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Why Central Bank Independence Matters – in Crisis, in Recovery, and Beyond

75th Anniversary Oration of the Central Bank of Sri Lanka

29 August 2025

Governor Dr. Nandalal Weerasinghe

Opening remarks

I am deeply honoured to be delivering this oration on the occasion of the 75th Anniversary of the Central Bank of Sri Lanka (CBSL). As the Governor of this great national institution, I accepted the task of delivering this oration on central bank independence at this landmark moment with a deep sense of responsibility, knowing that the work of central bankers is never complete. The lessons the country, its people, the Central Bank, its staff and leadership have learnt over this long history must be recorded and shared, enabling future generations to build on and contribute to the prosperity of the people of Sri Lanka better.

Before I begin, I would like to take this opportunity to extend my heartfelt thanks to all well-wishers and stakeholders - especially the dedicated staff - for their invaluable contributions towards achieving the objectives of the Central Bank over the past 75 years. In particular, I wish to express my deep gratitude to the members of the Central Bank Boards and the staff for their exceptional commitment over the past three years. Their tireless efforts played a pivotal role in stabilising the economy and laying the foundation for a swift and sustainable recovery from the most profound socio-economic crisis Sri Lanka has faced since independence.

Seven and a half decades ago, in 1950, our nation took a momentous step towards economic sovereignty with the establishment of the Central Bank of Ceylon. This was a decision that our founder Governor John Exter noted as demonstrating our “intention to achieve genuine economic freedom as a corollary of the political freedom” that Sri Lanka had gained just 2 years earlier. Looking back, we see that the journey of the CBSL has been one of continuous learning and evolution to enable such freedom through “the fuller use of the nation’s human and material resources and a rising standard of comfort for all” as described by Exter.

Today, we will reflect on how the CBSL has evolved over last 75 years and the need to protect gains in terms of independence and accountability. While addressing some common myths and criticism, I will also examine the challenges that central bank independence faces amid evolving domestic and global pressures. Accordingly, over the next hour, I expect to carefully build my case on why and how every Sri Lankan must preserve the Central Bank’s independence and its accountability to protect the bedrock of stability for our nation to thrive in the period ahead.

1. Understanding central bank independence

1.1 What is central bank independence?

Deutsche Bundesbank President Joachim Nagel recently stated that “independence is part of the DNA of central banks”. Allowing a central bank to make its decisions and operate without being influenced by the government or politicians for short-term political mileage is called independence. This will allow a central bank to focus on its mandates, such as maintaining price stability and financial system stability. While political institutions, and by extension fiscal institutions, typically focus on a shorter horizon such as an election cycle, institutions such as central banks function best with independence, since maintaining stability, the core function of central banking, is a long-term necessity for any economy pursuing prosperity.

Moreover, central bank independence does not imply complete detachment from the government; rather, it is the ability to exercise technical and professional judgement in pursuing its objectives, without interference from the government for short-term political gains.

At the same time, independence does not mean that a central bank can formulate and execute policies without being answerable to anyone. The independence of a central bank comes with greater accountability and transparency.

That central bank independence is beneficial to modern economies is backed by both theoretical approaches and practical case studies, including Sri Lanka. Jerome Powell, the Chairman of the Federal Reserve stated in 2024 that “the record is pretty clear” that central bank independence is “a good institutional arrangement that serves the public well.” Central bank independence, which has been often discussed in literature across multiple spheres including goal independence, instrument independence, operational independence and financial independence, seeks to protect central bank policies from the short-term pressures of electoral swings, i.e., pressures that help win votes today but can cause damage to the economy for years to come. Empirical evidence shows that central bank independence is associated with lower and more stable inflation without the trade-off of long-term growth stagnation.¹

During the last three decades in particular, there has been a strong trend toward enhancing central bank independence, in both advanced and emerging economies. Notable examples include the Bank of England Act 1998, which created the independent Monetary Policy Committee; the European Central Bank’s statutory independence enshrined in EU treaties; and reforms in countries such as Chile (1989), South Africa (1996), Indonesia (1999), India (2016) and Brazil (2021).

1.2 Why does independence matter?

In the first place, central bank independence matters because it allows monetary policy to be shaped to support long-term economic stability without being subject to short-term political pressure. Economic theory, and especially the time inconsistency problem put forward by Kydland and Prescott, suggests that governments and politicians may encourage short-term growth or alleviate temporary rises in unemployment, often by money creation or simply by keeping interest rates artificially low. As discussed earlier, this, in turn, leads to very high

¹ See, for example, Cukierman, A., Webb, S., and B. Neyapti (1992), “Measuring the Independence of Central Banks and Its Effect on Policy Outcomes”, Alesina & Summers (1993) – “Central Bank Independence and Macroeconomic Performance”, Berger, de Haan & Eijffinger (2001) – “Central Bank Independence: An Update of Theory and Evidence”, and Dall’Orto Mas et al. (2020) – “The Case for Central Bank Independence: A Review of Key Issues”.

levels of inflation with eventual adverse consequences for people and, of course, the credibility of the central bank.

If the central bank is independent and has a clear mandate, which in most cases is aimed at maintaining price stability, it can help a central bank to stand against such temptations and act objectively on available data in pursuit of its longer-term objectives. This builds trust among markets and the public, helps contain cost of living pressures, prevents wage-price spirals, keeps inflation expectations well-managed, makes production costs more predictable, and therefore sets the stage for being able to maintain economic stability, thereby producing positive spillovers that ultimately improve public welfare.

Central bank independence is also a critical requirement for maintaining the stability of the financial system. The ability of a central bank to enforce micro and macroprudential regulation uniformly across all deposit-taking institutions, irrespective of their ownership structure and devoid of political or market influence would ensure a sound and stable financial system.

Central bank independence facilitates financial innovation as well. The IMF's 2024 working paper titled "A New Measure of Central Bank Independence" shows that financial independence and governance autonomy are foundational for central banks to experiment with new instruments and technologies. Essentially, independence is not just about maintaining stability, it is also the engine that allows central banks to shape the future of finance.

As I will discuss in a later section, unfortunately the Sri Lankan public and businesses had to learn the hard way the repercussions of lack of central bank independence and the consequences of fiscal dominance during the buildup to the 2022 crisis. While many do not speak about this anymore, Sri Lankans also experienced the benefits of allowing the Central Bank to operate independently, most notably the sharp disinflation process and protecting the financial sector from near-collapse, both of which enabled the economy to record a rapid rebound from the depth of the crisis.

1.3 Role of accountability

Alan Blinder, former Vice Chair of the Federal Reserve and Professor of Economics, stated that "because monetary policy actions have profound effects on the lives of ordinary people, a central bank in a democracy owes these folks an explanation of what it is doing, why, and what it expects to accomplish. It's their economy, not ours."

It has to be emphasised that independence cannot stand alone. Central bank independence is not an end in itself. It must be matched with strong provisions to ensure accountability. Because independence has been granted to fulfill the central bank's mandate, the institution is obliged to explain, and ex post justify its decisions. Independence and accountability are essentially two sides of the same coin. Central banks do not, and should not, operate in a vacuum. Therefore, as institutions in the service of the general public, central banks must ensure that the public and politicians see their decisions as underpinned by their mandate and the broader interest of society.

Therefore, for the central bank's independence to be democratically legitimate (Bernanke, 2010), there must be a two-way dialogue. As an institution that directly affects people's lives, the central bank must be open to scrutiny while consistently explaining and justifying its actions, openly, clearly, and in ways that resonate with the ordinary member of the public.

Transparency helps bridge independence and accountability. This commitment to a high degree of openness about policies, operations, governance and outcomes focuses on explaining the central bank's work not just to the financial elite but to every citizen, no matter how bitter the truth may be or how painful the central bank decisions may appear to be. As the South African Reserve Bank Governor Lesetja Kganyago said, "For society to appreciate our roles, we...have got to take society along with us, such that when central banks come under attack, it is not just going to be us defending our independence." This is why broader society must understand what the central bank does and why it does so. This is why central banks need to be accountable and transparent.

1.4 Global case studies

Beyond theory, experience across countries shows us, time and again, that independent central banks can act decisively, conducting credible monetary policy and safeguarding financial system stability, even during periods of turmoil.

1.4.1 When independence has worked

Take New Zealand, for example. Since gaining independence in 1989, the Reserve Bank has been a pioneer in inflation targeting. Its clear mandate, operational autonomy, and commitment to transparency enabled it to respond swiftly during crises such as the Asian Financial Crisis and the Global Financial Crisis. By adjusting policy rates and supporting domestic banks through liquidity facilities, it helped anchor inflation expectations and stabilise markets.

Canada's experience is similarly instructive. Since 1991, the Bank of Canada has operated within a well-defined inflation-targeting framework. It has successfully navigated multiple shocks – from the dot-com bubble to the 2008 financial crisis – through a combination of conventional and unconventional monetary tools. Its data-driven decisions and transparent communication have consistently reinforced market confidence.

In the United Kingdom, the Bank of England was granted operational independence in 1997. During the Global Financial Crisis and subsequent fiscal shifts, it responded with timely interest rate adjustments and quantitative easing. Its ability to act free from political interference has preserved public trust and ensured that monetary policy remains effective.

Sweden's Riksbank, independent since 1999, responded to the Global Financial Crisis with aggressive rate cuts and liquidity support. Its credibility allowed it to act countercyclically, softening the downturn and enabling a faster recovery than many of its peers.

Germany's Bundesbank, long regarded as a symbol of monetary discipline, played a pivotal role in post-war recovery and in managing inflationary shocks throughout the 20th century. Though monetary policy now rests with the European Central Bank, the Bundesbank continues to oversee banking supervision and financial stability, reinforcing its legacy of independence.

The European Central Bank itself, institutionally independent by design, demonstrated remarkable resolve during the euro area sovereign debt crisis. Despite political divisions, it launched bold liquidity operations and the landmark Outright Monetary Transactions programme – underpinned by Mario Draghi’s now-famous commitment to “do whatever it takes.”

In the United States, the Federal Reserve’s operational independence has enabled it to implement unconventional policies such as quantitative easing and forward guidance. Analysts have noted that this independence helped prevent inflation expectations from de-anchoring, even amid political uncertainty and trade tensions.

Amongst emerging market economies, Chile offers a compelling case of a country that enshrined central bank independence in its constitution to overcome a history of persistent, high inflation. For decades, political interference and weak institutional frameworks meant that the Central Bank of Chile was unable to secure the stability of the currency, with inflation frequently reaching triple digits. However, in 1989, Chile made a landmark decision by enshrining the central bank’s independence directly into its constitution through the Basic Constitutional Act; the nation collectively committed to prioritising long-term stability over short-term political expediency. The Central Bank of Chile has since brought inflation down to stable, single-digit levels, providing the essential foundation for sustained economic growth and investor confidence.

The experience of India also provides useful insights. For decades, the Reserve Bank of India (RBI) has navigated a path of evolving independence, seeking to balance its mandate of monetary stability with the demands of a rapidly developing nation. This created an environment that, at times, required difficult and steadfast policy decisions. However, India has consistently demonstrated a commitment to strengthening the RBI’s role, culminating in the formalisation of its inflation-targeting framework and the amendment to the Reserve Bank of India Act of 1934 in 2016. This landmark legislative step enshrined a clear and singular objective for the central bank: to maintain price stability, while keeping in mind the objective of growth.

These examples show us that independence is not merely a legal construct – it is a functional enabler of stability, credibility, and innovation.

1.4.2 When independence was compromised

Agustin Carstens, former General Manager of the Bank for International Settlements (BIS), aptly observed that, “through history, we have had quite substantial episodes where monetary policy mismanagement has led to devastating effects – in inflation, in financial systems, affecting the wellbeing of individuals and firms, oftentimes bringing countries to the brink.”

Germany’s hyperinflation in the 1920s, Argentina’s recurring debt and inflation crises, Zimbabwe’s collapse in the late 2000s, and the United States’ Great Inflation of the 1960s and 1970s – all serve as reminders of the risks when central banks are pressured to finance fiscal deficits or support short-term political goals. Writing his autobiography in 2018, Paul Volcker, former Chairman of the US Federal Reserve, reminisced that, in 1979, when he was summoned by the US President to be appointed as the Chairman of the Federal Reserve, he made the following three points to the President: “[that he] felt strongly about the independence of the Federal Reserve; the Fed would have to deal head-on with inflation; and [he] would advocate tighter policies than Miller [the previous Fed Chair] had.” Volcker and the Federal Reserve under him managed to tame high and stubborn inflation only through appropriate monetary policies they implemented as an independent institution.

As we reflect on these global experiences, we see that the lesson is clear: central bank independence is not a privilege but a necessity. The ability of a central bank to act decisively, maintain credibility, and provide a steady anchor in the storm of economic uncertainty, is the result of independence. This independence is what allows central banks, including ours, to safeguard the future of economies.

2. From the Monetary Law Act of 1949 to the Central Bank Act of 2023

2.1 Pressing need for new legislation on central banking

Over the past 75 years, the Monetary Law Act of 1949 (MLA) has been the subject of much discussion and debate. I will not attempt to revisit every argument about its strengths and weaknesses. However, I believe we can all agree on one fundamental point: the MLA was a piece of legislation far ahead of its time. It incorporated many forward-looking features and provisions designed to facilitate sound central banking practices and principles – some of which remain relevant even today.

While the MLA had served its purpose for decades, it had not undergone a comprehensive review in line with the evolving challenges of monetary and financial stability. By the early 2000s, it was increasingly evident that the MLA was outdated, both in terms of institutional design and in providing the credibility required for modern monetary policymaking. Sri Lanka was also preparing to move towards a Flexible Inflation Targeting (FIT) framework in line with global best practices, a regime that demands a clear mandate for price stability, greater independence, and robust accountability mechanisms. Without reform, the existing legal framework risked undermining credibility and weakening the effectiveness of monetary policy.

Another key deficiency of the MLA was that the success of policymaking was person dependent. This was recognised by John Exter, who, while proposing the establishment of a central bank for Ceylon, also noted that its success in serving the nation would depend on “proper skill and understanding in its management”. Referring to the relationship with the Government, Exter noted that “the effectiveness of co-operation and coordination between the Monetary Board and the Government will depend more upon the men occupying the key positions at particular times than upon any legal formula, no matter how carefully or elaborately it might be worked out.”

History bears out Exter’s insight. While the autonomy of the Central Bank was compromised from time to time, there were notable instances where the Monetary Board exercised independent judgement – even with the Secretary to the Treasury as a member. Two examples stand out:

- In December 1959, the Monetary Board raised the Bank Rate to counter inflationary and balance of payments pressures. This move, perceived as contrary to Government policy, prompted the Minister of Finance to direct the Board to reverse the decision and assume responsibility for the action.
- In 2019, the Monetary Board restricted monetary financing to the Government, recognising its adverse consequences. This decision, too, was reversed in 2020 following Government instructions.

These episodes confirm Exter’s view that “good central banking is less good law than good practice” and that “the exact degree of independence of the Central Bank is likely to vary from time to time”.

Recognising these deficiencies and evolving needs, the CBSL initiated a process to modernise its governing legislation in 2017.² In April 2018, a Cabinet Memorandum was submitted seeking approval in principle for reforms to the country's Central Bank law. The subsequent approval gave momentum to the drafting of a new Central Bank Act (CBA), with the CBSL playing a lead role in shaping the provisions. The drafting was guided by three overarching objectives:

- i. Strengthening the governance of the institution
- ii. Securing independence and accountability to support the adoption of FIT and ensure durable price stability
- iii. Enhancing financial sector oversight and resilience.

The draft legislation reflected several critical reforms: Price stability was formally recognised as the primary objective of the CBSL, supported by a strengthened institutional setup for monetary policy formulation. Clearer checks and balances were introduced, alongside updated provisions for monetary operations and instruments, and greater exchange rate flexibility. Importantly, the draft sought to safeguard the financial strength of the CBSL, institutionalise stronger fiscal-monetary coordination, and impose limits on monetary financing to avoid the pitfalls of fiscal dominance.

The new Central Bank Bill was consistent with global standards on independence, governance, and accountability. Following multiple rounds of consultations with stakeholders, the Bill was finalised and submitted to the Parliament in 2019. However, the political environment at the time prevented its passage, and the reform was left in abeyance.

2.2 An Aside: What if the New CBA had been in place during the crisis?

The failure to enact the new CBA in 2019 was a missed opportunity of historic proportions. Had this legislation been passed, Sri Lanka would have entered the subsequent years with a stronger, more independent Central Bank – better equipped to withstand the pressures that ultimately led to the crisis.

Under the revised framework, the CBSL would have been empowered to resist excessive monetary financing, maintain a credible commitment to price stability, and allow greater exchange rate flexibility. The prohibition of monetary financing could have helped keep inflation under control. Moreover, the absence of Central Bank financing might have compelled the Government to avoid ill-timed and reckless tax cuts – decisions that severely damaged Sri Lanka's external credit ratings. A firm commitment to price stability through a flexible inflation targeting regime would have allowed the exchange rate to act as an automatic stabiliser, curbing excessive demand pressures caused by a suppressed currency. These institutional safeguards could have prevented the build-up of vulnerabilities that ultimately pushed the economy to the brink.

Instead, what prevailed was the public reprimanding of Central Bank officials by political and fiscal authorities – actions applauded by many who failed to grasp the long-term benefits of Central Bank independence. Even if the crisis, rooted in fiscal mismanagement, could not have been entirely avoided, an empowered and independent Central Bank would have acted sooner and more decisively, mitigating the severity of the economic distress faced by our people.

Sri Lanka's recent experience has reaffirmed a fundamental truth: as often repeated in global central banking circles, central bank independence is not a luxury – it is a necessity. The journey toward a modern, rules-based

2 It must be noted that there was a short-lived attempt in early 2000s to rewrite the MLA as well.

central bank policy framework was never a mere technical exercise. It was, and remains, essential to ensure that monetary policy and financial stability policies serve the broader public interest rather than short-term expediency. The efforts undertaken before 2019 show that the CBSL recognised this imperative well in advance. The subsequent crisis has underlined, in stark terms, the cost of delay in strengthening independence and accountability as well as the cost of not exercising available independence and accountability even under the MLA.

2.3 How the Central Bank helped stabilise the economy following the crisis – even under the MLA

Patrick Honohan, former Governor of Bank of Ireland, opined in 2024 that “price stability and prevention of crises are indeed the core goals of central banking. But it is the central bank’s ability to react effectively to crisis situations that most test their skills and preparedness. Over the years, failure to contain financial crises has entailed enormous economic costs.”

Sri Lanka faced such a test in 2022 – an unprecedented crisis marked by severe balance of payments pressures, social and political unrest, and a profound loss of confidence in institutions, all while an external debt default loomed. The roots of this crisis lay in structural weaknesses, persistent fiscal imbalances, and a series of imprudent policy decisions that created an unsustainable debt burden and mounting external pressures.

Under intense domestic and international pressure, the Government eventually sought IMF assistance and announced a debt standstill as an interim measure, paving the way for debt restructuring negotiations. This culminated in an Extended Fund Facility (EFF) arrangement with the IMF in 2023.

As documented elsewhere, the Government and the Central Bank implemented a bold stabilisation package. Notably, replacing the MLA with the new CBA enshrined greater independence and accountability in the new legislation. However, since the CBA was enacted only in September 2023, most stabilisation measures had to be executed under the MLA. This underscores an important truth: even under the MLA, stability could be achieved when the Central Bank exercised its available independence with strong coordination with fiscal authorities.

Still under the MLA, the CBSL adopted an extensive array of measures to stabilise the economy from its dire straits since the onset of the crisis in early 2022. Monetary policy was tightened significantly in April 2022, following a substantial depreciation of the Sri Lanka rupee in March as the exchange rate was allowed a measured adjustment. These measures, though painful, were necessary. They brought inflation down from a peak of nearly 70 per cent in September 2022 to single digits by mid-2023 and maintained price stability since then. This disinflation process has been hailed globally as one of the fastest in recent history.

Equally critical was safeguarding the financial system. At the height of the crisis, many predicted a banking collapse. Yet Sri Lanka avoided a systemic banking crisis – a remarkable achievement given the depth of the economic and debt turmoil. Had a banking crisis materialised, public deposits would have been at risk, trust in the financial system shattered, and the economic rebound severely compromised.

As these measures took hold, macroeconomic conditions improved steadily supported by greater fiscal discipline and consolidation. Inflation fell sharply, risk premia eased after debt restructuring, and the external sector stabilised. The Central Bank worked tirelessly to restore public confidence – through frequent communications, press briefings, and transparent explanations of policy decisions. This commitment to openness anchored inflation expectations and stabilised markets, laying the foundation for recovery.

2.4 Provisions for independence and accountability in the New CBA

The enactment of the CBA in 2023 marked a landmark structural reform, significantly strengthening the independence of the CBSL to perform its streamlined mandate.

2.4.1 Key provisions on independence and accountability

Several key provisions underscore this transformation, including the following:

- The CBA establishes the Central Bank's primary objective as achieving and maintaining domestic price stability, which takes precedence over all other functions. Ensuring financial system stability is recognised as the secondary objective (Section 6). This prioritisation reflects the critical responsibility entrusted to the CBSL as the sole authority to maintain low and stable inflation for the greater public good.
- In addition to the Governing Board, which oversees all activities other than monetary policy, the Act introduces a Monetary Policy Board (Section 11) tasked with formulating monetary policy and implementing a flexible exchange rate regime in line with the Flexible Inflation Targeting (FIT) framework. This institutional arrangement reinforces the importance of sound and independent monetary policymaking.
- The Secretary to the Treasury is excluded from the Central Bank's policy boards, ensuring greater independence. Provisions are in place to ensure that members of the Boards have the required competencies, integrity, and ethical conduct.
- Recognising the need for fiscal-monetary coordination, the Act establishes a Coordination Council comprising the Governor and the Secretary to the Treasury (Section 83). This forum facilitates the exchange of information and views to support coherent policy formulation while preserving institutional autonomy.
- The CBA explicitly prohibits monetary financing of fiscal deficits (Section 86), thereby eliminating the risk of fiscal dominance. While provisional advances to the Government are permitted, they are subject to stricter conditions than under the previous Monetary Law Act.
- Under the FIT framework, the inflation target is jointly determined by the Minister of Finance and the Central Bank through a Monetary Policy Framework Agreement (Section 26). If the target is missed, the Central Bank must publicly disclose the reasons, outline remedial measures, and specify the timeframe for returning inflation to target—ensuring transparency and accountability.
- The Act mandates the publication of a Monetary Policy Report every six months, detailing recent inflation trends, the medium-term outlook, and associated risks, and informing the public on monetary policy implementation and the achievement of objectives as well (Sections 27 and 80). Additionally, within four months of the financial year's close, the Central Bank must publish an Annual Report reviewing economic conditions, policy objectives, and the performance of its policies (Section 80).
- Section 80 also provides for the Governor, members of the Board and Deputy Governors to be heard by the Parliament.

- The CBSL enjoys full administrative and financial autonomy (Section 5), enabling it to manage its internal affairs independently – an essential prerequisite for credible and effective central banking.
- The appointment of the Governor and members of the Governing and Monetary Policy Boards requires the approval of the Constitutional Council (Sections 15 and 19). Clear provisions govern their removal by the executive and legislative branches of the Government in the case of misconduct or negligence, ensuring accountability without compromising independence.
- The Act explicitly prohibits any person or entity from attempting to influence the Governor, Board members, or employees of the Bank (Section 5), reinforcing the principle that the autonomy of the Central Bank must always be respected.

While the CBA addresses the need to rely on individuals it is still necessary for properly appointed members to exercise independence empowered by CBA. It is only then the provisions of the CBA, which require well-thought-out appointments to be made with the involvement of the executive, as well as the legislative through the Constitutional Council.

2.4.2 How do CBA provisions on independence and accountability, and activities since the introduction of the CBA benefit the nation?

- Prior to the enactment of the CBA, the CBSL could finance fiscal deficits through mechanisms such as providing advances to the Government or purchasing Government securities in the primary market. Successive Governments increasingly relied on such monetary financing, despite its adverse implications for macroeconomic stability. Excessive Government borrowing from the CBSL contributed to an expansion in the money supply, generating excessive demand-driven inflationary pressures. In many instances, monetary financing conflicted with the CBSL's mandate of maintaining price stability and undermined the effectiveness of monetary policy transmission. Such monetary financing no longer occurs under the CBA.
- Several provisions have been made in the CBA to increase the accountability of the Central Bank under the FIT framework. If the Central Bank fails to meet the inflation target by a margin determined under the agreement for two consecutive quarters, the CBSL must publicly explain the reasons and outline corrective actions. Accordingly, under section 26 of the CBA, the Monetary Policy Board of the Central Bank should submit a report to the Parliament through the Minister of Finance, explaining the failure to achieve the inflation target, the remedial actions proposed to be taken by the Central Bank, and an estimate of the time period within which the inflation would reach the target. Accordingly, the Central Bank has submitted and made available to the public several reports as inflation remained below the target and recorded a period of deflation mainly due to supply side factors. Such information would be useful in improving the awareness of the public on the reasons for inflation volatility, future path of inflation as well as risks on inflation projections, thereby facilitating informed decisions by the economic stakeholders, leading to well anchored expectations on inflation.
- Further, with the improved accountability of the Central Bank, there is evidence that public trust in policy decisions has improved, which has significantly supported building business confidence, positive investor sentiments, etc.

- One of the most transformative features of the CBA is the formal designation of the CBSL as the Macroprudential Authority in Sri Lanka. This designation empowers the CBSL to independently monitor systemic risks and proactively safeguard financial system stability, an essential foundation for system stability. The Act provides the CBSL with a comprehensive legal mandate and a suite of tools to mitigate systemic risk, contain unsustainable credit growth and leverage, and ensure the uninterrupted functioning of the financial system, even under adverse economic conditions. Together, these tools enable the Central Bank to address emerging systemic risks with precision and agility, protecting the deposits of the public while ensuring the stability of the financial system.
- To ensure public oversight on the health of the financial system, the CBSL is required to publish an annual Financial Stability Review. This comprehensive publication assesses the health of the financial system, identifies emerging risks and vulnerabilities, outlines the corrective measures undertaken by regulators, and tracks progress on cross-agency recommendations. In doing so, it not only strengthens institutional accountability but also reinforces public confidence in the resilience and integrity of the financial system.
- In addition to the reforms introduced under the CBA, the CBSL has also played a pivotal role in strengthening the broader legal framework that governs Sri Lanka's financial sector, ensuring that institutional reforms are supported by a strong and coherent legislative foundation. With a view to strengthening the resilience of the banking sector and reinforcing the integrity of the regulatory framework, the Banking Act was amended in June 2024. This comprehensive reform introduced a wide range of critical enhancements to modernise and strengthen the regulatory landscape. Stronger governance requirements were extended across the entire sector, including state-owned banks. Importantly, greater autonomy and strengthened legislation have allowed enforcing similar regulations across all banks, irrespective of their ownerships structure.
- Another key milestone in this effort was the enactment of the Banking (Special Provisions) Act, No. 17 of 2023, which strengthens the CBSL's role as the Resolution Authority, empowering it to take timely and decisive action in addressing distressed financial institutions. This landmark legislation introduced critical features, including enhanced resolution powers, robust financial safety net mechanisms, and statutory recognition for the Deposit Insurance Scheme, thereby reinforcing public confidence and the stability of the financial system. The Act also established clear procedures for the orderly winding-up of licensed banks, while allowing resolution measures to be extended to Licensed Finance Companies when appropriate.
- Meanwhile, the Central Bank has intensified its efforts to advance financial inclusion and enhance financial literacy, while steadfastly safeguarding the integrity of the financial system. These initiatives are not merely social objectives – they are fundamental to ensuring the effective transmission of monetary policy and preserving financial stability. In this context, the Bank has engaged extensively with a wide spectrum of stakeholders, both domestic and international, while also reaching out to grassroots communities. Such engagements are designed to deliver tangible benefits to the public and businesses alike, fostering a more inclusive and resilient financial ecosystem.

3. Addressing common myths and criticism

As Raghuram Rajan observed in 2017, “any public job involves both undue praise and unfair criticism... yet it is the latter that is probably more useful in helping you sharpen your message.” In that spirit, let me take this opportunity to address in this section some of the common myths surrounding the functions and operations of the Central Bank of Sri Lanka.

3.1 Is there no coordination between the Central Bank and the Government?

While independence is vital, it does not and must not mean operating in isolation. Coordination between monetary and fiscal authorities remains essential. The CBA ensures this through the establishment of a statutory Coordination Council, where representatives from both the CBSL and the Ministry of Finance meet quarterly to review economic, fiscal, and financial conditions, emerging risks for better policy coordination and timely decisions to address concerns.

In addition, we continue to work closely with the Government, international financial institutions, and other regulators, particularly in the areas of crisis management and financial system oversight. We do this through bodies like the Financial Sector Crisis Management Committee and the Financial System Oversight Committee.

3.2 Is the CBSL beyond Sovereignty and accountable only to external agencies such as the IMF?

The CBSL is an arm of the State and functions as a public corporation under the Constitution of the Republic. The CBA provides a robust framework to ensure the CBSL’s accountability to Parliament and, ultimately, to the people of Sri Lanka.

Appointments to the positions of Governor and members of the CBSL’s Boards are made by the Executive and the Legislature, subject to checks and balances through the Constitutional Council, as stipulated in the Constitution and the CBA. Once appointed, however, these appointees are expected to operate independently of political affiliations and irrespective of who appointed them. The Executive may remove the Governor or any Board member with the approval of the Constitutional Council, subject to the safeguards in the CBA.

The Ministry of Finance shares responsibility for setting the inflation target jointly with the CBSL. If no agreement is reached, the Cabinet of Ministers determines the target to be achieved by the CBSL. Unlike in the past, the CBA now mandates that Parliament or its Committees summon the Governor, Board members, and Deputy Governors at least once every four months to review the CBSL’s functions. If any policy or operation is perceived to deviate from the CBSL’s mandate, it can be questioned during these sessions, ensuring strong democratic oversight.

The CBSL also serves as the Government’s representative in fostering international relations with institutions such as the International Monetary Fund (IMF). Currently, Sri Lanka is engaged in the EFF arrangement with the IMF. While the programme’s economic and financial policies are prepared in consultation with the IMF, they remain fully owned by the Sri Lankan authorities.

3.3 Is the CBSL’s financial independence a new concept?

The CBSL’s independence is not entirely a new thing, but it has been significantly strengthened under the CBA. Even under the MLA, the CBSL was vested with a high degree of financial independence – the ability to

operate without relying on Government funding. Accordingly, the former Monetary Board of the CBSL was entrusted with the power to approve the CBSL's budget. Similar provisions are available in the CBA, enabling the CBSL to operate without reliance on the Government's financial allocations, which could have jeopardised the independence of the CBSL. At the same time, all expenditures are subject to internal governance, Board oversight, and external audits, ensuring transparency and accountability. The CBSL is also required to maintain transparent financial reporting and is subject to independent external audits, which have been in place for several decades to ensure discipline in the financial operations of the CBSL. New law enforcements under the CBA have further strengthened the financial and operational independence of CBSL, by way of clearly defining the profit transferring ability of the CBSL and provision for recapitalisation, if needed, to ensure that the CBSL will remain financially sound and capable of fulfilling its core mandate without the fear of making losses or capital depletion.

3.4 Independence vs. expectations: What can the CBSL truly deliver?

Misunderstanding the CBSL's objectives and functions often leads to unrealistic expectations about what the CBSL can deliver and how it should operate. Our core objective is to achieve and maintain domestic price stability. Alongside this, we are also tasked with securing financial system stability. Both objectives are pursued, aiming to encourage and promote long term economic stability and growth.

A frequent misconception is why the CBSL does not directly promote economic growth or development. Questions often arise as to why the Bank does not actively empower businesses – particularly MSMEs – promote exports, develop industries, or alleviate poverty. The answer lies in our mandate: the CBSL's role is to create an enabling environment of stability, within which the Government and other authorities can implement growth-oriented policies. History has shown that when central banks pursue multiple, often conflicting objectives with limited tools, the result is inefficiency and instability. Central banking is fundamentally about stability.

Another common misunderstanding is that the CBSL fixes the exchange rate. Under the current flexible exchange rate regime mandated by the CBA, the value of the Sri Lanka rupee is determined by market forces of supply and demand. The CBSL intervenes only to build reserves and smooth excessive volatility – not to fix or target a specific rate.

When these roles are misunderstood, criticism could arise, especially when difficult but necessary policy decisions are made in the long-term interest of the economy.

3.5 The Central Bank's role in conducting agency functions

Since its establishment, the CBSL has been entrusted through various statutes with the responsibility of carrying out various other functions on behalf of the Government. Such functions include public debt management, management of the Employees' Provident Fund, exchange control (later foreign exchange management), financial intelligence and regional development.

The need for the CBSL to carry out agency functions on behalf of the Government has arisen due to the public trust placed in the CBSL as well as the absence of other acceptable institutional arrangements to carry out such functions elsewhere. Some of these functions have resulted in conflicting objectives for the CBSL, necessitating establishing and strengthening firewalls in the governance structure of the CBSL. At times, allocation of resources to carry out agency functions is a severe strain on human resources and dilutes the core functions of the Central Bank.

Accordingly, the implementation of concessional loan schemes for targeted sectors by the CBSL has been phased out. The CBSL's regional engagement has shifted towards enhancing financial inclusion and improving financial literacy among the public under the current set up. This is in line with the Government's efforts to strengthen the development finance function under the Ministry of Finance, ensuring a more focused institutional framework for such initiatives.

Furthermore, the transfer of the public debt management function from the CBSL is currently underway, with the establishment of a dedicated Public Debt Management Office under the Ministry of Finance. This marks another important step in ensuring that operational responsibilities are properly aligned with the appropriate institutions, while allowing the CBSL to focus more on its core monetary and financial stability mandates.

Looking ahead, as the market matures and suitable institutional arrangements are made, the CBSL has no objection to transferring the remaining agency functions out of the Central Bank as well. This will enable us to focus fully on the CBSL's core objectives and better utilise our resources towards maintaining stability.

4. Concluding remarks: Preserving independence

In an often complex and unpredictable political and economic environment, preserving the independence of the Central Bank is not merely important – it is indispensable to safeguarding the stability and prosperity of a nation.

History and global experience demonstrate that central banks with clearly defined mandates, well-established boundaries, and adequate operational autonomy are best positioned to deliver on their promises. A clear mandate not only guides the institution but also provides a transparent benchmark for accountability to both policymakers and the public. Narrowly defined roles prevent central banks from straying into policy domains that rightly belong to elected governments. The CBA enshrines this clarity for the CBSL.

Transparency and open communication – on our mandate, policy actions, and their rationale – are essential to building public trust. Adopting global best practices in disclosure and accountability serves as a powerful safeguard against undue influence. At the same time, independence does not mean isolation. Effective macroeconomic management requires constructive dialogue and coordination between the Central Bank and the Government, particularly on fiscal, monetary, and financial sector policies. The CBA provides a legal framework for such coordination without compromising autonomy. Recent experience during Sri Lanka's economic crisis, financial sector vulnerabilities, and debt restructuring illustrates how close collaboration – anchored in mutual respect for roles - can accelerate stability and recovery.

Christine Lagarde, the President of the European Central Bank, recently observed that “while recent research suggests that de jure central bank independence has never been more prevalent than it is today, there is no doubt that the de facto independence of central banks is being called into question in several parts of the world.” In this context, a timely reminder to policymakers across the world of Alan Blinder's enduring advice that “central bank independence is a fine institution that ought to be preserved where it exists and emulated where it does not” could be profoundly relevant.

Having witnessed both the benefits of independence and the costs of its absence, I firmly believe it is the responsibility of future generations to protect, preserve, and promote the independence of the Central Bank. Only then can it continue to serve as a steadfast anchor of stability – an essential foundation for sustainable growth and shared prosperity.

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Estimating the Potential Impact of Shocks to Tourism Demand in Recent History of Sri Lanka Using a Machine Learning Modeling Approach

*Amila Wijayawardhana*¹

Abstract

This study investigates key factors influencing tourism demand in Sri Lanka over the past five decades, using a Machine Learning (ML) modeling approach. It also estimates potential losses in tourism earnings during periods of domestic and external shocks. The findings reveal that tourist arrivals were significantly affected by historical arrival patterns, macroeconomic variables such as domestic inflation and the exchange rate, and various shocks including periods of civil war, terrorist attacks, natural disasters, and financial crises. The COVID-19 pandemic was identified as the principal external shock. Among the ML models evaluated, Multiple Linear Regression (MLR) and Extreme Gradient Boosting Regression (XGBR) demonstrated the highest accuracy in predicting tourist arrivals across different historical episodes, outperforming models such as Support Vector Regression (SVR), K-Nearest Neighbor Regression (KNN), and Gradient Boosting Regression (GBR). The study successfully quantifies the loss in tourist arrivals and potential tourism earnings attributable to these shocks within a historical context.

Key words: *domestic shocks, external shocks, machine learning, Sri Lanka, tourism demand forecasting*

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1. Introduction

Earnings from tourism is a key foreign exchange earner in Sri Lanka. For example, in 2023, earnings from tourism amounted to US dollars 2.1 billion, constituting the third largest source of foreign exchange after merchandise exports and workers’ remittances (Central Bank of Sri Lanka, 2023). One of the main aspects that impact tourist arrival not only to Sri Lanka, but also to almost all other international destinations, is the conduciveness of the country to safely travel (Ma et al., 2020). In some unprecedented situations, such as during the COVID-19 pandemic, global safety became the key consideration.

In most other situations, the perceived safety in the domestic location remains important when traveling to a particular destination. The reduction in safety of traveling to Sri Lanka as a tourist has been witnessed in many occasions in the last five and half decades where official monthly tourist data is available. This study identified six distinct periods in Sri Lankan history, since 1970, where tourist arrivals were notably affected by distinct events that led to concerns on safety for tourist visitation as given in Table 1.

Table 1: Periods in Sri Lanka’s history where tourist arrivals were affected by shocks

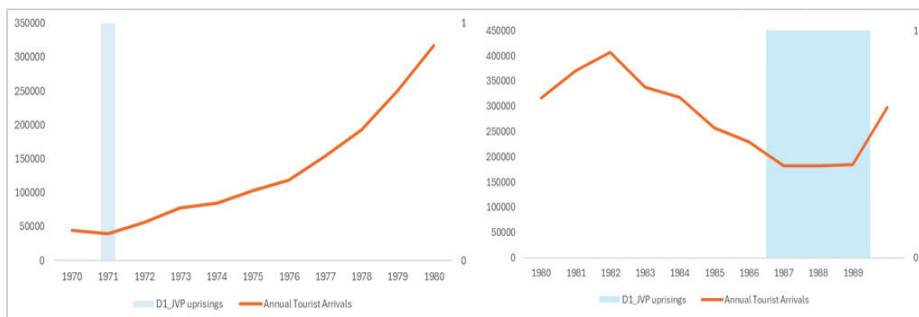
Period	Event	Type of external / domestic shock
Apr 1971 – Oct 1971 and Jul 1987 – Jul 1989	First JVP uprising and second JVP uprisings	Civil unrest
Jul 1983 – Jul 1987	1983 July Riots and First Eelam War	Civil conflict
May 1990 – Dec 1994	Second Eelam War	Civil conflict
Apr 1995 – Feb 2002	Third Eelam War	Civil conflict
Jul 2006 – May 2009	Fourth Eelam War	Civil conflict
Apr 2019 – Dec 2022	Easter Sunday attacks, COVID-19 pandemic and financial crisis	Terrorist attacks / global health pandemic / fuel crisis

A brief description of these events in the historical context of tourist arrivals is detailed in sections below.

1.1. JVP uprisings

The JVP (Janatha Vimukthi Peramuna) uprisings in Sri Lanka refer to two significant insurrections led by the Marxist-Leninist political party JVP (Rich & Duyvesteyn, 2012). These uprisings had a profound impact on the political and social stability in Sri Lanka and the travel safety of tourists was a major concern. There was a state of emergency pronounced during most of the period, significantly deterring tourist arrivals to the country. The second JVP uprising was particularly brutal leading to a significant loss of lives. As a result, tourist arrivals came to a virtual standstill between 1987 to 1989 as illustrated in Figure 1.

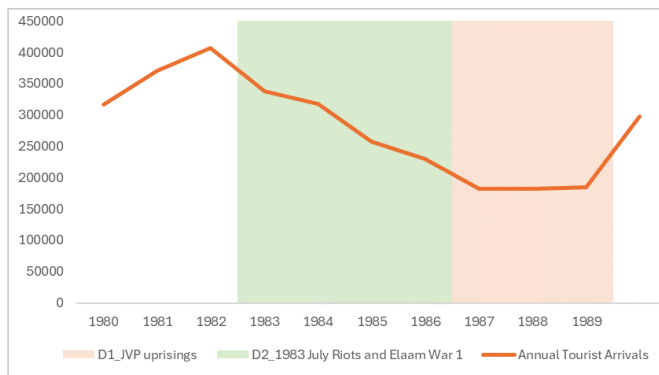
Figure 1: First and second JVP uprisings in early 1970’s and late 1980’s



1.2. 1983 Black July Riots and first Eelam War

1983 July riots were a series of violent attacks in Sri Lanka targeting the Tamil population sparked by the ambushing and killing of 13 Sri Lankan Army soldiers by the Liberation Tigers of Tamil Eelam (LTTE), a Tamil militant organisation, on July 23, 1983. The riots resulted in a significant loss of human lives resulting in the country becoming extremely unsafe for tourism, completely debilitating the tourism sector to decades of unreached potential (Ross & Samaranyake, 1986). The aftermath of the 1983 riots was the beginning of a full-blown civil conflict that led to the first Eelam War between the LTTE and the government of Sri Lanka. The Eelam War 1 lasted until 1987 until the Indo – Sri Lanka accord, but only a tense, temporary peace ensued for a limited time. The period also coincided with the 1987 JVP uprisings from 1987 that was widespread throughout the southern part of the country. The escalation of these twin conflicts had a profound impact on the tourism industry throughout the 1980s as illustrated in Figure 2.

Figure 2: Annual tourist arrivals during 1980's

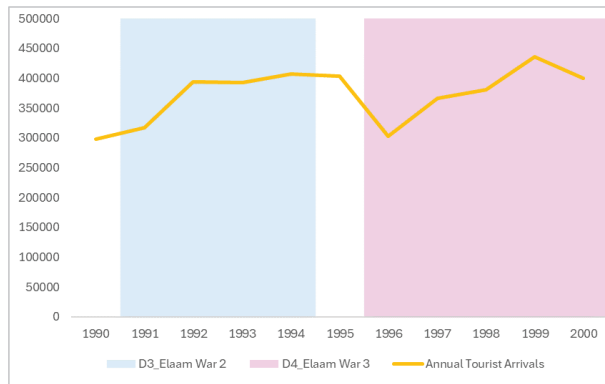


By the end of Eelam War 1 and JVP uprisings in the 1980s, Sri Lanka's promise as a major tourist attraction was permanently damaged (Bandara, 1997). These events were followed by Eelam War 2, with the withdrawal of Indian Peace Keeping Forces, and the continuation of the conflict between the LTTE and the Government. In addition to full blown military and guerilla conflicts in the North of the country, there were a number of major suicide attacks in the South that deterred most tourists. Eelam War 2 ended in 1995, with a notional peace accord for a brief period in 1995.

1.3. Third Eelam war

Eelam War 3 began in June 1995 and lasted until February 2002. In addition to the significant escalation of military conflicts, the LTTE continued its suicide bombings, targeting key political and military figures as well as civilians. Notable attacks include the bombing of the Central Bank in Colombo (1996), attack on the Temple of the Tooth (1998), attack on the Bandaranaike International Airport (July 2001), all epicenters of tourism. These, together with military offensives carried out by the Sri Lanka Army, created a significant deterrent to tourism, as illustrated in Figure 3.

Figure 3: Annual tourist arrivals during 1990's and early 2000's



1.4. Fourth Eelam War

Eelam War IV began after a period of relative calm following a 2002 ceasefire agreement. The peace process eventually broke down, leading to the resumption of full-scale hostilities. The defeat of the LTTE in May 2009 marked the official end of the Civil War, which had lasted for over 25 years (Ashok Mehta, 2010). Tourist arrivals during this period remained stagnant, with concerns of safety as suicide bombings continued in the South with the North, East and Northeastern parts remaining inaccessible and uncondusive to tourism.

Figure 4: Annual tourist arrivals during late 2000's



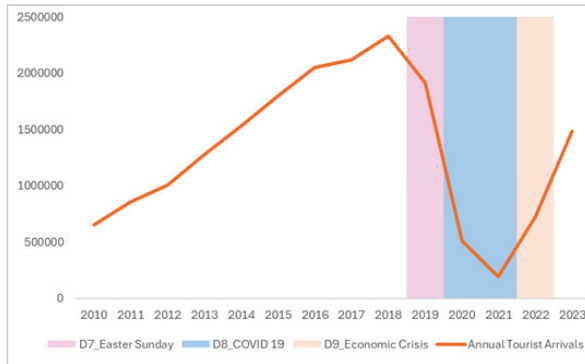
1.5. Easter Sunday Attacks, COVID-19 Pandemic, and 2022 Financial Crisis

Easter Sunday attacks. The Easter Sunday attacks in Sri Lanka were a series of coordinated terrorist bombings that took place on April 21, 2019. These attacks targeted churches and tourist hotels across the country, resulting in a significant loss of lives and raising safety concerns for tourism in the country. This event was the beginning of three consecutive disasters that devastated Sri Lanka’s tourism sector from March 2019 to end 2022.

COVID-19 pandemic. The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, had a profound and unprecedented impact on global health and economies, and resulted in a complete standstill of global tourism. Many countries imposed strict lockdowns, travel bans, and quarantine measures to control the spread of the virus. This led to a sharp decline in both domestic and international travel, decimating the tourism industry in Sri Lanka as well.

Financial crisis. There was a significant financial crisis in Sri Lanka in the aftermath of the COVID-19 pandemic that was characterised by acute shortages of essential goods, including fuel, leading to widespread disruptions in daily life and economic activities. This situation also led to an uncondusive environment for tourism. However, there was a year-on-year growth in tourist arrivals in most months during this period as the previous year had a significant low base due to the COVID-19 pandemic, as illustrated in Figure 5.

Figure 5: Annual tourist arrivals (2010-2023)



The objective of the study is to quantify the loss of tourism in the identified five distinct periods (with the second JVP uprising and First Eelam War in 1980’s considered one event), in terms of the quantity of potential tourist arrivals if an event did not occur, and the potential loss in earnings from tourism during each period.

2. Literature Review

The impact of the civil conflict on Sri Lanka tourism has been studied to a certain extent in the past literature available to the author. A study by Fernando et al. (Fernando et al., 2013) examines the volatility in international tourist arrivals to Sri Lanka, particularly during the civil war from 1983 to 2009, highlighting the impact of political violence and financial shocks on tourism. The paper employs a GARCH econometric models to analyse tourism demand and volatility in tourist arrivals. The study assesses the impact of variables like war and exchange rates on tourist arrivals, revealing significant relationships. Another study by Gamage et al. (1997) studied the impact of political upheavals from 1983 to 1989 on Sri Lanka’s international tourism, earnings from tourism, household income, gross tourism expenditure and on tourism related employment. The results indicate that the loss of tourist arrivals is about ten per cent on average annual basis between 1983 and 1989, resulting in a loss of around US dollars one billion during the period. However, the study does not use a solid econometric model to arrive at these conclusions. In much more recent study by Dunusinghe and Beligahawaththa (2021), it was found that tourist arrivals and tourism receipt were lower by around 20 per cent in a year which witnessed terrorist attacks compared to a normal year using an autoregressive model. Further, in the short run, employment in the industry declined by around 11 per cent following a major terrorist attack on civilian targets. Above studies were the only published studies the author could find in available literature on the impact of shocks to Sri Lanka’s tourism industry in relation to its recent political history. There are no recent studies of quantification of the impact of the triple effect of the Easter Sunday attacks, COVID-19 pandemic and the subsequent financial crisis.

Although there is limited literature on the quantification of impact of shocks on tourist arrivals in the Sri Lankan context, many such studies in international contexts are available. As per such literature, external and domestic shocks have led to many negative shocks. Such negative shocks include global, regional or country specific health risks, terrorist attacks, civil wars, natural disasters such as earthquakes, tsunamis as well as political instability. However, there could be positive shocks to tourism as well, such as the hosting of a major sporting event in the country that will positively drive tourism demand. For example, out of many literatures on quantifying the impact of COVID-19 pandemic on tourist arrivals, one study by Arbulu et al. (2021) have concluded that the COVID-19 pandemic resulted in a potential 89% drop in tourist arrivals in Balearic Islands, using Monte Carlo simulations.

In a study by Beutels et al. (2009) on the macroeconomic impact of the SARS outbreak in Beijing in the early 2000’s, the authors estimate that the irrecoverable losses amounted to about USD 1.4 billion, roughly 300 times the cost of treating SARS related patients. In a study that looks at the impact of terrorism and related fatalities in potential loss of tourism to Kenya from 2010 to 2013 using a dynamic panel model, it was found that a 1% increase in fatalities due to terrorism leads to a 0.13% decrease in tourist arrivals, equating to about 2,507 visitors (Buigt & Amendah, 2016).

Natural disasters such as earthquakes and typhoons are also a significant deterrent to future tourist arrivals. For example, in Taiwan, a study by Liu (Liu, 2014) suggest that the tourism industry in the Taiwan Maolin National Scenic Area suffered significant losses due to Typhoon Morakot in 2009. The author estimates the loss in tourist visitors in 2009 due to the typhoon to be approximately 700,000, with a loss in earnings from tourism that is estimated to be over three times the loss of tourism infrastructure. In a similar study, it was found that a severe earthquake in the Marmara region in Turkey in 1999 resulted in a loss of around 20% potential tourist arrivals during the year (Çiftçi & Bayram, 2021).

3. Methodology

The methodology of the study is structured as follows: Firstly, the historical time periods where the potential loss in tourism to be calculated is defined. Then, a feature selection process is done to determine which independent variables to be considered for each period based on statistically significant independent variables. Thereafter, the types of machine learning models considered are defined and the criteria used to determine the performance of the ML models are discussed.

3.1. Historical Time Periods Considered for Separate Modeling

As detailed in section 1, five time periods in history of Sri Lanka that were affected by adverse domestic and external shocks were considered in this study. These models, termed model 1 to model 5, are detailed in Table 2 below.

Table 2: Models considered based on time period

Model	Event	Period
Model 1	1983 July Riots, first Eelam War and second JVP uprising	Jul 1983 – Jul 1989
Model 2	Second Eelam War period	May 1990 – Dec 1994
Model 3	Third Eelam War	Apr 1995 – Feb 2002
Model 4	Fourth Eelam War	
Model 5	Easter Sunday attacks, COVID-19 pandemic and financial crisis	Apr 2019 – Dec 2022

3.2. Feature Selection Process

The primary aim of the feature selection process is to identify the appropriate dependent variables for each model considered in section 3.1 above.

Dependent Variable: Monthly tourist arrivals data since 1970 was considered as the dependent variable in the study.

Independent variables considered in initiation of each model: The features among the different options available as independent variables considered is one of the key aspects of the feature selection process. This was done in two steps. Firstly, all possible options for a particular model were considered in the initiation of each model. The types of independent variables considered involved time dependent variables, econometric variables, web data and dummy variables to represent each historical episode when there was a shock to tourist arrivals. The list of independent variables considered is given below in Table 3.

Table 3: Independent variables considered for the modeling process

Variable type	Description	Abbreviation
Time dependent variables	Monthly tourist arrivals with a 12-month lag	TA_12M_lag
Econometric variables	Colombo Consumer Price Index	CCPI
	USD_LKR exchange rate	USD_LKR
Web based data	Google Search Index	GSI
	TripAdvisor website reviews	TAWR

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Dummy variables	JVP uprisings	D1
	1983 July riots and first Eelam War	D2
	Second Eelam War	D3
	Third Eelam War	D4
	Fourth Eelam War	D5
	Easter Sunday attacks, COVID-19 pandemic and financial crisis	D6

It must be noted that for each specific model (as defined in Table 2) considered, the independent variables considered at the initiation of the feature selection varied. For example, Google Search Index data and TripAdvisor review data was available only from 2004 and 2007 respectively and hence considered for some of the models only. Similarly, all dummy variables were not applicable all models considered, as can be seen in Table 4 below.

Table 4: Independent variables considered for each model

Model	Event	Independent variables considered
Period 1	1983 July Riots, first Eelam War and second JVP uprising	TA_12M_lag, CCPI, USD_LKR
Model 2	Second Eelam War period	TA_12M_lag, CCPI, USD_LKR, D1
Model 3	Third Eelam War	TA_12M_lag, CCPI, USD_LKR, D1, D2
Model 4	Fourth Eelam War	TA_12M_lag, CCPI, USD_LKR, GSI, TAWR, D1, D2, D3
Model 5	Easter Sunday attacks, COVID-19 pandemic and financial crisis	TA_12M_lag, CCPI, USD_LKR, GSI, TAWR, D1, D2, D3, D4

3.3. Selection of Statistically Important Independent Variables for Each Model

To identify which of the independent variables are statistically significant, a simple MLR model was used for each of the five models to obtain the p-statistics as given in Table 5.

Table 5: Statistical significance of independent variables for each model

Independent variable	p-statistic				
	Model 1	Model 2	Model 3	Model 4	Model5
TA_12M_lag	9.40E-41**	1.77E-30**	4.75E-76**	6.21E-34**	9.1E-131**
CCPI	0.305916	0.086845	0.846129	0.0586558	1.85E-07**
USD_LKR		0.030512**	0.945837	0.5666581	0.19895
GSI				0.3561392	0.155412
TAWR				0.3345097	0.06789
D1		0.001286**	4.45E-09**	5.388E-07**	2.31E-08**
D2			0.997591	0.4658497	0.781641
D3				0.0001267**	0.000194**
D4					0.00519
D5					4.32E-18**
D6					

3.4. Forecasting Timeline of Each Model and Selected Independent Variables

Based on the results in Section 3.3, the time period to use actual data, the projected period and the independent variables considered for the five models were identified as given in Table 6.

Table 6: Statistical significance of independent variables for each model

Period Classification	Event	Time period of actual data used (prior to event)	Projected period	Independent variables considered
Period 1	1983 July Riots, first Eelam War and second JVP uprising	Jan 1970 -Jun 1983	Jul 1980 – Dec 1989	TA_12M_lag
Period 2	Second Eelam War	Jan 1970 -Apr 1990	May 1990 – Dec 1994	TA_12M_lag USD_LKR, D1
Period 3	Third Eelam War	Jan 1970 -Dec 1994	Jan 1995 – Dec 1999	TA_12M_lag, D1
Period 4	Fourth Eelam War	Jan 1970 -June 2006	July 2006 – May 2009	TA_12M_lag D1, D3
Period 5	Easter Sunday attacks, COVID-19 and financial crisis	Jan 1970 –Mar 2019	Apr 2019-Sep 2022	TA_12M_lag CCPI D1, D3, D5

3.5. Machine Learning Models Considered in the Study

Four different ML models were considered for the evaluation of each model. All these machine learning models are widely used in machine learning based tourism demand forecasting both in the Sri Lankan context and globally. A brief description of each ML model based on literature (*James et al., 2013*) is given below.

Multiple Linear Regression (MLR): In machine learning, MLR is a supervised learning technique that models the relationship between two or more independent variables (features) and a continuous dependent variable (target). This is done by fitting a linear equation to observed data. MLR can be useful for predicting outcomes based on several predictors, such as using past data.

Support Vector Regression (SVR): SVR is a supervised machine learning algorithm derived from Support Vector Machines, designed for predicting continuous values. For non-linear data, SVR can be extended using kernels, such as the polynomial or radial basis function (RBF) kernel, enabling the model to fit complex, non-linear relationships.

k-Nearest Neighbour Regression (KNN): KNN is a non-parametric, instance-based machine learning algorithm used for predicting continuous target variables. Unlike typical regression techniques that assume a specific functional form, KNN regression relies on the idea that similar instances in feature space produce similar outcomes.

Gradient Boosting (GBR) and Extreme Gradient Boosting Regression (XGBR): GBR and XGBR are high performance supervised ML algorithm based on boosting, an ensemble learning technique. It builds a series of weak prediction models, typically decision trees, in a sequential manner, where each model focuses on correcting the errors of the previous one. XGBR is particularly known for its speed and efficiency, achieved by advanced optimisation techniques like tree pruning, parallelisation, and regularisation. One of the advantages of XGBR is its flexibility, as it can handle missing values, perform well with high dimensional data, and adapt to different types of distributions. It is widely used for its strong predictive performance in various applications, such as time series forecasting.

3.6. Evaluation of Performance of Machine Learning Models

The evaluation of the performance of the ML models was based on general statistical modelling performance criteria such as Root Mean Square Error (RMSE), mean absolute percentage error (MAPE) and the r-square value. Brief definitions of these performance evaluating statistical indicators are given below.

RMSE: RMSE is a common metric used to measure the accuracy of a predictive model, especially in regression tasks. It quantifies the average magnitude of errors between the predicted values and the actual values.

MAPE: MAPE is a metric used to evaluate the accuracy of a regression model by measuring the average absolute percentage difference between predicted and actual values. MAPE is particularly useful because it expresses errors as a percentage, making it easy to interpret and compare across different datasets or models.

r-square: r^2 is a statistical metric that measures the proportion of variance in the dependent variable that is predictable from the independent variables in a regression model. It gives insight into how well the independent variables explain the variation in the target variable.

4. Results

For each period considered, the performance of different ML model is considered first under each section. Thereafter, based on the results, the most appropriate ML model is selected and used to predict tourist arrivals under modelling condition of no domestic or external shocks during the period. Thereafter, the potential annual loss in tourist arrivals and earnings from tourism considered under Section 4.1 to 4.5. Section 4.6 summarises the results obtained from each period modelled.

4.1. Period 1 - Evaluation of the Impact of the 1983 Black July riots subsequent Eelam War 1 and 2nd JVP uprising in the 1980s on Tourist Arrivals

We estimate the start of the 1983 Black July riots as the beginning of the period of shock ending with the end of the second JVP resurrection in December 1989. The actual monthly tourist arrivals in the period from 1970 to July 1983 was used for the modelling process with 70 percent of observations used to train the model and 30 per cent of observations used to test the model. The results of the performance of each model are given in Table 7.

Table 7: Performance of each ML model for actual data in 'Period 1'

Model	R-Square	MAE	RMSE
MLR	0.948	1793.7	2516.0
SVR	0.935	1826.9	2572.1
KNN	0.970	1557.8	1901.7
GBR	0.942	2043.5	2645.9
XGBR	0.926	2270.4	2989.4

As the KNN model indicated better model performance, it was used to predict tourist arrivals with as given in Table 8.

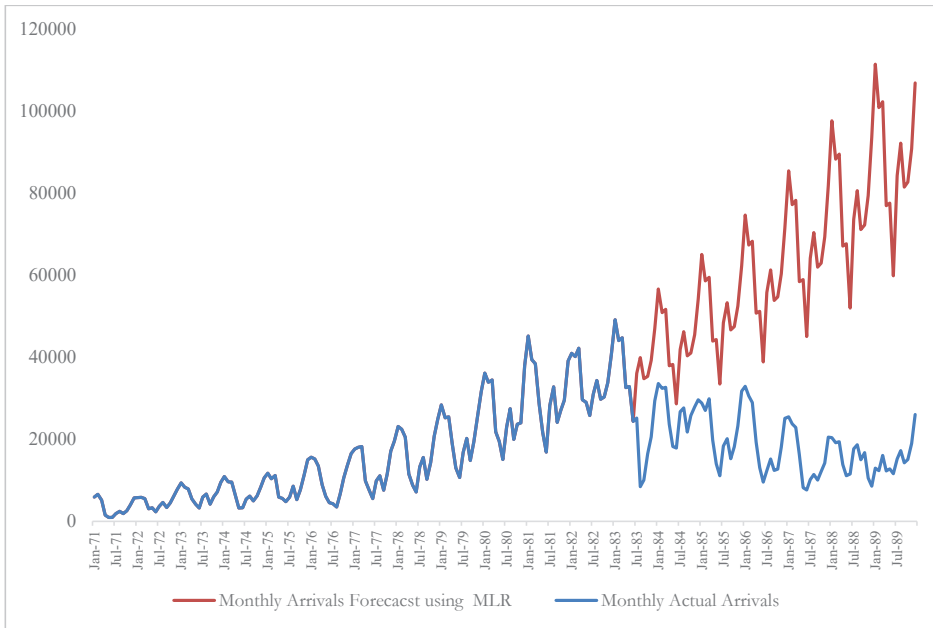
Table 8: Forecast of monthly tourist arrivals based on KNN model for 'Period 1'*

Month	1982	1983	1984	1985
Jan	40,932	49,104	41,554	42,189
Feb	40,148	44,038	41,554	42,189
Mar	42178	44,710	41,554	42,189
Apr	29,606	32,556	36,975	40,278
May	28,972	32,850	36,975	40,278
Jun	25,772	24,350	28,764	32,921
Jul	30,942	35,942	37,758	41,038
Aug	34,332	39,983	41,554	42,189
Sep	29,754	34,592	36,243	39,689
Oct	30,296	36,790	36,243	39,689
Nov	33,748	39,983	40,824	42,189
Dec	40,550	39,983	41,554	42,189
Annual tourist arrivals	407,230	454,881	461,552	487,027

*Highlighted months indicates projections. Unhighlighted months are actual tourist arrivals prior to the event.

Despite the KNN model having the best r-square value and the least errors, it can be seen from the above forecasted results the model produces inconsistent results for a regression problem. The same number is forecasted to two or three consecutive months in some instances, which is inconsistent with the seasonal pattern that is expected from monthly tourist arrivals forecast. Considering this, and the fact that the Multiple Linear Regression (MLR) models are extensively used in literature to carry out similar studies, the same forecasting was carried out using a MLR model and results in more optimal results with a clear seasonal pattern as given in Figure 6.

Figure 6: Monthly tourist arrivals forecast using a MLR model (Jul 1983-Dec 1989)



Based on the predicted monthly tourist arrivals with an absence of a shock from July 1983 to December 1989, the potential loss in annual tourist arrivals and annual earnings were calculated, as given in Table 9.

Table 9: Forecast of monthly tourist arrivals based on KNN model for ‘Period 1’

Year	Tourist average stay period	Spending per day (USD)	Realised Tourist Arrivals	Realised Tourist Earnings (USD mn)	Potential Tourist Arrivals	Potential Tourist Earnings Estimate (USD mn)	Estimated Loss in Potential Tourist Earnings (USD mn)
1983	9.6	38.8	337,550	125.8	459,743	171.3	45.5
1984	8.9	37.1	317,734	104.9	532,634	175.8	70.9
1985	9.2	34.7	257,466	82.2	615,003	196.3	114.1
1986	10.9	32.7	230,106	82.1	708,061	252.6	170.5
1987	13.2	34.0	182,620	82.0	813,237	365.2	283.2
1988	12.6	33.3	182,662	76.6	932,091	390.9	314.3
1989	10.7	38.4	184,732	76.0	1,066,396	438.7	362.7
Total			1,692,870	629.6	5,127,165	1,990.8	1,361

The realised tourist arrivals during the period of 1983 to 1989 was around 1.692 million. However, the model estimate that there was the potential of over 5.127 million tourist arrivals during this period. In essence, the potential loss of tourist arrivals is around 67.0% based on the estimated potential. Further, the loss in nominal value term could be around USD 1.36 billion, which is significant loss considering the time period.

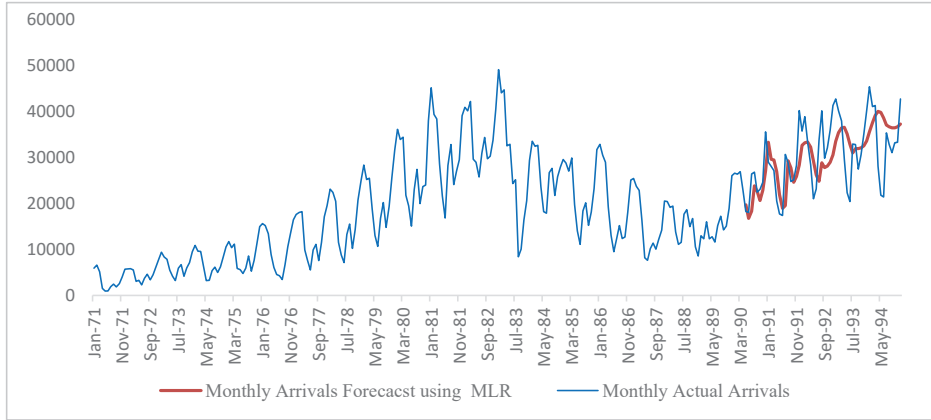
4.2. Period 2 – Evaluation of the Impact of first Eelam War on Tourist Arrivals

Although the KNN regression model performs slightly better than the MLR model, previous experience in model 2 showed that given similar model performance, the MLR model is better at predicting seasonal distributed time series such as monthly tourist arrivals in the context of Sri Lanka. Hence, the MLR model is used to evaluate the performance of the model.

Table 10: Performance of each ML model for actual data in ‘Period 2’

Model	R-Square	MAE	RMSE
MLR	0.900	2,646.4	3,582.5
SVR	0.843	2,726.4	3,453.0
KNN	0.911	2,645.2	3,477.3
GBR	0.790	4,109.4	5,176.5
XGBR	0.899	2,809.1	3,586.9

Figure 7: Monthly tourist arrivals forecast using a MLR model (May 1990 – Dec 1994)



After almost a decade of suppressed tourism, the early 1990's witnessed a gradual revival in tourist arrivals in the first half of 1990's, although it did not see a same growth as was observed prior to the 1983 July riots and subsequent events thereafter. Based on the forecast, the forecasted arrivals are more or less similar to the actual tourist arrivals in the first half of the 1990s. Hence, it can be deduced that Eelam War 2, which was mainly confronted to the Northern part of the country except for occasional terrorist attacks on the southern part of the country may not have contributed significantly to reduce the already suppressed tourist arrivals prior to the beginning of Eelam War 2.

4.3. Period 3 – Evaluation of the Impact of second Eelam War on Tourist Arrivals

The performance of ML models for period 3 is given in Table 11. Although the XGBR regression model performs slightly better than the MLR model, previous experience in model 2 showed that given similar model performance, MLR model is better at predicting seasonal distributed time series compared to a purely machine learning model. Hence, the MLR model was used to evaluate the performance of the model (Figure 8).

Table 11: Performance of each ML model for actual data in ‘Period 3’

Model	R-Square	MAE	RMSE
MLR	0.841	3194.6	4378.2
SVR	0.161	4850.2	5102.2
KNN	0.804	3848.1	4958.2
GBR	0.767	3871.0	5300.7
XGBR	0.842	3075.2	4367.3

Figure 8: Monthly tourist arrivals forecast using a MLR model (May 1990 – Dec 1994)

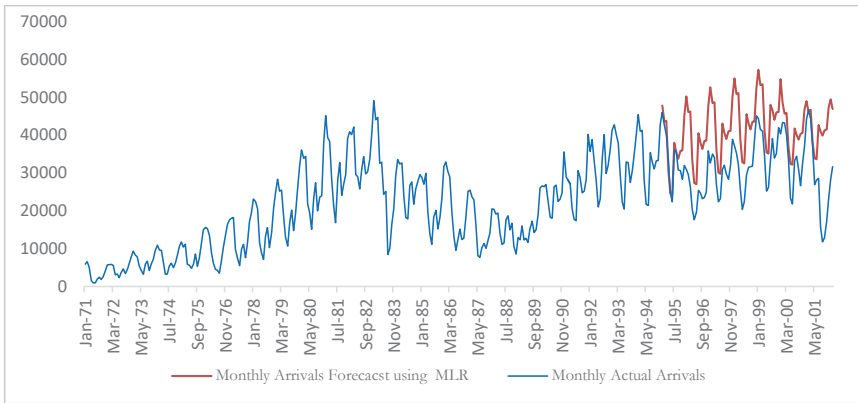


Table 12: Estimation of potential loss in earnings from tourism in ‘Period 3’

Year	Realised Tourist Arrivals	Potential Tourist Arrivals	Tourist average stay period	Spending per day (USD)	Realised Tourist Earnings (USD mn)	Potential Tourist Earnings (USD mn)	Estimated Loss in Potential Tourist Earnings (USD mn)
1995	407,511	439,087	10.0	36.9	148.6	156.1	7.5
1996	403,101	470,172	9.8	40.2	119.1	172.8	53.7
1997	302,265	500,769	10.1	43.4	160.4	198.2	37.8
1998	381,063	530,929	10.4	42.9	169.9	207.9	38.0
1999	396,115	561,576	10.3	49.3	201.0	220.5	19.5
2000	400,414	490,048	10.1	47.4	191.9	234.9	43.0
2001	336,594	501,291	10.4	47.3	165.7	246.8	81.1
Total	2,626,043	3,250,747			1,157	1,437	280.5

The realised tourist arrivals during the period of 1995 to 1999 was around 1.889 million. However, the model estimates that there was the potential of over 2.3 million tourist arrivals during this period. Hence, it can be estimated that the potential loss of tourist arrivals is around 16% based on the estimated potential. Further, the loss in nominal value terms was estimated to be around USD 289.3 million.

4.4. Period 4 – Evaluation of the Impact of the third Eelam War on Tourist Arrivals

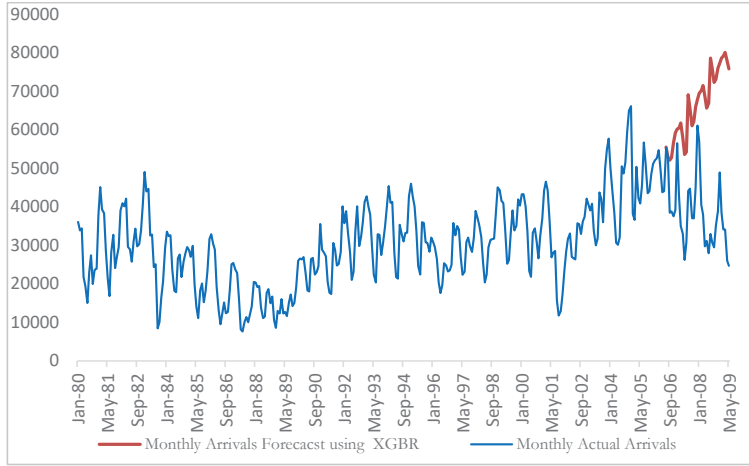
The performance of selected ML models for ‘Period 4’ is given in Table 13. The XGBR model performance was far higher when comparing the performance of each modelling approach in the above case. Hence, the XGBR model was used to evaluate the performance of the model.

Table 13: Performance of each ML model for actual data in ‘Period 4’

Model	R-Square	MAE	RMSE
MLR	0.821	4496.4	5896.7
SVR	0.511	4961.1	6969.8
KNN	0.782	5142.0	6908.2
GBR	0.813	4611.4	6022.0
XGBR	0.914	2880.4	4081.5

It was observed that the XGBR model in this case gave much more better results in terms of forecasting, despite the model not showing significant prominence to seasonal fluctuations. It can be also observed visually that the seasonal. Based on the results in Section 3.3, fluctuations predicted by the model is less prominent in the XGBR model but shows a clear increasing trendline.

Figure 9: Monthly tourist arrivals forecast using a MLR model (May 1990 – Dec 1994)



Estimated potential loss in tourism during ‘Period 4’ is given in Table 14.

Table 14: Estimation of potential loss in earnings from tourism in ‘Period 4’

Year	Tourist average stay period	Spending per day (USD)	Realised Tourist Arrivals	Realised Tourist Earnings (USD mn)	Potential Tourist Arrivals	Potential Tourist Earnings (USD mn)	Estimated Loss in Potential Tourist Earnings (USD mn)
2006	10.4	70.5	559,603	410.3	638,647	468.3	58.0
2007	10	77.8	494,008	384.4	739,970	575.8	191.4
2008	9.5	76.7	438,475	319.5	865,961	631.0	311.5
2009	9.1	85.7	447,890	349.3	972,728	758.6	409.3
Total			1,939,976	1,463.5	3,217,306	2,433.6	970.1

The realised tourist arrivals during the period of 2006 to 2009 was around 1.463 million. However, the model estimates that there was the potential of over 3.2 million tourist arrivals during this period. Consequently, the potential loss of tourist arrivals is around 40% compared to the estimated potential. The loss in nominal value term was estimated to be around USD 970 million during ‘Period 4’.

4.5. Period 5 – Evaluation of the Impact of Easter Sunday Attacks, COVID-19 Pandemic and Financial Crisis on Tourist Arrivals

Performance of the ML models during ‘Period 5’ is given in Table 15. It can be observed that both the MLR model and the XGBR model performance are much better than the other models considered.

Table 15: Performance of each ML model for actual data in ‘Period 5’

Model	R-Square	MAE	RMSE
MLR	0.821	4496.4	5896.7
SVR	0.511	4961.1	6969.8
KNN	0.782	5142.0	6908.2
GBR	0.813	4611.4	6022.0
XGBR	0.914	2880.4	4081.5

Hence, given the experience that the MLR models seem to give more rational forecasts, particularly in forecasting the seasonal patterns in tourist arrivals, the MLR model was used to forecast the performance for ‘Period 5’, based on

average tourist stay period of 10 days, not considering the increase in tourist stay period due to quarantine requirements in 2020.

Figure 10: Monthly tourist arrivals forecast using a MLR model (Apr 2019 – Dec 2022)

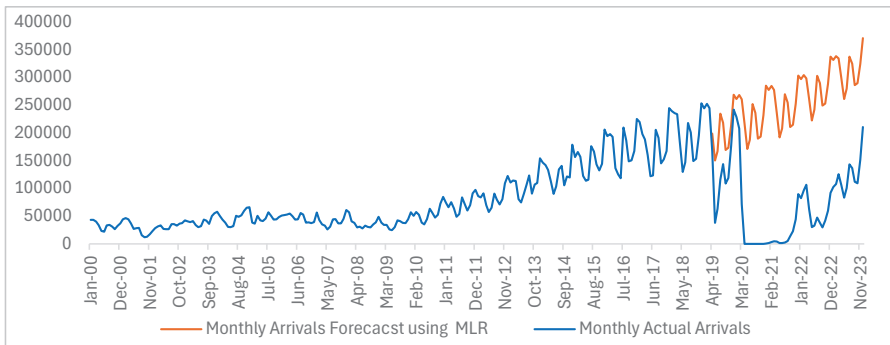


Table 16: Estimation of potential loss in earnings from tourism in ‘Period 5’

Year	Realised Tourist Arrivals	Potential Tourist Arrivals	Tourist average stay period	Spending per day (USD)	Realised Tourist Earnings (USD mn)	Potential Tourist Earnings (USD mn)	Estimated Loss in Potential Tourist Earnings (USD mn)
2019	1,913,702	2,533,892	10.4	181.2	3607	4,776	1169
2020	507,704	2,752,077	8.5	158.1	682	3,699	3,017
2021	194,495	2,977,950	15.1	172.6	507	4,369*	3,862
2022	719,978	3,342,980	9.3	169.0	1136	5,276	4,140
2023	1,487,303	3,773,360	8.4	164.7	2068	5,247	3,179
Total	4,823,182	15,380,259			8,001	23,366	15,366

While it was obvious that the three catastrophic events had a detrimental effect on country’s tourist arrivals, this is the first study known to the other to quantify the potential loss in nominal terms due to these episodes. Accordingly, it is estimated that there is a potential loss of over 10 million tourist arrivals due to Easter Sunday attacks, the COVID-19 pandemic and the financial crisis from 2019 to 2023. The potential loss in nominal earnings from tourism are estimated to be over USD 15 bn. This is a staggering loss that was one of the key reasons to, among others, to the Balance of Payments crisis that occurred starting from early 2022. The potential loss in earnings from tourism is around 68% of the estimated potential tourist earnings if there was no shock to the tourism industry during the period.

4.6. Summary of the Impact of Domestic and External Shocks on Tourist Arrivals in Sri Lanka in the Past Five Decades

The summary of the loss potential to Sri Lanka’s tourism due to domestic and external shocks studied is given in Table 17.

Table 17: Summary of potential loss of earnings from tourism due to domestic and external shocks in Sri Lanka (1970 -2024)

Episode	Period	Realised Tourist Arrivals	Realised Tourist Earnings (USD mn)	Potential Tourist Arrivals (in millions)	Potential Tourist Earnings Estimate (USD mn)	Estimated Loss in Potential Tourist Earnings (USD mn)	Estimated loss as % of Potential Tourist Earnings
1983 July riots, JVP uprising and Eelam War I	1983-1989	1,692,870	630	5,127,165	1,991	1,361	68.4%
Easter Sunday, COVID -19 and Financial Crisis	2019-2023	4,823,182	8,001	15,380,259	23,366	15,366	65.8%
Eelam War 4	2006-2009	1,939,976	1,464	3,217,306	2,434	970	39.9%
Eelam War 3	1995-1999	1,189,035	799	2,259,408	1,088	289	26.6%

As summarised above, in four of the five periods considered in the study, earnings from tourism were significantly affected by external and domestic shocks. Based on the above analysis, the Easter Sunday attacks, COVID-19 and the subsequent financial crisis resulted in the highest estimated potential loss in earnings from tourism of around USD 15 billion from 2019 to 2023. This loss was a major blow to the country’s Balance of Payments (BOP) and alongside a significant loss in Workers’ Remittances during the same period contributed to a severe BOP crisis, partially contributing to the country’s external debt default.

Furthermore, considering the estimated loss as a percentage of total potential, it can be observed that the 1980s episodes and the latest episode beginning from 2019, had the most profound impact that was above 65% loss to the country.

5. Contributions and Policy Implications

This study quantitatively establishes the detrimental impact that adverse safety conditions have on Sri Lanka’s tourism industry. It offers several unique contributions to the existing literature on tourism demand in the country. To the author's knowledge, this is the first comprehensive study to quantify the loss in tourism earnings in Sri Lanka due to various episodes of external and domestic shocks. It is also among the few tourism demand studies that incorporate macroeconomic variables, such as the exchange rate and inflation, into predictive forecasting models for tourist arrivals. Furthermore, it is one of the first studies to examine tourism demand forecasting in Sri Lanka following the three consecutive shocks of the Easter Sunday attacks, the COVID-19 pandemic, and the financial crisis. The findings provide valuable insights for policymakers, emphasizing the critical importance of mitigating shocks—where possible—given their significant potential to disrupt the broader economy, which remains heavily reliant on tourism.

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A Conceptual Framework to Assess the Risk of Money Laundering in Designated Non-Financial Institutions in Emerging Market Economies

*Theja Pathberiya*¹

Abstract

The scale of money laundering has increased recently due to various reasons. The global economic volatility brought on by geopolitical tensions, disruptions in international trade as well as misuse of emerging technologies are some of the main causes. Within this challenging environment, money launderers may exploit opportunities beyond traditional financial institutions (Akartuna, E., et al, 2023). Non-financial institutions represent a major share in many economies and have become increasingly vulnerable to such criminal activities. The Financial Actions Task Force (FATF), the global policy setter on combating money laundering, terrorist financing and financing of proliferations, has recognised the vulnerable areas and several higher risk non-financial institutions. They are named as Designated Non-financial Businesses and Professions (DNFBPs). However, the focus of country authorities on the risk emanating from the DNFBP sector is far less than the Financial sector. It provides greater opportunities to exploit such sectors for money laundering purposes, especially during periods of global unrest and economic uncertainties. This is confirmed by the worldwide poor evaluation results by the FATF on risk identification and implementation of Anti-Money Laundering and Anti-Terrorist Financing (AML/CFT) control measures in the DNFBP sector. This could be due to the lack of proper assessments of money laundering threats and vulnerabilities, i.e., the money laundering risk of the sector. One major impediment in applying regular approaches to assess risk in the DNFBP sector is insufficient data availability. This case is more critical in emerging and developing economies. In this study, I propose a conceptual “bottom-up approach” for DNFBPs to assess Money Laundering and Terrorist Financing (ML/TF) risks, considering the lack of data and informality prevailing in the sector. Within this conceptual framework, an index is proposed to assess vulnerability, and the index will allow authorities to evaluate preliminary risk levels. Further, this will help the sector to allocate required resources to combat higher ML/TF threats. In addition, based on this framework, I have identified six main challenges that affect the proper control of illegal activities in the DNFBP sector, namely, 1) lack of regulatory requirements and supervisory concerns, 2) lack of awareness of corporate management of firms and lack of technology in firms, 3) primitive state of businesses, 4) political interventions, 5) lack of government support and 6). structural issues, such as the sector not being well established in the country. Moreover, these align with factors discussed often in the country mutual evaluation report by FATF. Finally, I discuss a case study to elaborate how Sri Lanka has successfully faced such challenges during its period of introducing and implementing the FATF requirements in the country’s Non-financial sector.

Keywords: *money laundering, AML/CFT measures for DNFBPs, assessment of ML/TF risks, index, FATF Recommendations, emerging market economies, economic crisis in Sri Lanka*

JEL Classification: *G 28, K 42*

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1. Introduction

Money launderers exploit opportunities elsewhere than formal financial institutions. They capitalise vulnerabilities in the Non-financial sector. Recent literature highlights that money launderers prefer Non-financial sectors (Shamloo, B., et al, 2024). This is mainly due to the perception of having weaker controls compared to formal financial institutions. The scale of such Money Laundering (ML) through Non-financial sector activities has increased substantially in recent years. This may be due to recent developments in digital transformation, remote business operations, and economic disruptions. These have created new opportunities for financial crimes, including ML and Terrorist Financing (TF). They provide additional avenues for wrongdoers like money launderers through non-financial businesses. Due to stringent controls in Financial Institutions, and the possibility in tracing their transaction records, these wrongdoers have shifted from financial businesses to non-financial businesses. These activities have been increased during the Covid-19 pandemic and unusual times like economic uncertainties. Shifting regulatory priorities, weak monitoring and evaluation by authorities during times like pandemic encourage the increase in criminal activity corruption and money laundering (Ilahi and Widowaty, 2021).

There are opportunities for wrongdoers to exploit any business or any professional service for the process of converting dirty (illegally earned) money to appear as clean money. The FATF, as the global policy setter on combating money laundering, countering terrorist financing, and proliferation financing, has recognised several high-risk non-financial institutions. Some of their activities have been highlighted as attractive to money launderers and terrorist financiers. Therefore, such businesses and professions are named by the FATF as DNFBPs. These non-financial institutions in any country are more or less exposed and vulnerable to money laundering, terrorist financing, proliferation financing and other related financial crimes. Accordingly, the FATF has made it a requirement for every country to identify preventive measures to combat such financial crimes that could be carried out by misusing those non-financial institutions. Out of 40 Recommendations of the FATF in the global fight against money laundering, terrorist financing, and proliferation financing, Recommendations 01, 22, 23, and 28 are specifically applicable to DNFBPs (FATF 2012-2025). Also, there are several guidelines from the FATF on evaluating and assessing money laundering, terrorist financing, and proliferation of financing risks of different sectors.

However, it has been a challenge and an observed lack of available tools for jurisdictions to evaluate the overall country risk emanating from the DNFBP sector. Most guidelines on assessing risks for the Non-financial sector have qualitative approaches. A quantitative perspective is a gap that needs to be filled. However, the situation in the Financial sector is different as in most cases, it is a more formal, regulated market segment compared to non-financial businesses and professions. Hence, the Financial sector has some quantitative mechanisms to identify, analyse, and evaluate the overall money laundering risk of the sector in a proper manner than the Non-financial sector. Therefore, when it comes to countries' understanding of ML risk emanating from Financial segments, it is always better than their understanding of such risks emanating from the Non-financial sector.

Accordingly, in this study, I propose a conceptual framework for DNFBPs to assess Money Laundering and Terrorist Financing (ML/TF) risks, considering the lack of data and informality prevailing in the sector. Within this framework, an index is proposed to assess risk, and the index will allow authorities to evaluate preliminary risk levels. The study aims to introduce a conceptual framework to create an index to assess the preliminary risk of money laundering in Non-financial businesses and professions. One major impediment in applying regular approaches to the DNFBP sector is insufficient data availability in this sector in the emerging and developing world. Therefore, the commonly used top-down approach to assess ML risk of the sector may not be appropriate for this sector. Accordingly, in this paper, I propose a bottom-up approach to develop an index for the DNFBP sector to assess its overall ML risk.

This paper also explores challenges that, especially emerging economies, experience when ensuring non-financial institutions' compliance under the three core FATF Recommendations on combating money laundering, terrorist, and proliferation financing. Identification of these challenges will support overcoming such challenges and effective implementation of anti-money laundering and counter terrorist financing requirements for the Non-financial sector of countries. Challenges for Non-financial sectors are studied under the six main categories for this study.

Further, as a practical illustration, the study presents how Sri Lanka has overcome some of the the identified challenges in introducing the AML/CFT compliance culture into its non-financial businesses and professions. As Sri Lanka was twice delisted by the FATF's close monitoring list which is commonly referred as the "Grey List" and FATF's positive evaluation on the progress made by Sri Lanka for the recommended actions by the International Co-operation Review Group (ICRG) process were the leading factors to select Sri Lanka for this case study (FATF-Improving Global AML/CFT Compliance: On-going Process - October 2019, CBSL, 2020).

Accordingly, the rest of the paper is organised as follows: Section 2 discusses the DNFBP sector considered for money laundering purposes, while Section 3 briefs on non-compliance by countries as reflected in FATF records. Section 4 describes the methodology of the analysis. Section 5 provides a broad conceptual framework and an index to assess the risk of money laundering in Non-financial institutions, including a literature review on related indices for Financial institutions. Section 6 discusses challenges faced by emerging economies to minimise risk in the DNFBP sector, while Section 7 considers a case study for Sri Lanka. Section 8 states policy implications, and Section 9 concludes the study.

2. Designated Non-financial Businesses and Professions

Non-financial businesses such as casinos, real estate agents, dealers in precious metals and precious and semi-precious stones, as well as the specified activities of professional service providers such as lawyers, notaries, accountants, and trust & company service providers (sometimes referred to as Gatekeepers) are designated as non-financial businesses and professions under the scope of AML/CFT by the global policy setter. The FATF has labeled these non-financial businesses and professions as attractions to money launderers and terrorist financiers. According to the FATF Recommendations, these businesses and professions should take specific preventive measures when dealing with high risk situations to eliminate such unlawful activities and attraction. Also, it should be noted that these requirements are even more compelling for the Financial businesses of a country.

2.1 Use of the Non-financial sector by money launderers and terrorist financiers

Suitable control measures for ML were originally introduced for the Financial sector of the countries by the global policy setters, as the Financial sector is highly misused mainly by drug traffickers. This was in 1990, Then, as it was observed that Financial sector was misused not only for laundering the proceeds from illegal drug trafficking, but it was also misused for laundering proceeds of other crimes, and for financing terrorism, terrorist activities as well as their organisations. The FATF therefore introduced some global standards on preventing ML as well as some additional recommendations on preventing TF in 2001 and 2003 FATF (2012-2025)With the introduction of those strict controls, criminals gradually started moving from the Financial sector to Non-financial sector due to the latter's lack of such strict controls.

Also, the value of transactions in Non-financial businesses is relatively higher than in the Financial sector. For example, the value of land, the price of a gem, winning price of a casino game, etc. Hence, the amount of criminal proceeds that can be laundered easily by misusing such transactions, more than depositing them or investing large amounts in a financial product, is high. In the Non-financial market, there are professional service providers who may be misused by criminals to hide their real identity under the former's professional reputation or goodwill.

In these Non-financial markets there are fewer regulations compared to Financial markets. In most countries, Non-financial markets are not properly regulated. This makes it easy for criminals to enter and exit these businesses and professions without a considerable cost. Value can be easily stored for a long time in non-financial assets such as lands, buildings, gems, and jewelry without rapid changes compared to the value of financial assets such as deposits, stocks, securities, bills, and bonds.

In doing business with these segments, criminal proceeds can be easily moved from one place to another without being caught by legal authorities. For example, criminal proceeds can be invested in a gem, and it can be easily carried across borders. Tax payment requirements can be skipped by purchasing luxury goods such as jewelry, watches, compared to purchasing financial products. Criminal proceeds can be layered into different categories easily when they are spent purchasing goods such as gems, jewelry, watches, antiques, or any other luxury items rather than directly using financial institutions to save or transfer those funds into other financial institutions, accounts, or investing them in financial

products. Non-financial markets, institutions, professional service providers, and goods are appealing to criminals who aim to launder their proceeds mainly due to the above-mentioned factors.

3. Technical Compliance with FATF Recommendations and the Effectiveness of AML/CFT Frameworks

The FATF periodically assesses whether countries have accomplished these international standards to prevent money laundering, terrorist financing and proliferation financing effectively. The FATF assesses the effectiveness of establishing its Recommendations separately for the Financial sector and the Non-financial sector. Accordingly, the technical accuracy of a country's AML/CFT framework for the DNFBP sector is assessed through the three core FATF Recommendations, which were mentioned above. Comparing the soundness of implementing FATF Recommendations to prevent ML, TF and PF, it appears that many countries have established these Recommendations more successfully in the Financial sector than in their Non-financial sector. Analysing the FATF mutual evaluation reports, Omar and Johari (2015) revealed that lack of awareness and poor enforcement by regulators are key concerns for the low level of compliance with the FATF Recommendation applicable to DNFBPs segments in such countries.

Table 1 summarises the country's technical evaluation on the successful implementation of the core AML/CFT Recommendations for DNFBPs. It shows that only 12 out of 156 countries have successfully introduced customer due diligence measures as per FATF Recommendation 22 and have achieved the best rating at the level of "Compliant". More critically, it shows that only 14 out of 156 countries have been able to make successful arrangements to monitor the compliance of DNFBPs sectors by a relevant competent authority as per the requirement of Recommendation 28. Recommendation 23 requires Non-financial institutions to report suspicious transactions to a competent authority which is also a very critical FATF requirement, and it is also at a very low level in terms of implementation. Only 16 countries have been able to achieve a rating at the high level of Compliant. Further, a considerable number of countries belong to the rating levels of "Partially" or Non-Compliant" for all three core compliance requirements, which is an indicator that most of the countries are struggling to implement these technical requirements as expected by the FATF. However, it should be highlighted that a considerable number of countries belong to the category of "Largely Compliant," which could be considered as an improvement and an indicator that countries are gradually attempting to onboard their DNFBP segments into the national framework of combating money laundering. Hence, an index-based money laundering risk assessment framework would be a timely requirement to support these countries and jurisdictions.

Table 1: Level of technical compliance by countries for the 3 core FATF Recommendations on DNFBPs

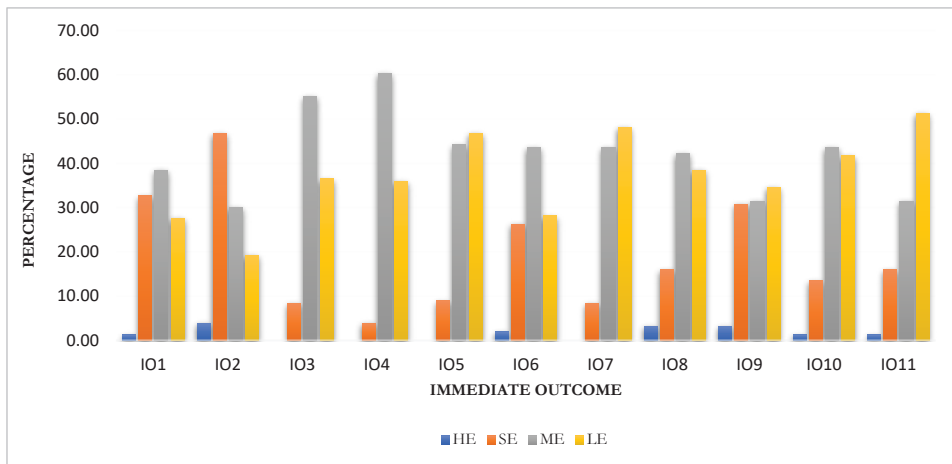
Level of Assessment	No. of Countries Assessed at each Recommendation relevant to DNFBPs			Definition
	Rec 22 DNFBP Customer Due Diligence	Rec 23 DNFBP Other Measures	Rec 28 Regulation & Supervision of DNFBPs	
C	12	16	14	C: Compliant
LC	74	83	54	LC: Largely Compliant
PC	58	47	69	PC: Partially Compliant
NC	12	10	19	NC: Non-Compliant
Total	156	156	156	Total: No. of Countries

Source: Consolidated assessment ratings of FATF, Oct 2024

The ultimate goal of implementing the technical requirements is to practically contribute to every economy to combat ML successfully by preventing detecting and disrupting ML threats and vulnerabilities, as well as supporting the prosecution of criminals and prescribing the proscription of illegally acquired wealth and proceeds. Hence, the FATF assesses the effectiveness of implementing technical requirements in controlling ML attempts using the legal economic framework. Most countries experience difficulties in achieving a good assessment level in this regard compared to achieving a good assessment level at technical compliance, as explained above. The effectiveness in implementing AML measures is assessed by the FATF through “Immediate Outcomes”.

The following Graph 1 shows FATF’s assessment of the effectiveness of the countries in applying the FATF Recommendations on combating ML and TF. The statistics show that the effectiveness of most countries is at low to moderate levels. However, it should be analysed carefully as these effective outcomes, which have been named as Immediate Outcomes, were not separately assessed for DNFBP sectors; it was a combination of effectiveness measures taken by a country for Financial institutions as well as designated non-financial businesses and professions. However, the FATF updated their standards at the end of 2024 as well as, followed by the evaluation methodology in June 2025. Now there is a separate Immediate Outcome (IO-4) to assess the country’s effectiveness separately for implementing preventive measures for their DNFBP segment. The FATF with its regional bodies such as Asia Pacific Group on Money Laundering (APG), has now implemented a new round of country assessment. In future this study can be updated to analyse the assessment outcomes for DNFBPs separately under the new FATF methodology. There are 11 Immediate Outcomes as depicted in Figure 1 below.

Figure 1: Effectiveness of AML/CFT measures of the countries as per FATF Evaluation



Source: FATF

HE	High level of effectiveness
SE	Substantial level of effectiveness
ME	Moderate level of effectiveness
LE	Low level of effectiveness

The 11 Immediate Outcomes, which have been shown in the above graph are then recategorised into 3 key “Intermediate Outcomes”. The first Intermediate Outcome is to assess the effectiveness of the country’s policy, coordination, and cooperation, and mitigate the ML and TF risks. If a country does not show proper policy coordination or cooperation with other institutions and arrangements, it indicates that such countries’ policies do not effectively contribute to combating ML, terrorism and proliferation financing. The second Intermediate Outcome is to assess the country’s

effectiveness in preventing proceeds of crime and funds in support of terrorism from entering the Financial and other sectors or being detected and reported by these sectors. Although the rules and measures are in place, if they are not supportive of effectively preventing or controlling the proceeds of crimes and financing of terrorism, the ultimate goal is not fulfilled. The third Intermediate Outcome is for assessing how countries' ML threats are detected and disrupted, and criminals are sanctioned and deprived of illicit proceeds, TF threats are detected and disrupted, terrorists are deprived of resources, and those who finance terrorism are sanctioned, thereby contributing to the prevention of terrorist acts (FATF, 2020).

For example, under the old methodology IO-4 referred to the effectiveness of financial institutions, and DNFBPs adequately applying AML/CFT preventive measures commensurate with their risks and report suspicious transactions. Most countries belong to the rating level of “moderate” or “low” for this Immediate Outcome, which shows that the private sector institutions are not adequately applying preventive measures, with the understanding of risks and reporting of suspicious activities by them not at sufficient levels. It is common that in most countries, especially in the Non-financial sector, they do not properly understand their ML and TF risk exposures, and hence, no preventive measures are taken. Further, reporting suspicious activities to the competent authority is at very low levels, especially in Non-financial sectors. It is obvious that the financial institutions are much ahead compared to non-financial businesses and professions in assessing ML/TF risks, applying preventive measures, and reporting suspicious transactions. E.g. In Sri Lanka, the dominant sector in reporting suspicious transaction is the Banking sector (FIU Annual report, 2024). However, this effectiveness was not separately assessed under the old FATF methodology. This issue has been now fixed by the FATF. But, when we refer to the particular country's assessment report published by the FATF, it is clear that the effectiveness of the Non-financial sector is far below the Financial sector.

This scenario demonstrates that countries face more challenges in achieving effectiveness than technically complying with AML/CFT measures, and especially the effectiveness of DNFBPs is behind the well-established Financial institutions. Therefore, it is worth discussing the reason for it being a challenge for most countries, especially developing economies.

Accordingly, it is an obligation of every country to facilitate the requirements to ensure that their designated non-financial businesses and professions comply with the above-discussed requirements. For this, countries should ensure that their Non-financial institutions are properly incorporated into the AML/CFT regime of the country. Most countries are struggling in identifying and assessing ML/TF/PF risk of institutions and sectors due to various reasons. The FATF requires countries to apply risk-based approaches, identify higher risk Non-financial institutions and closely monitor them under a proper AML/CFT/CPF legal framework.

4. Methodology

This study proposes a conceptual framework for DNFBPs to assess ML/TF risks. One major impediment in applying regular approaches to the DNFBP sector is its insufficient data availability in the emerging and developing world. Therefore, the commonly used top-down approach may not be appropriate for this sector. Accordingly, in this paper, I propose a bottom-up approach for the DNFBP sector to assess the overall risk in the sector. A simple index is proposed based on the bottom-up approach. This paper also explores challenges, which emerging economies face in ensuring non-financial institutions' compliance under six main categories.

5. Conceptual Framework to evaluate the risk of money laundering in Non-financial institutions

As discussed above, countries are required to implement FATF Recommendations as per the risk-based approach. Every country should have a proper understanding of the ML risk of each sector of its economy. The following section discusses literature related to available indices for the Financial sector for this purpose and proposes a conceptual framework for an index to evaluate Non-financial sector risk.

5.1 Literature Review

A risk-based approach is central when it comes to applying AML measures. Every country is required to identify, assess and understand their ML risk properly. It is an essential foundation to efficient allocation of resources to mitigate these risks as per the FATF standards (FATF, 2012-2025). This approach has been highlighted in scholarly work as well. The

concepts of risk assessment and risk management became key elements in the recent definition of AML regulation (Pellegrina and Masciandaro, 2008). The core aspects in this regard are identification, assessment, and understanding of ML risk. Hence, countries need to have proper frameworks, mechanisms, processes and tools to identify, assess, and understand the ML risk of a country. FATF requires countries and jurisdictions to understand the sources and methods of money laundering to develop an effective AML programme (ML & TF Risk Assessment strategies- FATF-GAFI 2008). ML risk is mainly divided into 3 core areas: the country's ML threat, vulnerability, and consequences (FATF Guidance, national Money Laundering and Terrorist financing Risk Assessment-Feb 2013). As it is hard to assess the consequences, ML risk is assessed based on threats and vulnerabilities. Once the risk is properly identified, countries can determine whether to apply enhanced AML measures or simplified measures (FATF Guidance, National Money Laundering and Terrorist Financing Risk Assessment 2013). Further, as resources are lacking, risk assessment can be used to determine an efficient allocation of resources for essential areas. Hence, the national AML policy can be effectively and efficiently applied to the high-risk sectors through the Risk Based Approach (RBA).

Lyeonov, S., et. Al, (2020) propose econometric and intellectual data analysis techniques to quantify money laundering risks in banks. While this approach is well-known and adopted by countries through their legal systems, the mechanisms, methodologies and tools available to carry out the process are still a gap and they significantly differ from what is established in their financial institutions.

In most countries, financial institutions benefit from established mechanisms, quantitative methods and risk assessment tools. Pellegrina and Masciandaro (2008) discuss the measurable compliance indicators and risk-based regulation. Also, as mentioned above, Lyeonov, S., et. Al, (2020) propose econometric and intellectual data analysis techniques to quantify ML risks in banks. It discussed the possibility of assessing ML risk with structured data set and helped regulators to move beyond qualitative judgements.

However, risk identification and assessment of designated non-financial businesses are conducted more qualitatively by most countries based on professional judgements, experts' opinions, etc (Ferwerda and Reuter, 2018). Especially in the designated non-financial businesses and professions, typologies, professional judgements, and experts' opinions are involved in understanding the risk level of ML, which may not provide a clear picture of the real ML risk. Lack of quantitative data is a major concern in this regard. However, there are many disadvantages of identifying and assessing ML risk through qualitative methods, such as experts' opinions. This is because such judgments, opinions, and views may over or underestimate ML risk, and they may have different opinions on a business' nature and its operations. (Ferwerda and Kleemans, 2018). Hence, quantitative analysis is a requirement especially for DNFBPs.

Some countries have tried hybrid models in assessing money laundering risks in their Non-financial sectors. The French AMF (2019) has introduced a mixed method of qualitative and quantitative in mapping threats and vulnerabilities to calculate ML risk scores. The FATF guidance of Risk-Based Supervision (2021) highlights the requirements for countries the supervisory authority to adapt structured framework that is sensitive to identified risk to monitor institutions across Financial as well as Non-financial sectors. As per these requirements, every country needs a proper framework and an index for risk assessment and thereby widens their risk understanding.

The Financial sector, as well as the Non-financial sector of a country, has a somewhat similar set of global standards to be complied with as per the global requirement of AML (FATF, 2020). FATF Recommendation 26 requires risk-based supervision of financial institutions, whilst Recommendation 28 requires the risk-based supervision or monitoring of DNFBPs (FATF Risk-based Supervision Report, March 2021). As recommendations earlier have been more focused on controlling drug trafficking and misuse of financial institutions to launder drug proceeds, these global standards are well established in the Financial sector compared to the Non-financial sector (Muller, Kalin and Goldsworth, 2007). However, with the introduction of control measures to the Financial sector, the Non-financial sector became more attractive for ML. However, after assessing the risk of misusing the Non-financial sector, the FATF has recommended developing and maintaining a good understanding of ML/TF risks at all sectoral levels as well as entity level based on sound risk assessment of inherent risks and quality of mitigation measures and informed by national ML/TF risk assessment (FATF Risk-based Supervision Report, March 2021). Accordingly, countries are required to have clear tools for identification, analysis, and evaluating money laundering risk of Financial as well as Non-financial sectors. The FATF has issued sectoral guidelines.

However, it is the country's responsibility to have a proper tool to assess its own ML risk based on these guidelines. The Financial sector has different tools in this regard and data are readily available than in the Non-financial sector, and different research has introduced various tools to assess ML risk of financial institutions (Lyeonov, S., et. Al, 2020). In the FATF assessment, it has been revealed that most of the countries belong to non-compliant or partially compliant categories for applying AML measures for the Non-financial sector (Choo K K, 2012). Conducting regular risk assessment is a compliance requirement as per the global standards (e.g. countries conduct National Risk Assessments regularly and most of times depend on qualitative information when it comes to risk assessment of DNFbps), most research has highlighted that an effective methodological tool is essential to carry out impartial, comprehensive, and adequate ML risk assessment (Dmytrow and Medvid, 2017).

In order to understand their own ML risk, Non-financial businesses and professions need to identify and assess the following aspects: client base, the jurisdictions in which they operate, types of delivery channels they have and effectiveness of the risk controls already in place (FATF Guidance for a risk-based approach-Accounting profession, 2019). Hence, introducing a framework with a quantitative method for assessing ML risk of DNFbps should focus on such criteria.

As discussed above, AMF of France (2019), has a methodology for sector risk assessment. This introduced a risk matrix, which is a combination of threats and vulnerabilities. As per the report, in a particular sector, if the threat and vulnerability are higher, then that sector has a higher risk of ML compared to a sector that has a higher level of threat and a moderate or lower level of vulnerability. However, to apply this matrix, countries should have identified clearly the threat and vulnerability factors of each sector.

Although the Non-financial sector has been identified as a higher risk sector, there is a gap of a quantitative index that tailors to the assessment of its ML risk. Most existing studies either focus on the Financial sector or rely on qualitative typologies and analyses of perceptions (Pellegrina & Masciandaro, 2008; Lyeonov et al., 2020; Ferwerda & Reuter, 2022; and Ferwerda & Kleemans, 2019). This is the case of most emerging countries where the lack of data is a common problem. This gap underscores countries to need for a bottom-up approach, that facilitates firm level even preliminary data for risk scores. Such a framework is suitable for any country having data constraints.

5.2 The Conceptual Framework

This paper provides a framework for countries to understand the preliminary money laundering risk of their DNFbp sector. Having a better understanding of the ML risk of each sector helps in applying suitable AML measures for the sector according to its identified risk. This is the whole purpose of the risk-based approach, which has been introduced by the FATF. This framework will support countries when conducting their National Risk Assessments (NRAs), as DNFbps is a core sector under private business segments, which countries are required to identify, assess, and understand the ML risk.

However, one major impediment in applying regular approaches to the DNFbp sector is insufficient data availability in this sector in the emerging and developing world. Therefore, the commonly used top-down approach may not be appropriate for this sector. Accordingly, in this paper, I propose a bottom-up approach to develop an index for the DNFbp sector, to assess the overall ML risk in the sector. The advantage of the bottom-up approach in this context is that the information comes directly from the grassroots level, i.e., firms in the relevant sector.

Interviews, expert opinions, and professional judgements are the core methods used in these ML risk assessments. However, there are many disadvantages of relying on those qualitative measures, such as the over- or underestimation of risks, areas unknown or unseen even to experts or professionals, as well as subjective expert judgment.

As recommended by the FATF through its guidelines, to assess ML risk properly, a combination of quantitative and qualitative assessment is proposed in this study. Hence, this conceptual framework can be complemented by purely qualitative methods, which are being used by the countries presently. This framework can be used by countries to have their own quantitative analysis in identifying, assessing, and understanding the ML risk of DNFbps.

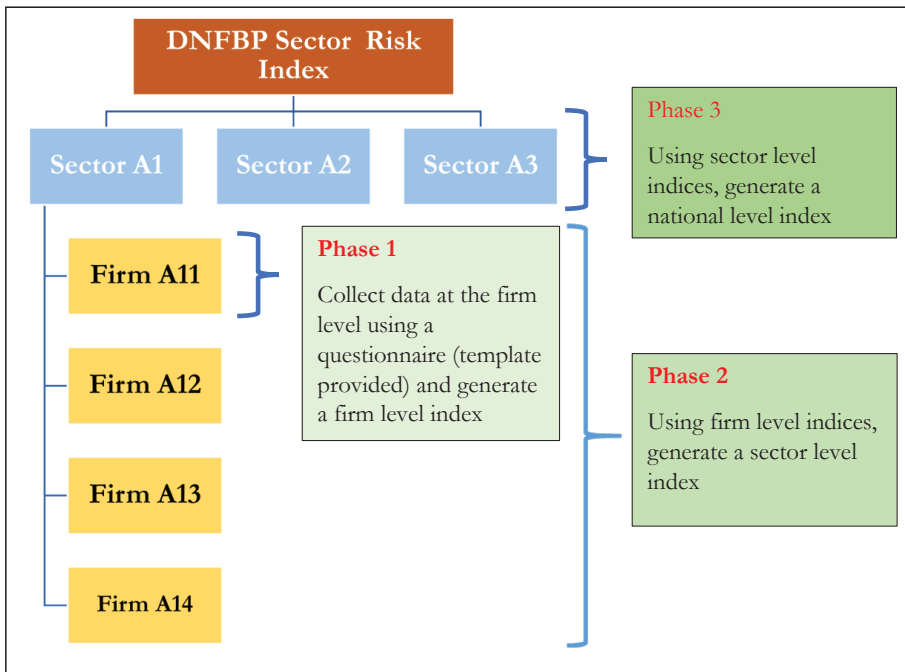
In selecting variables, attention was given to the variables that make a business or a professional service provider in the DNFBP sector attractive for money laundering.

In this framework ML threat is not collected from firms; however, the threat has to be considered by relevant authorities as per the records of proceeds of crimes, the number of reported suspicious transaction activities, number of investigations and prosecutions and any other information and statistics of crimes relating to this sector.

5.3 Bottom-up approach to calculate a risk index for the DNFBP Sector

The proposed approach consists of three phases as discussed below. The graphical depiction of the framework is given in Figure 2.

Figure 2: An Approach to Calculate DNFBP Sector Risk Index



Phase 1

This is the firm-level data collection and index calculation phase. Grassroots level data are to be collected from firms (businesses and professions) in each sector to assess the risk of each firm and the sector. If there are many firms in a sector, a random sample of around 20-30% of firms based on the size of the firm (using the annual turnover) could be used to collect data. A sample template to collect data is given in Figure 3. This template is not an exhaustive list, but an indicative one, and could be revised or modified according to the country and sector requirements. To select risk criteria, a country can ML typology, case studies, convicted money laundering cases, NRA reports of other countries, and other relevant criminal and judicial reports.

The main risks considered in the questionnaire are, as per FATF guidelines, the customer base of a firm, currently available types of products and services as well as delivery channels, geographical locations of a firm, and strength of prevailing AML control measures.

Accordingly, based on firm-wise data, using the template and scores given in the template, the firm-wise risk index is calculated.

Figure 3: A Sample Template for Risk Assessment Index- Firm-wise
ML Risk assessment for Company X for the Year 2025

Risk	Criteria	Response	Score	Possible highest marks	Rating
Inherent Risks	Customer Risk:	Yes	0		
	Local	No	1		
	Foreign				
	PEP				
	Listed/ Designated				
	Kown Criminals				
	Customers relating to Adverse news-media				
	Source of funds is clear/ not clear				
	Purpose of transaction is given/ not given				
	NPO/ NGO				
	Legal persons				
	Dealing with third parties and brokers				
	Customers from war areas/ Zones				
	Customers from sanctioned countries				
	Customers from listed countries				
	Products and Services Risk:				
	Cash intensive payment methods				
	Hi-tech products				
	Non-face to face delivery				
	Anonymity can be maintained				
	Geographical location Risk:				
	Located in a high crime area				
	Located in an export, import zone				
	Located in a tax-free zone				
	Located in a capital city				
	Located among many informal business area				
	Delivery Channel Risk				
	Non-face to face delivery/onboarding				
	Use of agents				
	Use of third parties				
Other Factors	Size of the business				
	Small				
	Medium				
	Large				
	Licensing Requirement				
	Yes				
	No				
	Business Registration				
	Yes				
	No				
	Availability of Company Service Providers				
	Auditor				
	Yes				
	No				
	Service of a Company Secretary				
	Yes				
	No				
	Service of an Accountant/ firm				
	Yes				
	No				
	Service of a Law firm				
	Yes				
	No				
	Target Market				
	Provincial				
	National				
	International				
	Operates on Cash Basis				
	Yes				
	No				
	Other				
	Paying Taxes				
	Yes				
	No				
Controls	AML/ CFT Controls				
	Availability of AML/ CFT Policy				
	ML/TF/PF risk assessment				
	Availability of Reporting mechanism for suspicious transactions				
	Policies for record keeping				
	Availability of recruiting policy for human capital				
	Availability of CDD mechanism				
	Availability of screening designated persons				
	Mgt is knowledgeable about AML requirements company controls and the policy				
	No. of AML/CFT training provided for Compliance and non-compliance staff				
	Availability of fit & proper requirements				

Phase 2

At this phase, the sector-wise risk index is calculated using the index generated for each firm in Phase 1. In this calculation, the annual turnover of the firm is considered to determine its size. Accordingly, the sector-level index is calculated as follows:

$$I_{Ai} = \sum_{j=1}^n I_{Aij} \frac{T_{Aij}}{\sum_{j=1}^n T_{Aij}},$$

where I_{Ai} is the index for the i^{th} sector, $i = 1 \dots m$. There are m sectors in the economy. I_{Aij} is the index for the j^{th} firm in the i^{th} sector, $j = 1 \dots n$. T_{Aij} is the annual turnover of the j^{th} firm in the i^{th} sector.

Phase 3

In this phase, the overall risk index is calculated using the index generated for each sector in Phase 2. Accordingly, the overall money laundering risk for the DNFBP sector is given by:

$$I_{DNFBP} = \sum_{i=1}^m I_{Ai} \frac{\sum_{j=1}^n T_{Aij}}{\sum_{j=1}^m \sum_{j=1}^n T_{Aij}},$$

6. Challenges faced by emerging economies in implementing the FATF Recommendations

Campa (2020) explains that ML/TF cannot be fought in isolation. Governments, the public sector, as well as the Private sector, all have a role to play. Specifically, these international measures on combating ML have been originally designed and introduced to protect the misuse of Financial sectors and financial institutions such as banks, non-bank financial institutions, insurance companies, and currency exchangers from ML activities. This was mainly due to their high-risk exposure, which originated with the possibility of misusing those entities as vehicles to clean dirty money earned through illegal drug selling. With the introduction of these control measures for financial institutions, drug dealers and other criminals started to shift from financial institutions to Non-financial sectors such as businesses and professional services, mainly due to their minimal or sometimes no controls at all to limit such illicit efforts. The FATF requires DNFBPs to adopt some similar controls relevant to financial institutions and deal with their customers with special care. Accordingly, DNFBPs are required to question the source of funds involved in a particular transaction. Since then, it has become a requirement for countries to make sure that their DNFBPs take appropriate measures to detect ML exposures and have proper controls to mitigate such identified risks. This was named as the application of the “Risk Based Approach” by DNFBPs. Under the Risk Based Approach, FATF requires governments to ensure that their DNFBPs assess their ML and TF related risks and take measures to mitigate risks based on their risk assessments.

However, from the introduction of these requirements today, most countries, especially in the developing world, are still struggling to introduce and implement these requirements in their non-financial businesses and professional sectors. Most countries have found it challenging when it is compared with the introduction and implementation of such measures in their financial segments due to various reasons. In analysing the reasons to find out why they experience it as a real challenge; the following facts stand out. Similar challenges have been identified and discussed in various country AML/CFT mutual evaluation reports (for example see Lao PDR (2023), Vietnam (2022),

Those facts can be classified under six categories as follows:

- I. Structural Issues
 - a. The Non-financial sector is comparatively less structured and governed than the financial sector.
 - b. In most countries, non-financial institutions belong to the informal sector of the economy.
 - c. Lack of knowledge on repercussions of ML: cascading impact of ML from the DNFBPs to the Financial segment, reputational damages, fines, imprisonment, etc.
 - d. No taxation policies implemented properly.

- II. Regulatory Requirements and Supervisory Concerns
 - a. There are no regulators or proper regulations to guide these entities.
 - b. In some countries, there is no business registration process for these non-financial businesses.
 - c. No licensing is required to enter or exit from the markets.
 - d. There are no centralised databases to access information about non-financial institutions.
 - e. Some of these entities are not administered by specific laws and regulations.
 - f. Designated non-financial entities are not used to operate under proper compliance.
 - g. The scope of AML/CFT is limited only to specified activities. Hence, the application is limited and hard for authorities to monitor.
 - h. These sectors are regulated/managed under multiple institutions. No single ministry or authority that handles the operations relevant to these sectors.

- III. Lack of Awareness of Corporate Management of Firms and Lack of Technology in Firms
 - a. The level of understanding and the knowledge of the management as well as employees, is comparatively lower than that of Financial institutions.
 - b. Lack of resources compared to Financial institutions.
 - c. Technological developments are used minimally.
 - d. Some entities are operated from generation to generation (family based), and they do not want to change the way they operate.
 - e. No standard business accounting and auditing practices in those entities.
 - f. Lack of resources to be employed on compliance matters.

- IV. Primitive State of Businesses
 - a. Most of the businesses are highly cash-incentive.
 - b. Some of the businesses are conducted online, with no physical space to contact, and there are no mechanisms to register online businesses.
 - c. The cost of implementing compliance would be high for small firms.
 - d. Most of the non-financial businesses are budding businesses that are vulnerable to different types of risks.
 - e. Sometimes these entities are not directly exposed to laundering money; however, they are used to make transactions more complex or to add another layer to the process of money laundering, and hence it is not easy to identify their vulnerabilities.
 - f. No bookkeeping, accounting, or auditing practices.

- V. Political Interventions
 - a. Politically appointed ruling parties do not want to disturb these businesses by imposing rules and regulations and become unpopular among those who run the businesses.
 - b. There are instances that these informal businesses are owned by money launderers or criminals themselves and influence political parties not to regulate.

- VI. Lack of Government Support
 - a. Little support from some governments to the relevant authorities in introducing these measures.
 - b. Micro finance sectors are not well-supported by governments through regulations.

When a country is attempting to introduce compliance measures to unregulated sectors, the above-mentioned matters are the issues that have to be overcome.

7. The Case of Sri Lanka

Sri Lanka is a founding member of APG, the FATF-style regional body for the Asia-Pacific region (FIU, 2021). Extending its best support to the international effort on combating ML and TF, Sri Lanka established its AML/CFT legal framework and the institutional setup, including an AML/CFT regulator, the Finance Intelligence Unit Sri Lanka (FIU-Sri Lanka) in 2006. Through the FIU-Sri Lanka, Sri Lanka has been monitoring its financial sector compliance on AML/CFT measures to mitigate ML and TF risks of the country since 2006. However, the Non-financial sector was not brought under the same roof till 2018 due to some of the factors discussed under the challenges of implementing anti-money laundering and countering the financing of terrorism in this article.

In 2015, Sri Lanka was evaluated by its international peer reviewers as a country that needs to further improve its AML/CFT measures for the financial sector, as well as introduce the same measures for the non-financial sector. Hence, Sri Lanka was in the list of FATF's closely monitored countries (which is well-known as the Grey List) as a jurisdiction with identified AML/CFT deficiencies during its last mutual evaluation in 2015. Introducing an effective AML/CFT regime for higher risk DNFBPs was a major action (among others), that Sri Lanka had to immediately attend to, in order to come out the said list. Accordingly, Sri Lanka had to expedite its process of including its DNFBPs into the country's national AML/CFT regime.

In introducing AML/CFT measures for designated non-financial businesses and professions in Sri Lanka, the FIU-Sri Lanka has taken several important steps which have ultimately benefited from the effective implementation of AML/CFT measures for the Non-financial sector in Sri Lanka. Those series of actions taken by the FIU-Sri Lanka were well acknowledged by the APG, the international reviewers, as well as the FATF at its plenary conducted in 2019 and announced that Sri Lanka's delisting from the Grey List due to its satisfactory performances in attending the given "Action Plan" by the FATF. Today, Sri Lanka has effectively implemented a supervision mechanism for the DNFBPs under its risk-based supervision strategy and has taken several key corrective measures for identified non-compliances in the AML/CFT frameworks of those institutions including imposing of financial penalties and issuing severe warnings.

The following section explains such actions taken by the FIU-Sri Lanka in introducing AML/CFT measures for DNFBPs.

A separate division for regulating designated non-financial businesses and professions

First, the FIU-Sri Lanka formed a separate division for the supervision of designated non-financial businesses and professions at the FIU-Sri Lanka. Then capable staff were allocated to the division to attend to different sectors of the DNFBPs. Providing staff with several local as well as international training courses has contributed to the success. The tasks assigned for this division were conducting studies on DNFBP sectors, issuing rules and regulations, outreaching and educating the relevant markets, and implementing supervising DNFBPs.

Market studies on designated non-financial businesses and professions

The DNFBP supervision division of the FIU-Sri Lanka conducted market studies to identify the functions of different markets and professions. These studies have been helpful to identify the size of the industries, key market players in different markets, market mechanisms and practices, as well as relevant rules and regulations prevailing in those markets. Also, the studies have been helpful to build up a continuous rapport with stakeholders and make them aware of the anti-money laundering and countering the financing of terrorism regime of the country. Further, these studies have been helpful in understanding ML and TF possibilities and vulnerabilities of each market. Support, dialogues, interviews, sharing of information by officials of relevant ministries, public institutions, regulators, self-regulatory bodies, industry associations and private sector institutions as well as published reports on these markets and their operations were useful in this exercise.

Drafting and issuance of AML/CFT rules and regulations

Once the market operations and mechanisms are understood to some extent via the aforesaid market studies, the FIU-Sri Lanka drafted customer due diligence rules covering all DNFBPs. Once drafted, they have been referred to relevant stakeholders of each market, such as regulators, authorities, licensing bodies, unions, and some large-scale private sector businesses and professional firms, industry associations as well as chambers, to get their comments and concerns on the draft rules. Then the rules were issued after attending to those entities' concerns within the scope of the legal requirements.

Continuous Engagement with Government on DNFBP Regulation

The FIU- Sri Lanka, with support from the Central Bank, has actively engaged with government authorities to advocate for the establishment of dedicated regulatory bodies for various DNFBP segments. At the time, sectors such as casinos and real estate lacked centralized oversight, creating challenges for effective coordination under AML/CFT requirements. These efforts have yielded tangible results, including the establishment of a regulatory authority for gambling and ongoing initiatives to introduce similar arrangements for the real estate sector.

Awareness and Outreach

A massive countrywide awareness campaign was carried out after the issuance of the customer due diligence rules. In conducting such a massive awareness campaign, support has been received from all the designated Non-financial sector related stakeholders such as regulators, authorities, unions, industry associations and chambers, as well as immense support was received from the DNFBP Working Group, which represented each DNFBP sector. This massive awareness campaign included seminars, meetings, presentations, newspaper articles, web notices, banners, workshops, training sessions, and one-on-one meetings, etc. The compulsory training workshops for the newly appointed compliance officers are being carried out on a regular basis. The training workshops consist of practical sessions such as “assessing institution’s money laundering and terrorist financing risks”, “preparing anti-money laundering and countering the financing of terrorism policies and procedures”, “conducting customer due diligence”, “customer risk profiling”, “retention of records”, “screening of designated persons and entities by UNSCRs” as well as “reporting suspicious transactions by DNFBPs”. All the training materials are uploaded and communicated through the FIU-Sri Lanka website to the market. For this, a separate space was designed on the FIU-Sri Lanka website, and DNFBPs are directed to refer to the materials available there.

Registering designated non-financial businesses with the FIU-Sri Lanka by appointing Compliance Officers

After issuance of the CDD Rule, along with the awareness campaign, the FIU-Sri Lanka invited through different media the relevant DNFBPs to appoint their Compliance Officers for AML/CFT matters and inform the appointment details of the Compliance Officer to the FIU-Sri Lanka through a given format, which was named as “Compliance Officer Declaration Form”. Once the Declaration Form is received, it is entered into the FIU-Sri Lanka database, and the institution is contacted to inform them of the acceptance of the appointment if the compliance officer is qualified as per the requirements (The compliance officer should be a senior management level officer). In this process, institutions are instructed to copy the declaration form to the Compliance Officer for his knowledge.

Workshop to train Compliance Officers

Once the Compliance Officer’s appointment is acknowledged, the Compliance Officer is called for a free-of-charge awareness workshop that is conducted by the FIU-Sri Lanka. There, the Compliance Officer is given comprehensive training on a risk-based approach and all the AML/CFT measures to be taken, including conducting institutional ML/TF risk assessment and drafting the AML/CFT Policy. Every compliance officer is informed to go through this training session. The FIU-Sri Lanka conducts this workshop quarterly. During the COVID-19 pandemic, it was conducted as a webinar. During the workshop, Compliance Officers are equipped with the required materials, such as Acts, regulations, rules, guidelines, directions, red flag indicators and other instructions, as well as samples and templates of documents. Higher management persons, such as Chief Executive Officers or Managing Directors of DNFBPs, are also invited to these workshops as their understanding of these matters is important to carry out the compliance officer’s task effectively. An international-level training on counter-proliferation financing measures has been provided for Compliance Officers of identified DNFBPs in Sri Lanka.

Supervision of DNFBPs

DNFBPs are supervised under two different scenarios. First, the high risk DNFBPs are entered into the annual supervision plan of the FIU Sri Lanka. To select higher risk DNFBPs, an off-site risk assessment is conducted every year. The required information and statistics for the off-site risk assessment are collected through a questionnaire. A correspondent risk score is calculated in respect of each DNFBP by feeding the information collected through the questionnaire to a Risk Assessment Tool. A risk score for each DNFBP is generated through the Risk Assessment Tool using qualitative and

quantitative data. The DNFbps with higher scores are ranked as higher AML/CFT risk institutions compared to other DNFbp institutions. Once the higher risk DNFbps are selected, they are examined by an examiner's team, which consists of an examiner in charge, and some other examiners. The examiners are going for the onsite examinations with an informing letter from the director of the FIU-Sri Lanka. Sample transactions are selected for examinations, and examiners meet and discuss with the senior management of the institution during the examination. Employees from different levels are also interviewed during the examination. Once the examination is completed, the examination report on findings is submitted to the Director of the FIU-Sri Lanka through the Head of the DNFbp supervision division within a stipulated time. An examination report consists of three parts: 1. Overview of the institution examined including the current ML/TF risk ratings, 2. Examiner's findings on the inherent money laundering and terrorist financing risk, the control measures, and 3. Examiner's recommendations on corrective measures to be taken. All these procedures are written with specific time frames in the examination manual for DNFbps of the FIU-Sri Lanka. Corrective actions are then taken based on the examination report by a committee established internally. Other than the risk based onsite examinations, offsite examinations, follow up examinations, spot examinations as well and thematic reviews are conducted from time to time.

Corrective actions on non-compliance

The level of non-compliance assessed during the onsite examination is explained in the onsite examination report. This is a formatted report and annexed to the FIU-Sri Lanka examination manual. The A committee in FIU-Sri Lanka takes corrective action such as providing action plans with timelines to correct deficiencies, issuing warnings, or imposing penalties, considering the examiners' recommendations. Corrective actions are predefined as per the legal requirements and according to the sanction procedures of the FIU-Sri Lanka. The preliminary corrective actions with deficiencies are communicating to the institution, providing a time frame to address non-compliance, conducting follow-up examination for verifying corrective measures taken, communicating the improvements or further deficiencies to the institution. If there are any serious non-compliance or violations, the FIU-Sri Lanka will take strict measures such as issuing warning letters, show cause letters and imposing penalties as per the Financial Transaction Reporting Act, No. 06 of 2006. There are several instances by now, financial penalties have imposed to DNFbps in Sri Lanka for AMAL/CFT non-compliances. Not only that the FIU-Sri Lanka publishes such instances under the policy of naming and shaming of non-compliant institutions.

Domestic coordination via a Working Group of DNFbps

At the beginning, the FIU-Sri Lanka worked with an established Working Group for building market relationships with DNFbps. The DNFbp Working Group consisted of members from the FIU-Sri Lanka, regulatory bodies, licensing bodies, and powerful unions of each industry and profession. The DNFbp Working Group was useful in building up market awareness on the AML/CFT requirements, recognising market trends, changes, and behaviours. This Working Group was effective as a communication channel.

More access to information

A separate email facility, phone lines, and web space in the FIU-Sri Lanka website have been provided for DNFbp institutions to communicate with the FIU-Sri Lanka. All the important messages are passed through the email communication as well as through the FIU-Sri Lanka website. All the relevant regulatory bodies and other key stakeholders, such as self-regulatory bodies, unions, and licensing authorities, have also given a space on their websites to provide communications related to the FIU-Sri Lanka to their relevant institutions.

8. Policy Implications

The result of this study has several policy implications. First, this conceptual framework to evaluate vulnerabilities in the DNFbp sector allows authorities to evaluate preliminary risk levels and act accordingly. Once the ML risk of the DNFbp sector is assessed, policymakers can introduce enhanced measures for higher risk sectors whilst simplified control measures for lower risk sectors. Accordingly, the authorities could allocate required resources optimally to combat illegal activities.

Further, the main challenges that I have identified in the study could be explored further by policymakers to overcome such challenges. Finally, the case study on Sri Lanka could be considered as a guide to initiate and strengthen action on combating ML in the DNFbp sector.

9. Conclusion

Applying AML/CFT measures for DNFbps under the national AML/CFT regime is a challenging task especially when there are no regulatory bodies, licensing mechanisms, or properly developed market and market practices. When markets become informal, bringing the institutions operating under such arrangements into a compliance framework is a real challenge. The FATF has recognised several higher risk non-financial institutions and named them DNFbps that are and can be exploited for such illegal activities. However, it appears that the focus of country authorities, especially of emerging market economies, on vulnerabilities emanating from the DNFbp sector is far less than the financial sector. This is confirmed by the worldwide poor evaluation results on introducing AML/CFT compliance requirements for DNFbps by countries under the mutual evaluations of the FATF.

In this study, I proposed a conceptual framework and an index to assess the preliminary risk of ML in non-financial businesses and professions. The approach I propose is a bottom-up approach considering the lack of data and informality prevails in this sector. This index allows authorities to evaluate preliminary risk levels and further study the sector to allocate required resources to combat illegal activities. Further, I discussed the case study of Sri Lanka, which inspired the computation of the proposed index, to elaborate how the country has successfully faced those challenges during its period of introducing and implementing the FATF requirements to its non-financial segment. In addition, in this study, I identified main challenges that affect the proper control of illegal activities in the DNFbp sector.

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