the percentage of underweight children under 5 years increased to 15.3 per cent in 2022 from 12.2 per cent in 2021; with highest percentage of 23.9 per cent reported in the Nuwara Eliya District. Both stunting and wasting among children under 5 years increased to 9.2 per cent and 10.1 per cent, respectively, in 2022, from 7.4 per cent and 8.2 per cent recorded in 2021.

Although Sri Lanka has been ranked at 64th out of 121 countries in 2022 as per the Global Hunger Index with a hunger status of "moderate", continuous disruptions to food supplies and price escalations could worsen the country's hunger status if not addressed timely, with already fragile status of nutrition caused by the loss of livelihoods and income amidst continuous economic disruptions experienced during the last few years.. Meanwhile, Global Food Security Index, which measures the affordability, availability, and quality of food consumption, indicated that Sri Lanka's rank in overall food security worsened to 79 in 2022 from 77 in 2021 and 66 in 2019. In the context of the large share of employment engagement in the informal sector, which is reliant on daily wages, this reflects that economic insecurity among people has risen sharply amidst hampered economic activity, leading them to shift their food patterns towards imbalanced dietary choices, which would exacerbate the nutrition deficiencies of vulnerable communities. Although the Crop and Food Supply Assessment Report (FAO/WFP) in May 2023 indicated a gradual easing of food insecurity conditions among people from the levels observed in 2022, around 17 per cent of the population were estimated to be still moderately food insecure, while severity in food insecurity conditions has been disproportionate among different dimensions, where estate and rural households are faring worse than the urban sector. Also, female headed households continued face severe food insecurity (23 per cent) compared to food insecurity levels faced by male headed households, which is estimated at 16.1 per cent.

Meanwhile, the lack of resilience in the domestic agriculture sector for weather extremes such as ongoing El-Nino weather conditions are likely to affect food security of the people in the period ahead.

These developments reflect the severity of possible consequences of higher food prices on nutritional status of the population, which could have an intergenerational impact for a longer period, while aggravating the existing socio-economic inequalities in the population, thereby requiring concerted and urgent measures to avoid any worsening of nutritional status of the population.

5. Policy agenda to tackle food price crisis and to improve nutrition status of the population

Acceleration in food prices and subsequent deterioration in nutrition status of the people have highlighted the failure in policies adopted in the past several decades to address longstanding issue of inequalities in nutrition status of the population as well as the absence of sustainable measures to ensure food security in the country. Although, there were number of policy initiatives implemented by the successive governments, in terms of safety nets, nutrition programmes, campaigns to promote domestic agricultural production in the past and considering the achievements in human development in terms of education and health facilities, Sri Lanka has been unable to withstand the pressures brought by the recent economic crisis, reiterating the need for reformulating strategies targeted at preserving food security and alleviating malnutrition of the population.

At this juncture, policy measures can be formulated and implemented with a view to provide short term solutions as well as medium to long term solutions. As highlighted earlier, since certain groups of the population, in particularly vulnerable and marginalized segments have already been pushed in to stressed or crisis phase of food security, along with the rapid surge in food prices, urgent measures are needed to contain the further aggravation in deficiencies in nutrition intake of such groups. In this regard, provision of safety nets as well as scaling up of existing social protection programmes come in first as short term solutions to address the food crisis, while reforms and investments in food output systems should be introduced as long term solutions to prevent food crisis.

Safety nets can be in the form of cash transfers or food and nutrient transfers, which can assure and support food consumptions of the vulnerable population. However, those safety net programmes should be well targeted to meet the desired outcome of improving the food security of the people. Otherwise, government spending on untargeted safety nets could be a diversion of government investments which can be directed to upgrade food system of an economy in the long run. Considering the rapid surge in food prices and the subsequent negative income impact on poor households, the Government of Sri Lanka has already started to provide additional concessions to needy sectors under the Government social safety net programme of "Samurdhi subsidy scheme" during 2022 and during early 2023, which covered about 1.8 million of low-income households. Also, amidst limited fiscal space, measures were taken to secure international assistance to safeguard country's food security in the short run, given the possible disruptions to food systems amidst the aggravating macroeconomic instabilities during 2022. Sri Lanka has been able to attract certain level of food assistance, in particularly from multilateral agencies such as WFP and United Nations(UN) as well as from bilateral parties. Further, considering the potential emergence of new poverty pockets amidst the economic crisis, the Government introduced a new safety net scheme of "Aswesuma" in 2023, while strengthening the targeting of vulnerable groups of the population.

Further, as a short-term measure to face food crisis, community-based programmes can be encouraged as such movements can offer a common platform to address wide range of causes of under nutrition. For an example, the concept of "Community Kitchen" which is a pooling of resources and labour to prepare food for needy individuals during a crisis period could support to minimize nutrition loss of people. It has also been empirically proven that community kitchens may be an effective strategy to improve participants' nutritional intake, cooking skills and social interactions, while it may also play a role in improving participants' budgeting skills and address some concerns around food insecurity (Lacovou et al. 2012)

Meanwhile, as an urgent step to avoid devastating impacts of food crisis, agricultural producers should be provided with support in terms of abolishing input trade barriers, in particularly fertilizer, agro chemicals and seed to enhance the production in the immediate season, while repurposing government expenditures to support farmers. This has been recognized as one of the priorities in World Bank's actions for global food crisis response. The domestic food production of Sri Lanka was hampered severely in 2022 due to the Government's sudden decision to ban fertilizer imports in 2021 and to discontinue fertilizer subsidy on chemical fertilizer as a measure to move towards an organic agriculture system. Although the policy was reversed later considering the possible sudden loss in agriculture yields, production of major food crops reported a notable loss during 2022. This has resulted in sharp acceleration in domestically produced food prices during 2022. However, the Government has been able to provide required fertilizer for paddy cultivation from latter part of 2022 with the support from the World Bank and Asian Development Bank, which is envisaged to ease the pressures on domestic food systems. Going forward, while enabling provision of required chemical fertilizer in a sustainable manner, measures should be taken to promote domestic fertilizer production using available resources, both organic and inorganic to reduce the vulnerability of the agriculture sector to any exogenous shocks.

Meanwhile, over the medium to long run, with a view to assure the food security of the nation and thereby to reduce malnutrition among population, several key agricultural reforms are needed. Although the country's agriculture sector has evolved rapidly since the green revolution in 1960s, the sector continues to grapple with low productivity, thereby risking the livelihoods of around more than one fourth of the employed population in the country. Higher labour intensity, less mechanization, weather disturbances as well as lack of Research and Development (R&D) in the sector are some of the factors affecting low productivity in the sector. Therefore, policies targeted at improving agriculture productivity, such as use of new technologies, mechanization, use of high yielding varieties, and precision agriculture techniques as well as improved water management systems remain the focal points of ensuring food security in the country. In addition, rapid diversification is needed in the agriculture sector to shift from low-value food crops to high value crops yielding higher income for the people engage in the sector, on a sustainable basis thereby supporting quality improvements in their lives.

As weather related supply disruptions in food systems can directly affect food security and the nutritional intake of the people, measures are needed in addressing weather variability and seasonal food shortages. The impact of these seasonal food shortages and weather-related food damages can be avoided or minimized through changing agricultural practices, particularly enabling farmers to adopt climate smart technologies, use of improved cropped varieties, water management and changing cropping patterns, etc., while investments are needed in maintaining food buffer stocks.

Further, efforts are needed to reduce the post-harvest losses in the agriculture sector in the country. As per the report issued in 2015 by the Committee on Public Accounts (COPA), it has been estimated that post-harvest losses in fruits and vegetables, which have high micronutrient content, are high at around 30-40 per cent, while 73 per cent of adult population in Sri Lanka do not consume adequate amounts of fruits and vegetables. Therefore, further investments are required in improving market access and providing post-harvest facilities such as processing and storing. Also, it is imperative to enhance homestead agriculture, while focusing on strengthening the link between agriculture and nutrition, as a long-term measure to address the food crisis. In this regard, in particular female smallholder farmers can be encouraged to diversify their production so that it includes crops with high micro nutrition as well as animal source foods, which minimise production risks and increases availability of high nutrient foods, thereby enabling a balanced diet for such families.

Most importantly, to reduce the vulnerability of country's food security to external factors with country's dependence on food imports, domestic food production needs to be expanded, with special focus on promoting import substitutes in the sector.

In addition to these agriculture related measures and reforms, investments in human development in terms of health and education should be maintained to support alleviating malnutrition in the country, as both could have notable impact on promoting and maintaining nutrition. In this regard, it is needed to encourage new investments in basic health and nutrition services with a view to expand access to such services, while introducing basic nutrition packages for the most vulnerable. Meanwhile, investment in education, in particularly women's education plays a major role in determining children's nutrition levels in general, where income opportunities for women, which are created through education can support nutrition vulnerability of households.

At the same time, to enable effectiveness of such policy interventions, it is imperative to improve quality, adequacy and timeliness of data on basic nutrition indicators, while future policy decisions which affect food security and nutrition of the population must be based on empirical evidence.

6. Conclusion

As Sri Lanka recovers from the largest economic crisis in history which threatened the lives of the people to a greater extent in multiple ways, urgent policy interventions are needed to address the issue of substantial deterioration in food security and nutrition conditions, thereby supporting to improve the quality of the living conditions of the people, in particularly the marginalized groups of the population.

In this regard, aforementioned multiple policies and reforms spanning from near term to long term can be enforced only with the commitment towards maintaining consistent policies with multi sectoral interventions, so that Sri Lanka can make a progress and then thrive to end all forms of hunger and malnutrition by 2030. Therefore, robust and concerted efforts aimed at such policy initiatives, which have far reaching consequences on the human capital development would be the corner stone in determining country's future growth path.

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