

# HRC

## Journal of Economics and Finance

Volume 1, Issue 2  
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Hansraj College  
University of Delhi



**HRC**  
**Journal of**  
**Economics and**  
**Finance**

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**Double Blind Peer Reviewed International**  
**Journal**

## **ABOUT THE COLLEGE**

Hansraj College is one of the largest constituent colleges of the University of Delhi. The college was founded by the D.A.V. College Managing Committee on 26th July, 1948 in the sacred memories of Maharshi Dayanand Saraswati and Mahatma Hansraj who spent their magnificent lives emphasizing the importance of knowledge. It is one of the leading lights in the D.A.V. family of over 700 institutions.

Hansraj College is a premier institution dedicated to teaching and research. It has highly qualified academicians who impart education in Science, Commerce, and Arts at undergraduate and graduate levels to more than 5000 students. The college has consistently demonstrated outstanding performance in academics, sports, and extracurricular activities.

The college has completed 75 years in the realm of imparting higher education. It has made significant and unparalleled contributions in terms of producing scholars, bureaucrats, intellectuals, and sportsperson serving in different domains not only in our own country but even at international levels.

Hansraj College stands at the cusp between the past and the future today. While it retains inspiring facets of its proud history, with an equally sharp gaze it looks ahead, assimilating the exciting world of new knowledge as it unfolds in front of it, holding the promise of an experience seeped with exhilarating learning and holistic growth for all those who enter its portals.

## **About the Journal**

The *HRC Journal of Economics and Finance* is a **double-blind peer-reviewed academic journal** for students, researchers, and faculty to showcase their research pertaining to the discipline of economics and business. It is an international journal. Our mission is to provide a platform through which scholars can publish their scholarly findings to showcase them with the research community at large. We invite research papers and articles on topics related to the field of economics, business and management for its quarterly journal publication.

## **Message from the Principal**

The launch of the *HRC Journal of Economics and Finance* is a milestone that marks our dedication towards providing a platform to young researchers in the field of economics and finance. It is even more fortuitous that the launch has been manifested in the Platinum jubilee year of the college, the Centenary year of the University of Delhi and the 75<sup>th</sup> year of India's independence.

The New Education Policy, 2020 has launched a paradigm shift that encourages research both at the faculty and student level. Accordingly there is a growing need to provide credible platforms to present research outputs at all levels. This journal fills a significant gap and will contribute to fostering a research ecosystem thereby advancing the objectives of the NEP 2020. This journal will provide an opportunity to students, teachers and scholars, around the world to come together and showcase the links between classroom teaching and their practical training.

I congratulate the authors whose papers/articles have been published in the journal and encourage others to contribute to future issues. Appreciation is due to the editors of this journal, Dr. Apoorva Gupta and Dr. Arjun Mittal who have worked tirelessly for the successful launch of this journal. My best wishes for the success of this venture.

Prof. (Dr.) Rama  
Principal  
Hansraj College

## **From the Editor's Desk**

Dear Readers,

It is our great pleasure and privilege that we present the third issue of the Journal of the Hansraj College, the *HRC Journal of Economics and Finance*. The journal provides a platform to young researchers in the field of economics, business, social sciences, finance and management to publish their scholarly articles. Our inclusive nature ensures that we cover the wide range of issues in the field. This issue features a diverse range of articles that provide insightful analyses and innovative perspectives on various contemporary economic topics.

We have received around fifty papers relevant to the field of development economics, political economy, macroeconomic policy, financial markets, international trade, and behavioral economics. All the papers went through three rounds of review process, first by the editors and then by the review board. All the papers have gone through double blind peer review process. The authors were communicated with the revisions. The papers were accepted only after the satisfactory revisions were being made. We strictly follow the research ethics and do not tolerate plagiarism. All the selected papers were tested for plagiarism before publication. We have worked tirelessly to bring out the first issue of the journal with high quality research work.

Writing quality research papers takes a lot of time and effort, and the authors must be congratulated for writing their research papers for the journal, which is launched in the Platinum Jubilee year of the college, the Centenary year of the University of Delhi and the 75<sup>th</sup> year of India's independence. We also take this opportunity to congratulate the review board of this issue for their constant academic support for the timely release of the journal. We also thank the support received from the Principal of the college, Prof. (Dr.) Rama, the Advisory Board and the Editorial Board.

We hope that readers find the articles interesting, informative and engaging, and enjoy reading it. We believe that this effort of ours will stimulate further research

and discussion in the field of economics and finance, and encourage readers to write for further issues of the journal. We look forward to receiving your feedback and suggestions for future issues.

**Disclaimer:** The opinions expressed in this journal belong to the contributors and do not necessarily reflect the viewpoints of the college, the editors, the Advisory Board, the Editorial Board, and the Review Board of the *HRC Journal of Economics and Finance*.

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## **Nexus between Employment and FTAs: South Asian Perspective**

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### **Abstract**

The effects of trade liberalization on economic growth and welfare are well established, trade-employment relationship is multifaceted and complex. The effect of trade liberalization is not direct and can create or destroy jobs. Studies underline that an increase in exports leads to an increase in the output level, likely to increase employment, whereas an increase in imports reduces output and displaces labour. With this backdrop, this study tries to capture the effect of the South Asian free trade area (SAFTA) and two other bilateral free trade agreements (FTAs); India-Sri Lanka free trade agreement and India-Bhutan free trade agreement on employment in India and South Asia. The regression model with PPML (fixed effects) estimation has been applied to capture the impact of FTAs on employment. Results confirm the positive impact of trade liberalization on employment. The study has significant policy implications and can provide a strong case for other economies to increase employment through FTAs. This will ensure economic growth and welfare in the partner countries.

**Keywords:** Trade liberalization; economic growth; employment; FTAs; SAFTA; PPML

**JEL Codes:** E20, E24, J21, F15, F13, F16

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## **1. Introduction**

Trade is a tool for creating new prospects for different stakeholders like labourers, consumers and firms around the world all the way through an affirmative business environment, labour markets flexibility, higher education and research, and skill development (OECD 2012). However, trade is hampered by artificial trade barriers like tariffs, quotas, and subsidies. These barriers to free trade have been the major cause of disagreement among policy makers and economists all over the globe since the post World War II period. Nevertheless, many developing economies liberalized and opened their economies only in the 1990s. The World Trade Organization (WTO) has been committed to multilateral trade liberalization, nonetheless, it has not ruled out regionalism. Article 24 of the WTO allows countries for the creation of free trade areas and customs union. Trade liberalization and trade facilitation remains at the core of every WTO ministerial conference. Regional integration agreements (RIAs) have flourished throughout the globe for the last three decades. More recently, South Asia also witnessed increased significance in regional economic integration. Free trade agreements (FTAs) are flourishing since the 1990s in the Asian region. South Asia is also effortlessly trying to harvest the benefits from these trade policy instruments. Trade can be increased through reduction or elimination of tariffs as well as non-tariff barriers (Panagariya 2008). Most vibrant and prevalent trade policy to reduce/eliminate tariffs in recent times is the regional trade agreements (RTAs). Trade liberalization and trade facilitation has now taken the route through these RTAs. However, RTAs are functional through different degrees of liberalization ranging from preferential trading arrangements (PTAs) to economic and monetary unions. The first complete liberalization and almost free trade is seen in the operation of free trade agreements (FTAs). Free flow of goods and services is the primary objective of the FTAs. Moreover, these FTAs also include other areas like intellectual property rights, investments, public procurement, and competition policy among others. FTAs promote trade through reduction of the barriers to trade. FTAs have static as well as dynamic welfare gains for the economy. It not only brings more goods and services at cheaper prices for the domestic consumers through increased imports (static gains), but also ensures dynamic gains like foreign direct investments (FDIs), competition, technology transfer, and economies of scale. Economic integration through trade reforms, liberalized

trade policies and increased trade openness has important implications on employment. However, the effects of an FTA have two dimensions- market access for domestic products and the liberalization of trade by eliminating and/or removing trade barriers (Raihan2013). The former is the increased exports from the home country, while later are the imports coming to the home country. Whether FTAs will increase the overall trade depends on the relative strength of trade creation and trade diversion (Arnold 2003). Moreover, the effects of these two opposing forces on employment are also complex and depend on their relative strength.

It is argued by the economists that increase in exports can potentially create new jobs especially in export-oriented industries, while surge in imports may contract employment in those domestic industries which are not capable of competing with highly competitive cross border industries. The effect of trade is not obvious and can create or destroy employment (Scott 2003). Conventionally, it was believed that trade is not a determinant of employment. This can be cited through different trade models, whether classical or neo-classical trade models. Most of the models of international trade assume full employment in the economy (Dutt et al. 2008). However, recent literature has debunked this fallacy. A large volume of studies is now available which contour the frontiers of the relationship between trade and employment. Increased trade can create new job opportunities, especially in export-oriented industries. Trade effects can be separated from the effects of FTAs; nevertheless, the relationship between FTAs and employment is complex and attract lively debates among the economists, the policy makers, and other stakeholders. Studies have highlighted three significant impacts viz. the 'scale effect', the 'composition effect' and the 'process effect' of trade on employment (Chand and Sen, 2002; Raj and Sen, 2012). Increasing exports tends to increase the output level, leading to increased employment, while increasing imports reduces output and displaces labour. This is the scale effect of trade on employment. The outcome of international trade is the structural changes within the manufacturing sector that alters the shares of different industries in total manufacturing output, increases the output of export items and reduces the output of import-competing industries. This is the composition effect of trade on employment. Moreover, trade can influence employment by changing coefficients of labour within industries. This is the process effect of trade on employment.

The studies on FTAs have mainly focused on the trade and welfare effects, its impact on labor and employment has largely been neglected. Thus, this study is different from the previous studies as it tries to analyze the effects of South Asian free trade area (SAFTA) and two other bilateral free trade agreements (FTAs); India-Sri Lanka free trade agreement and India-Bhutan free trade agreement on employment. The study examines the economy-wide effects on employment of bilateral FTAs (ISFTA and IBFTA) and plurilateral FTA-SAFTA and peeps into the trends of unemployment in India and South Asia. The broad objective of this paper is to investigate the links between trade liberalization and employment under the FTA framework in the South Asian region.

The paper is organised as follows. Section 2 examines the relevant literature related to effects of FTAs on employment. Methodology of this study is explained in Section 3. Section 4 deals with some of the macro-economic characteristics of South Asian economies. Results and analysis are presented in Section 5. Section 6 summarizes the study and concludes with highlighting relevant policy implications.

## **2. Review of Literature**

The literature on the effects of FTAs on employment is scanty. However, some economists and international organizations have more recently tried to examine this aspect. Brooks and Go (2012) in their study concluded that the relationship between trade and economic growth is well determined; the trade-employment relation is ambiguous. There is evidence that trade has mixed effects on the level of employment. In this regard, labor reallocation becomes essential to compensate for the job losses in any specific sector or industry. Trade liberalization and economic integration through RTAs need to be well structured and balanced. UNCTAD (2013) emphasized that trade has a significant role in employment creation and poverty reduction. However, trade liberalization does affect employment and wages at the sectoral and occupational level but does not affect the aggregate level of employment. Raihan (2013) in the context of Bangladesh argued that FTAs are important for real wages and employment including other areas like exports and consumer prices. There

might be losses in employment in some sectors, but in other sectors there is an increase in employment; the net effect is the addition to the employment. Thus, FTA policy will boost employment.

Nicoud (2015) found that in the commencement of the Transatlantic Trade and Investment Partnership (TTIP) and the Trans-Pacific Partnership (TPP), the effect of these mega-FTAs on income and employment is very less. Findings also confirm that the potential benefits of these agreements are not uniform. The study also argued that the welfare effects as well as unemployment effects related to the trade deficits will be much more visible. Jansen and Lee (2007) confirmed that job creation and job losses both are correlated with trade liberalization. In the short run, there are chances of job displacements and jobs losses, however, in the long run efficiency and competitiveness will eventually increase which lead to increase in the quality of employment, increase in the average wage rates and working conditions. According to the US Chamber of Commerce (2014), the benefits of the FTAs for the US are remarkable. Moreover, FTAs have opened new opportunities, improved economic growth, created new jobs, and increased employment. It is estimated that 5.4 million US jobs were sustained by these FTAs. The study claimed that, in the post- NAFTA period during 1994-2007, the unemployment rate in the US was 5.1%, which is lower than compared to the pre-NAFTA period during 1982-1993, close to 7.1%.

Schott (2016) pointed out that trade agreements can dislocate workers from their current employments, but at the same time create new and better employment opportunities. The rapid technical progress and shifts in the consumer demand pattern, the effect of free trade agreements is remarkably diminutive, but on balance, trade agreements generate improved and higher paying employment opportunities compared to the dislocated ones. In exporting manufacturing firms, workers usually receive higher wages, on average 12-18% more compared to their counterparts in those firms, which manufacture for the domestic market. Belenkiy & Riker (2015) also viewed that there is a complicated and frequently vague relationship between trade and unemployment. Additionally, the direction of unemployment is not uni-linear, but is more complex and depends on the composition of industry for a given output and on the frictions in the labor markets.



The review of literature confirms that there is no distinct relationship between trade liberalization and employment. The policy of trade liberalization in the form of regional trade agreements (RTAs) or bilateral FTAs in creating jobs in member countries is not apparent and needs research. Since South Asia is considered as one of the least integrated regions in the world and huge unemployment is prevalent in this region, it is imperative to find the relationship between trade liberalization (through FTAs) and employment in South Asia.

### 3. Methodology

The study is primarily based on quantitative methods. It includes regression model and computation of intra-regional trade share (IRTS) index. The details of the model and the index are described in the subsequent section.

#### The Model

This paper applies regression model to assess the effects of FTAs on employment in South Asia. Moreover, two bilateral FTAs (India-Sri Lanka FTA and India-Bhutan FTA) and one regional agreement (South Asian Free Trade Area) have been included in the study. Other important determinants of employment, viz. exports, imports, GDP, and tariffs are also included. In the model, number of unemployed persons has been taken as dependent variable and export, import, GDP, and tariff have been used as independent variables. Dummy variables for two bilateral FTAs (ISFTA and IBFTA) and one regional FTA (SAFTA) have also been included to see the impact of these FTAs on employment. All the variables are expressed in natural logarithmic form. The baseline model is presented as:

$$\ln U_{it} = \beta_0 + \beta_1 \ln \text{Export}_{it} + \beta_2 \ln \text{Import}_{it} + \beta_3 \ln \text{GDP}_{it} + \beta_4 \ln \text{Tariff}_{it} + \beta_5 \text{ISFTA}_{it} + \beta_6 \text{IBFTA}_{it} + \beta_7 \text{SAFTA}_{it} + e_{it} \quad \dots (1)$$

where,  $U_{it}$  is the total no. of unemployed people,  $\text{Export}_{it}$  is the total value of export of country  $i$  in time  $t$ (year),  $\text{Import}_{it}$  is the total value of import of country  $i$  in time  $t$ (year),

GDP<sub>it</sub> is the gross domestic product of country *i* in time *t* (year), Tariff<sub>it</sub> is the simple average applied tariff rate of country *i* in time *t*(year), ISFTA<sub>it</sub> is a categorical variable which denotes whether country *i* is the member of India-Sri Lanka FTA in time *t* or not (takes the value of 1 or 0 otherwise), IBFTA<sub>it</sub> is another categorical variable which denotes whether country *i* is the member of India-Bhutan FTA in time *t* or not (1 or 0), SAFTA<sub>it</sub> is a categorical variable which denotes whether country *i* is the member of South Asian free trade area in time *t* or not (1 or 0), and  $e_{it}$  is the error term

### **Intra-Regional Trade Share (IRTS)**

Apart from the regression model, intra-regional trade share has also been used in this study. Intra-regional trade share is the percentage of intra-regional trade to the total trade of any region; and it is calculated using the data on total trade. The expression for computation of the intra-regional trade share is:

$$IRTS = [(X_{ii} + I_{ii}) \times 100] / (X_{iw} + I_{iw}) \quad \dots(2)$$

Here,  $X_{ii}$  is exports of region *i* to region *i*,  $I_{ii}$  is imports of region *i* from region *i*, and  $X_{iw}$  is exports of region *i* to the world, and  $I_{iw}$  is imports of region *i* from the world. A higher value of IRTS specifies a higher degree of dependence on regional trade.

### **Data and Sample**

This study is proposed to capture the impact of FTAs on unemployment in South Asia from the period 2001-2013. The period chosen is based on the data availability and the relevance of this study. The study included all the 8 countries that are the members of SAFTA-India, Sri Lanka, Bhutan, Nepal, Bangladesh, Pakistan, Afghanistan, and Maldives. Data for exports, imports, GDP, and tariffs have been sourced from World Bank's World Development Indicators. Data for the total number of unemployed persons has been taken

from the International Labour Organization (ILO) Statistics and Database. Other statistics have been taken from the Asian Development Bank, International Monetary Fund, and Central Bureau of Statistics.

#### 4. Macroeconomic Characteristics of South Asia

South Asia comprises of eight countries, India, Sri Lanka, Bhutan, Bangladesh, Nepal, Pakistan, Afghanistan, and Maldives, is one of the least developed and least integrated regions in the world. Most of the social and economic parameters of growth and development are abysmally low. Table 1 indicates some of the socio-economic indicators of South Asia.

Table 1: Key Socio-Economic Indicators of South Asia

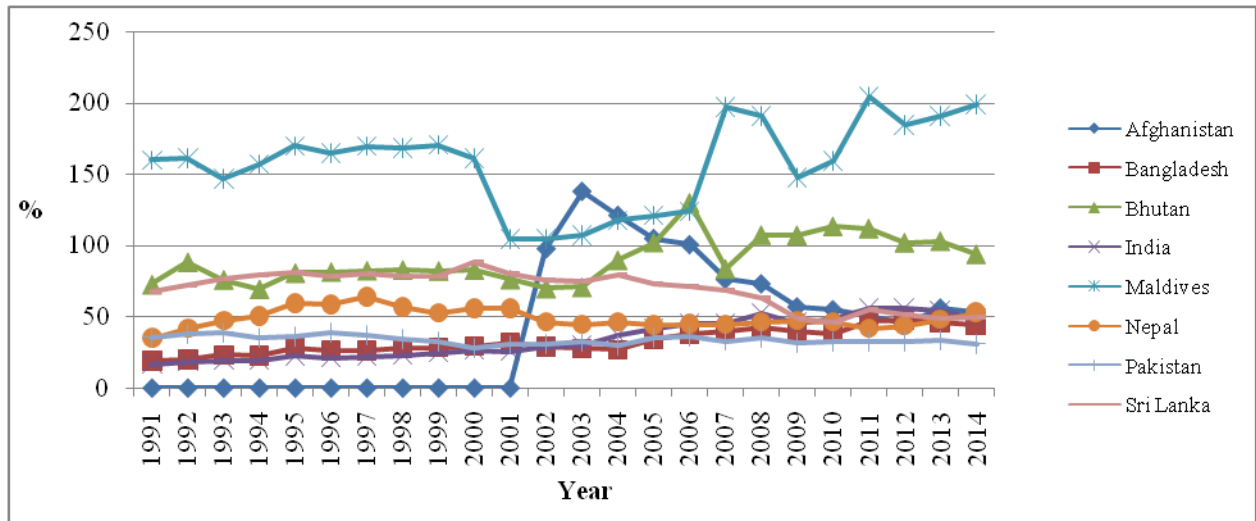
Countries	Poverty Headcount Ratio (% of Population)	Literacy Rate, Total (% of People Ages 15-24) *	Health Expenditure, Total (% of GDP) (2014) *	Govt. Expenditure on Education (% of GDP)	Population (Million) (2015) *	GDP (US \$ Million) (2014) *	Trade in Goods Balance (% of GDP) ***	Trade in Services Balance (% of GDP) ***	Real GDP Growth (%) (2014) **
India	21.23 (2011)	89.66	4.69	3.84 (2013)	1311	2073542.98	NA	14.94 (2012)	7.3
Sri Lanka	1.92 (2012)	98.77	3.5	2.18	21	82316.1724	-10.3 (2015)	2.8 (2015)	4.5
Bhutan	2.17 (2012)	92.04	3.57	7.36	0.77	1962.2217	-21.8 (2014-15)	-3.1 (2014-15)	6.4
Bangladesh	18.52 (2010)	83.2	2.82	1.96 (2013)	161	195078.666	-5.4 (2015)	-2.01 (2015)	6.3
Nepal	14.99 (2010)	89.95	5.8	3.71	28.5	20880.5459	-31.3 (2014-15)	1.3 (2014-15)	5.4
Pakistan	6.07 (2013)	73.71	2.61	2.65	189	269971.498	-5.9 (2014-15)	-0.72 (2014-15)	4
Afghanistan	NA	58.15	8.18	3.32	32.5	19199.438	-58.2 (2009)	-2.6 (2009)	1.3
Maldives	7.26 (2009)	99.76	13.7	5.22	0.41	3142.812	-69 (2012)	68 (2012)	6.1

Source: \*World Bank (2020), \*\* International Monetary Fund (2015), \*\*\*Central Bureau of Statistics (2022)

Previously, South Asian economies have adopted import-substitution strategies. Sri Lanka was the first country in South Asia, which opened its economy in 1977. Most of the countries in South Asia liberalized only in the 1990s. Trade openness measured as trade to GDP ratios,

is one of the measures frequently used to estimate the degree of liberalization of the economies. Trade Openness of all the economies in South Asia is shown in Figure 1. Maldives is the most open economy in this region measured by trade openness. Bhutan, Sri Lanka, and Nepal follow the suit. Sri Lanka's trade openness declined in 2014 compared to its value in 1991, while it fluctuated moderately during this period. It remained as high as more than 88% in 2000, and as low as 46% in 2010. India and Bangladesh continuously improved their openness with variations in some years, while Pakistan's trade openness remained between 30%-40% range. Afghanistan's openness is most unpredictable. It remained as high as 138% in 2003, and as low as 44.6 % in 2012.

Figure 1: Trade Openness in South Asia



Source: World Bank (2020)

**Labor Force and Unemployment in South Asia**

South Asia is characterized by huge population, prevalence of large-scale unemployment and low per capita income coupled with low levels of education and labour-intensive manufacturing. Poor technological base and lack of capital are the hindrance for growth and development. Due to huge unemployment and lack of capital-intensive production, wages are very low in this region. The labour force growth is faster than the employment rate in almost

all the South Asian countries observed over most of the period (Bhalla 2006). This is really an alarming situation. Asia is the home of the world's nearly 60% population. Population growth rate in South Asia can be visualized from Table 2. The simple average of population growth in this region is 2 % in 1990, which decreased to 1.8% in 2014. The highest population growth was witnessed in Maldives (2.5%) and Pakistan (2.3%) during the given period. However, Sri Lanka observed the lowest population growth during the same period. The simple average of India's growth of population during this period was 1.7%.

Table 2: Population Growth (%) in South Asia

Country	1990	1995	2000	2005	2010	2014
Bhutan	1.3	1.3	1.3	1.3	1.8	1.7
India	2.1	2.1	1.8	1.5	1.4	1.2
Afghanistan	1.9	1.6	1.4	1.5	2	2.2
Bangladesh	2.2	1.9	1.4	1.5	1.4	1.4
Pakistan	2.7	2.5	2.3	1.9	2.1	2
Sri Lanka	1.5	1.1	1.3	0.9	1	0.9
Maldives	2.5	2	1.5	3.3	2.3	3.6
Nepal	2.1	2.5	2.5	1.4	1.4	1.4

Source: Asian Development Bank (2015)

Table 3 gives a comparative picture of labor force and labour force participation rate (LFPR) in India, Bhutan, Sri Lanka, and total of South Asia. Table shows that about three-fourth of the total labour force in South Asia is contributed by India. The simple average annual growth of labour force in India is 1.6%, for Bhutan it comes out to 4.5%, for Sri Lanka it is 0.6%, and for the whole South Asia it is 1.9% during 2000-2017. Additionally, the simple average of LFPR in India is 57%, in Bhutan it is 68%, in Sri Lanka the LFPR is 55 %, and it is 57% for the South Asia. It is clear that the labour force participation rate for South Asia reflects the trends of that of India during 2000-2017.

Huge unemployment can be traced through Figure 3. Sri Lanka, Afghanistan, and Maldives are the worst in terms of unemployment. Sri Lanka was able to reduce unemployment substantially during 1991-2014; Afghanistan and Maldives are still facing huge

unemployment. Bhutan and Nepal have low levels of unemployment rate and by and large remained at the same levels during this period. Moreover, India and Pakistan are witnessing the same level of unemployment rate during 1991 to 2014. The unemployment rate in Bangladesh has increased during this period. Only Sri Lanka has managed to reduce unemployment rate from as high as more than 14% in 1991 to 4.6% in 2014. Trends of unemployment rate in Sri Lanka show that, it has continuously decreased during this period with minor fluctuations. The lowest unemployment rate in Sri Lanka was reported as 4% in 2012.

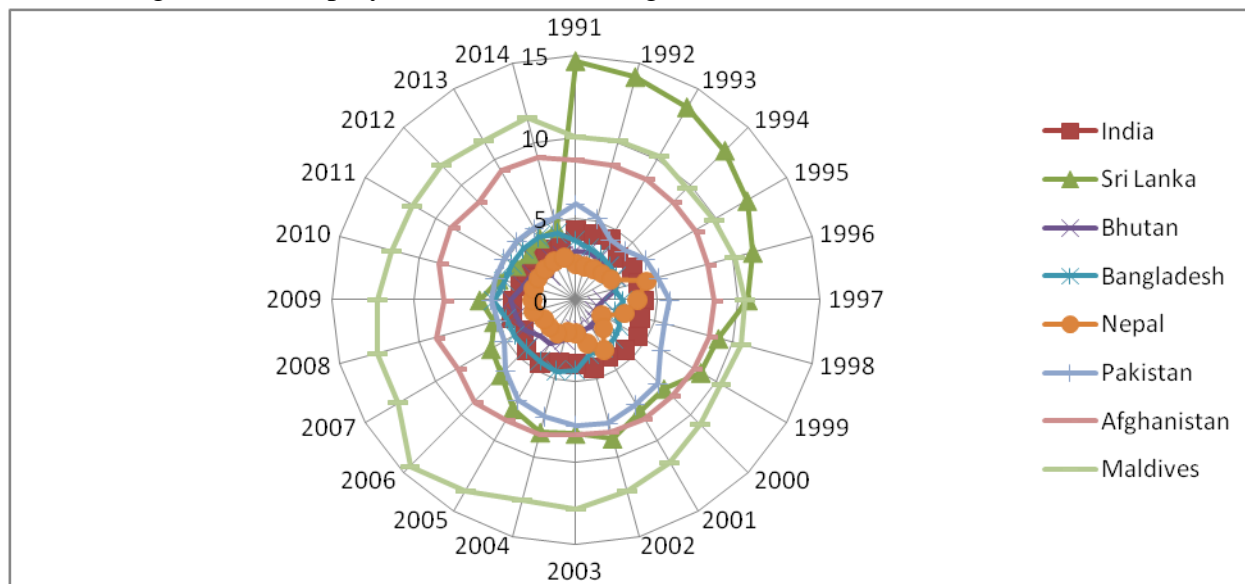
Table 3: Labor Force and Labour Force Participation Rate (LFPR)

Year	India		Bhutan		Sri Lanka		South Asia	
	Labour Force (Million)	LFPR*	Labour Force (Million)	LFPR*	Labour Force (Million)	LFPR*	Labour Force (Million)	LFPR*
2000	405.52	59	0.22	65.16	7.78	56.92	520.17	58.43
2001	417	59.31	0.23	66.36	7.86	56.78	534.7	58.64
2002	428.87	59.62	0.25	67.63	7.93	56.68	549.83	58.87
2003	441.05	59.94	0.27	68.84	8	56.58	565.84	59.15
2004	453.49	60.27	0.29	69.9	8.06	56.46	582.1	59.44
2005	466.15	60.62	0.3	70.73	8.12	56.33	598.97	59.78
2006	467.17	59.5	0.32	71.18	8.17	56.24	603.88	58.99
2007	468.12	58.41	0.33	71.48	8.21	56.12	607.27	58.1
2008	469	57.36	0.34	71.64	8.26	55.96	610.66	57.25
2009	469.83	56.33	0.35	71.7	8.3	55.76	614.93	56.5
2010	470.61	55.32	0.35	69.83	8.21	54.72	616.26	55.48
2011	473.68	54.64	0.35	67.98	8.23	54.37	622.57	54.96
2012	476.8	53.96	0.35	65.56	8.17	53.46	629.45	54.46
2013	485.9	53.97	0.36	66.1	8.5	55.04	642.88	54.53
2014	494.96	53.96	0.36	64.38	8.45	54.09	655.33	54.5
2015	503.83	53.95	0.38	66.61	8.52	53.87	669.03	54.59
2016	512.77	53.93	0.39	66.53	8.63	53.76	683.02	54.7
2017	520.2	53.79	0.4	66.79	8.67	53.54	694.07	54.6

Source: World Bank (2020)

Note: \*Total (% of total population ages 15+) (modeled ILO estimate)

Figure 3: Unemployment Rate (Percentage of Total Labour) in South Asia



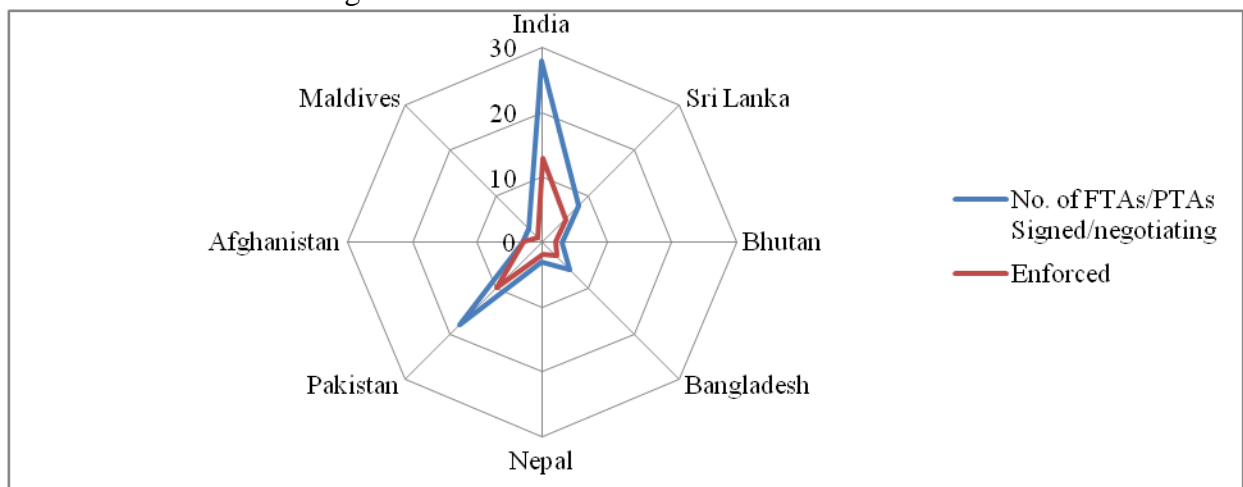
Source: World Bank (2020)

### Economic Integration in South Asia

The move towards integrating this region started in the 1985, when South Asian Association for Regional Cooperation (SAARC) was signed. Later, SAARC Preferential Trading Arrangement (SAPTA) was signed on April 11, 1993. The first significant move towards free trade in South Asian region was materialized in the form of South Asian Free Trade Area (SAFTA). At the 16<sup>th</sup> meeting of the Council of Ministers, held during 18-19 December 1995 in New Delhi, it was recognized that there is need for a regional free trade agreement in South Asia. To materialize the intended free trade area within SAARC region, an Inter-Governmental Expert Group (IGEG) was formed in 1996. Further, at the 10<sup>th</sup> SAARC Summit, held in Colombo during 29-31 July 1998, it was consented to establish Committee of Experts (CoE) to delineate a comprehensive framework program for commencement of free trade area. After further negotiations and a comprehensive dialogue process, the agreement for establishing the FTA in South Asia (i.e., SAFTA) was signed on January 6, 2004, at the 12<sup>th</sup> Summit of SAARC at Islamabad. SAFTA came into force on January 1, 2006. However, the trade liberalization program was initiated on July 1, 2006. With a greater motivation for free trade in goods, members are convinced that SAFTA will boost bilateral as

well as regional trade and development. One of the significant inclusions under the SAFTA framework is the Special and Differential Treatment (SDT) for the Least Developed Countries (LDCs). The wider scope of SAFTA includes elimination of trade barriers including tariffs, para-tariffs and non-tariff and facilitation of free movement of goods, fair competition, and disputes settlement, etc. Article 4 of the SAFTA includes instruments for the execution of the agreement like, trade liberalization program, rules of origin, institutional arrangements, dispute settlement, safeguard measures and others. The comprehensive framework for tariff reduction and elimination is included under the trade liberalization programme (TLP). One of the major concerns under the SAFTA framework is the Sensitive Lists, which include those products which are not part of the TLP. However, the progress of SAFTA is dismal. The intra-regional trade of the South Asian countries hovers around 5% of the total trade of South Asia. The persistent low volume of trade through the SAFTA framework induced the bilateral agreements in this region. More recently, South Asia witnessed a surge in regional trade agreements (RTAs). These mainly include preferential trading arrangements (PTAs) and free trade agreements (FTAs). Figure 4 highlights the number of PTAs/FTAs signed and enforced in this region. India has signed and enforced the highest number of these agreements, followed by Pakistan.

Figure 4: South Asian Involvement in FTAs



Source: Asian Development Bank (2022)



The economic effect of SAFTA on the South Asian countries has been modest. This can be visualized by Table 4, which shows the intra-regional trade share of the South Asian countries. The simple average of intra-regional trade share in the pre-SAFTA period during 2001-2006 was 5.3% and in the post-SAFTA period during 2007-2014 it was around 4.7%. This is quite low compared to other regional blocs' intra-regional trade share.

Table 4: Intra-regional Trade Share of South Asia

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
4.91	4.96	5.77	5.53	5.46	5.16	5.34	5.01	4.31	4.55	4.24	4.28	4.52	5.21

Source: Asian Development Bank (2022)

## 5. Results and Analysis

The impact of FTAs on employment merits cautious empirical analysis. This study takes a close look at the employment effects of trade within the South Asian countries at both regional as well as the bilateral level. Prior to elucidating the results from the regression model, expected signs of the variables used in this study (as is found in the literature) along with their explanation need to be examined. This is shown in Table 5.

Results of the regression model have been reported in Table 6. Results in Column 1 have been estimated using pooled OLS. The table shows that all the variables are significant, except the import (*lnImport*). The regression result explains that the country's exports affect its unemployment significantly and has expected negative sign. This indicates that if export increases, unemployment will decrease and vice versa. Similarly, tariff has also significant impact on unemployment. One unexpected observation is the sign of coefficient for GDP; the expected sign for GDP coefficient is negative, but our result shows positive sign for GDP. Signs of FTAs (ISFTA, IBFTA, and SAFTA) are negative. The results are quite interesting,

all the FTAs included in this study, whether bilateral or plurilateral, have significantly contributed to declining unemployment.

Table 5: Expected signs of the coefficients and their explanation

Explanatory Variables	Expected Sign of the coefficients	Explanation
Exports	-	increase in exports can create new jobs particularly in export-oriented industries
Imports	+	increasing imports may contract employment in those domestic industries that are not capable of competing with highly competitive global industries
GDP	-	increase in GDP can create employment opportunities
Tariff	-	as the tariff on imports will decline, imports will likely increase, which may increase the unemployment in the home country
RTAs	+/-	commencement of RTAs will increase exports as well as imports, exports will likely increase employment, while imports can destroy employment

Source: Author

India-Sri Lanka FTA (ISFTA) has contributed to declining the unemployment in India and Sri Lanka as well as India-Bhutan FTA (IBFTA) has helped in decreasing the unemployment in India and Bhutan, while SAFTA has contributed to declining unemployment in the South Asia. Overall, the model is significant, based on the *F*-test. The results in Column 2, Column 3 and Column 4 are estimated using Random Effects, Fixed Effects (year) and PPML with Fixed Effects (year) respectively to comprehend if there is variation in results using alternative estimation techniques. Based on the Hausman Test, Fixed Effects estimation is consistent and appropriate over the Random Effects. However, given the missing values in the dataset and the issue of heteroscedasticity, Poisson-pseudo maximum likelihood (PPML) is applied as proposed by Santos Silva and Tenreyro (2006). The coefficient estimates under PPML with Fixed Effects (Column 4) show expected signs for all the explanatory variables except the GDP and tariff. However, only the coefficient for GDP is significant apart from FTAs. The coefficient estimates for variables of interest like ISFTA, IBFTA and SAFTA have negative sign like the results under pooled OLS. This confirms that trade liberalization policy via FTA route has contributed to decreasing unemployment in South Asian countries.

Table 6: Regression Results

Variables	Pooled-OLS	Random Effects	Fixed Effects	PPML with Fixed Effects
	1	2	3	4
Constant	-18.20252*** (1.263177)	-18.20251*** (1.25625)	33.21676** (12.81851)	161.3894*** (41.13189)
<i>lnExport</i>	-.2653812** (.113747)	-.2653814 (.2217784)	-.1110765 (.3103635)	-.1997238 (.1506217)
<i>lnImport</i>	.1594955 (.201509)	.1594926 (.1844089)	-.0757644 (.3962761)	.3815095 (.2341242)
<i>lnGDP</i>	1.215038*** (.1220834)	1.21504*** (.1678889)	-.9116139 (.5864969)	.818478*** (.1781133)
<i>lnTariff</i>	-.641885*** (.1927223)	-.6418849** (.3165082)	-.1606388 (.1550956)	.0094545 (.1272235)
<i>ISFTA</i>	-.595542*** (.1710824)	-.5955405** (.244222)	omitted	-.331192** (.1426994)
<i>IBFTA</i>	-.3376055* (.1864441)	-.3376029 (.2084682)	.0882726 (.2391512)	-.1801178* (.1127224)
<i>SAFTA</i>	-.8835093*** (.1138421)	-.8835087*** (.1891137)	-.0999034 (.1395711)	-.1985047* (.1279236)
<i>R-squared</i>	0.9691	0.9691	0.8980	.98075614
<i>F (7, 69)</i>	365.57			
<i>P-value(F)</i>	0.0000			
<i>Fixed Effects</i>	No	No	Yes	Yes
<i>No. of Observations</i>	77	77	77	77

Source: Author

Note: Standard errors are in parenthesis; \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## 6. Conclusion and Policy Implications

The studies on free trade agreements have mainly focused on the trade and welfare effects, its impact on labor and employment has largely been undermined. Economic integration through trade reforms, liberalized trade policies and increased trade openness has important implications on employment. However, the effects of FTA have two dimensions-exports and imports. Moreover, the effects of these two variables on employment are also complex and depend on their relative strength. It is argued that increase in exports can potentially create

new jobs especially in export-oriented industries, while surge in imports may contract employment in those domestic industries that are not capable of competing with highly competitive cross border industries. Since FTA aims at increasing volume of trade through liberalizing trade, FTA may have impact on poverty, inequality, unemployment, and other economic outcomes through trade. It is very difficult to find out the impact of FTAs on unemployment directly. Because between FTAs and unemployment, several channels work; the positive or negative impact of FTAs on unemployment depends on the country's specific structure.

The broad objective of this study is to investigate the links between trade liberalization and employment under the FTA framework in South Asia. The results show that export, import, and GDP have significant impact on unemployment in India and South Asia. While observing the impact of FTAs on unemployment, it is found that all the FTAs impacted unemployment significantly. Coefficients estimate of FTA dummies describes negative relation between FTAs and unemployment. This validates that India's FTAs with Sri Lanka, Bangladesh, and other South Asian countries are conducive for decreasing unemployment in India as well as in other South Asian economies. The study suggests that for improving unemployment condition, India needs to investigate its FTA policy and increase utilization of FTAs. However, it is imperative to remember that if an FTA played vital role in decreasing unemployment in one country, it is not necessary to happen in every country. The impact of FTAs on employment also depends on how trade (export and import), and other important factors like GDP, tariffs, etc. affect employment in that economy.

The result presented in this study will help countries to boost the level of employment in the economy through signing free trade agreements. FTAs not only bring more goods and services at cheaper prices for the domestic consumers through increasing imports, but also ensure dynamic welfare gains like FDIs, competition, technology transfer, economies of scale and joint ventures that help in creating jobs. Thus, the outcome of this study will significantly act as a driver of economic growth and welfare for the economies.

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**Should gold and silver be regarded as two separate asset classes?  
New insight using threshold cointegration and volatility spillover  
methodologies**

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**Abstract**

The paper makes an attempt to examine whether Gold and Silver be considered as single or two separate asset classes while considering asset allocation and portfolio diversification. To this end the paper first analysed the risk-return profile of the two assets and later developed a co-integration and volatility spillover models to understand the characteristics and dynamic movement of the two precious metals. For empirical analysis, daily closing spot prices were collected for ten year period; April 1, 2012-March 31, 2022 for the two precious metals from the MCX Exchange of India. The results of the study failed to detect any long run cointegration using two different tests viz. the Threshold and Johansen cointegration techniques, the former also included structural break in time series. Two cointegration tests were necessitated after the BDS tests showed non linearity in the movement of both the variables under study. Short run causality for which VAR Granger test was employed was however noticed under the study with Gold causing movement in Silver but not vice versa. The volatility spillover was also seen moving from gold to silver from the results. The data description revealed vast differences in risk and

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return profile of the two assets. The study also tested for cointegration model prerequisites like Serial Correlation, Stability and Heteroscedasticity and found these to be satisfactory. The study therefore concludes that in the short run Gold appears to be influencing the movement of Silver, however in the long run no relation between the two variables was visible from study results. Hence Gold and Silver may be considered as separate assets by the investors and portfolio managers as a part of asset allocation strategy if the viewpoint of the manager is long run.

**Keywords: Threshold Co-integration Model, Volatility Spillover, Structural Break, Non-Linearity, VAR Causality.**

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## **1. Introduction**

Precious metals which primarily include Gold and Silver have been traditionally viewed as instruments of store of monetary value. This is mainly because they possess unique twin characteristics which makes them score over other metals; first is malleability which makes these metals flexible enough to be transformed to any shape and size and second being the non corrosiveness property which makes them strong and non-reactive when in contact with other substances. Out of the two, gold has been first choice amongst monetary authorities for decades and the biggest example has been the gold system and gold exchange system of payments which were globally adopted under the Bretton wood system. On the other hand, Silver was included by Germany in its monetary system during the 19<sup>th</sup> century (Schweikert, 2018).

Apart from being used as a monetary asset, gold has also served the investing class by acting as a 'safe haven' by maintaining its value during times when other prominent assets like equities and bonds have witnessed a correction or fall in their values, largely seen during the crisis periods. Thus, when most assets including stocks, bonds and real estate move in tandem towards a downward journey during uncertain times, gold maintains its value (Chua, 1990). This 'yellow metal' has also been a popular inflation hedge instrument amongst the investors. Silver, on the other hand, has some significant

commercial applications due to its special reflective characteristics. The 'white metal' has therefore found usage in industries like photography, optics, batteries, switches and coating material.

Perhaps, the single largest industry to consume both gold and silver is the jewelry and ornamental industry. According to an estimate, out of the total world demand for gold, approximately 50 % comes from this industry while for silver; this demand is 30 % of global demand ([www.mcxindia.com](http://www.mcxindia.com)). The market where such a demand exists is primarily located in Asian Region. In some Asian economies, it is customary to wear some ornament or jewellery and out of the two, the first choice of people is gold followed by silver, silver has traditionally been viewed as poor man's gold.

On the other hand, it is quite surprising that although being an instrument of monetary value for centuries, empirical studies on gold and silver especially the ones which consider this asset from investment perspective is fairly of recent origin. One of the probable reasons why precious metals had managed to escape the empirical analysts radar is that these metals are considered both as a commodity and also as a financial asset. Many researchers even today believe that the pricing of gold is not still fully understood. Now, whereas asset like equities are typically priced on the basis of earnings which get converted to dividends, bonds are priced on the basis of macro movements, economic conditions and risks of issuer, the precious metals on the other hand being both a commodity for consumption and also as a financial asset; follow no consistent pricing model. If we compare gold and silver to another commodity, say crude which is globally the most tradeable commodity, then there appears to be a striking difference in price determinants of the two; whereas crude is strongly influenced by annual production, the same is not true for the gold and silver whose stock position many times have far exceeded their production. The main determinant of gold according to most economists is its demand, which again is not from industry but from ornaments and jewellery thereby making it a proxy for store of value. Hence this makes gold a simply a cash store asset. On the other hand, for silver, prices are somewhat determined by industrial demand and therefore a proxy for store of value appears to be only partially true.

The empirical research on gold and silver has gathered some momentum during the last two decades and broadly speaking we can classify this research into five categories or

types; studies under the first type explore the ability of precious metals to play the role of a risk diversifier i.e. their capability to stand crisis without eroding its value. The researchers have employed different tools and techniques to test the ability of these precious metals as an instrument of hedge or safe haven under different market conditions and results have been positive and encouraging (Shahani and Bansal, 2021; Dee and Zheng, 2013; Baur and Lucey, 2010). Thus, considering the current scenario where there are not enough asset classes available for risk diversification during crisis periods and with crisis in markets becoming a feature of quick succession, a lot of market participants, tend to include gold and silver in addition to other assets in their portfolios. Jaffe (1989) who was the one of the early researchers in this field showed that the investors can substantially reduce their risk by including just 5 % gold in their portfolio.

The second category of empirical research on gold and silver pertain to the angle of price discovery i.e. whether or not futures tend to predict the spot prices in case of precious metals and some of the studies which have focused on this dimension are Jin et al., (2018); Kumar and Arora, (2011) amongst others. Studies broadly have concluded that like other markets in case of precious metals too, it is the futures market which tends to discover the price. The third dimension pertaining to gold and silver explores the market efficiency of these precious metals and most research papers under this category have focused on the seasonality in the movement of their prices (day, week or month of the year effect). The seasonality which has been detected in a lot of research studies with respect to 'yellow metal' pertain to either 'Monday Effect' or the 'autumn effect'. An interesting observation regarding these two effects was that these effects tend to vanish during the crisis periods (Xiao and Maillebau, 2020; Wang and Huang, 2019).

The fourth type of empirical studies explore the relation between precious metals and country's macroeconomic indicators including GDP, Interest Rate, Exchange rate, Inflation amongst others. We have already stated earlier in the paper about the inflation hedge characteristics of the 'yellow metal'. Then impact of exchange rate change is also sometimes related to gold as a country's tend to use their gold reserves to stabilize their exchange rate. Then relation between precious metals especially gold and other commodities like crude and some metals (both ferrous and non-ferrous metals) has also been explored in many research studies.

The last dimension of research relates to understanding the co-movements of the precious metals amongst themselves. Here the researchers discuss the long and short run relation with long term adjustment (if any), spillover of return or volatility from one precious metal to another and also the lagged relation between these metals through causality relation. The findings here reveal that although a long term relation between gold and silver does exist, there are signs of weakening of this relation whenever economic conditions undergo a change and again the same gets stronger after the crisis (Baur, and Tran 2014; Lucey and Tully 2006; Pradhan et.al. 2020).

On the other hand, some researchers have failed to detect any long term relation amongst the precious metals but a co-movement is witnessed for only few sub-periods. This was seen in a studies by Escribano and Granger, (1998); Wahab et al., (1994) amongst others. Escribano and Granger, (1998) in their study investigated the relation amongst gold and silver after the collapse of Bretton woods system of payments and found no long term relation amongst the variables. The sub periods of relation between the two was visible and this was coined the term ‘Silver Bubble’ and belonged to the period 1979-80. In another study Mishra, et.al. (2019) could prove that the relation amongst precious metals was only for short run with uni-directional causality moving from gold to silver indicating that investors in gold market could predict returns on silver markets. Schweikert, (2018) could find co-movement amongst gold and silver only during crisis periods. Using quantile cointegration framework they could confirm that the relation between two variables was non-linear with asymmetry also seen amongst the variables. On the other hand, no cointegration during crisis and bubble periods but proving the same for entire period was seen in a study by Baur, and Tran (2014). They concluded that cointegration surely existed for periods when the property of store of value gains importance for investors. Thus, their overall conclusion was that cointegration between the metals was not stable.

Moving in the same direction, main objective of the present study is to determine whether or not, the two precious metals be considered as a single asset class and clubbed into one category by the investors and portfolio managers. This is broadly examined by analysing the co-movement between the two precious metals; gold and silver. A related objective is to determine whether the underlying objective is also relevant from Indian Perspective. Indian Perspective assumes importance as precious metals are known to enjoy

considerable freedom in price determination in the country especially during the festive season when the demand for ornamentals is at its peak and all this happens in spite of a high correlation witnessed between international prices and Indian precious metal prices. The need for separate focus on Indian Market is also warranted by increased interest of the market participants in the white metal; Silver during the recent past. Yet another driving factor which necessitated such a research was to examine and compare the cointegration results by applying two different techniques; one linear and second non-linear when variables are proved to follow non randomness in their movement. The study also made an attempt to test for spillover of volatility from gold to silver and vice-versa using the technique of standardized residuals transmission as given by Masson, (1998) and also by Dungey and Martin, (2007). To achieve these objectives, the study collects daily closing price data on gold and silver from MCX exchange of India for ten year period April 1, 2012-Mar 31, 2022.

The rest of the paper is structured as follows: Section 2 gives the Descriptive Statistics and Distribution Characteristics of two precious metals, Section 3 explains the methodology employed, Section 4 provides empirical results and finally we have Section 5 as conclusion and policy implications. The paper ends with references as Section 6.

## **2. Statistical Description and Distribution Characteristics of Variables; Gold and Silver**

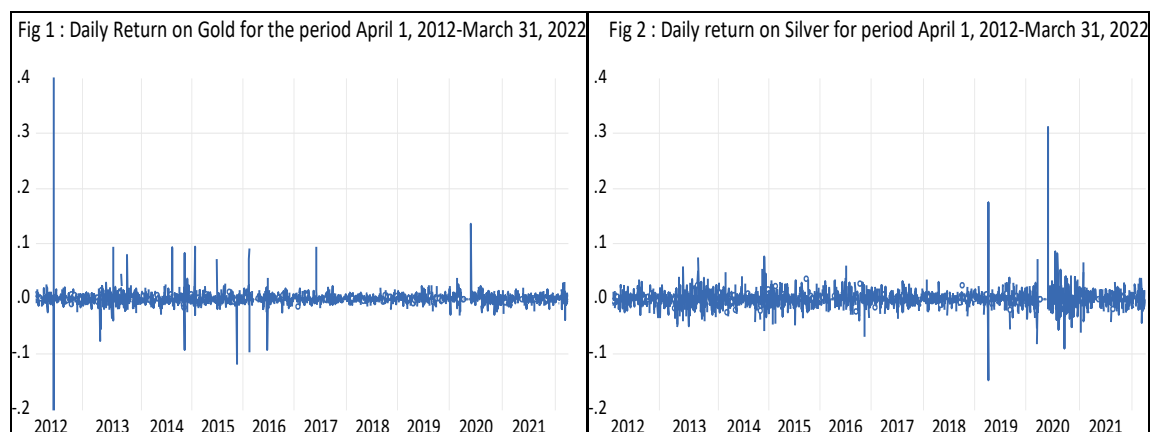
Statistical Description of spot returns on two precious metals viz. gold and silver for the ten year study period April 1, 2012-Mar 31, 2022 is presented in Table I below. The closing daily spot prices of these variables which have been collected from the [www.mcxindia.com](http://www.mcxindia.com), have been transformed to daily spot returns by applying the formula;  $\frac{P_t - P_{t-1}}{P_{t-1}}$ , where  $P_t$  is the closing price of precious metal at day 't' and  $P_{t-1}$  is the closing price of the same precious metal at day 't-1'. The computation of returns from closing spot prices facilitates the comparison of precious metals across different parameters as shown under Table 1 below.

<b>Particulars</b>	<b>Return on Gold</b>	<b>Return on Silver</b>
Mean	0.003457	0.000187
Std. Dev.	0.179584	0.015703
Coeff. of Variation (C.V) = $\sigma / \mu$	56.67	18.36
Skewness	49.45623	3.249473
Kurtosis	2481.78	73.93063
Jarque - Bera Probability	6.52E+08 0.000	537779.4 0.000
Observation	2544	2544

Table 1 provides information about different parameters i.e. the four moments; Mean, Standard Deviation, Skewness and Kurtosis. The table also provides additional information on Coefficient of Variation (C.V) and Normality test for our two variables. The table reveals that mean return on gold spot is higher at 0.003457 on daily basis which translates to 126.18% on annualized basis while silver gives a spot daily return at 0.000187 or a mere 6.8 % return on annualized basis. Thus, in terms of return parameter and considering average returns per day as a yardstick, gold beats silver quite extensively over the stated ten year period. On the other hand, things are reversed when we consider second parameter; the standard deviation, which is considered a proxy for risk. Standard deviation of gold, is 0.17958 which is approximately 11 times higher than that of silver having a standard deviation of 0.0157. The high variability or standard deviation of returns was also visible when we plotted the returns of the two variables (Fig 1 and 2) and it can be clearly seen that return variability of gold is far more than that of silver, however whether we also had volatility clustering along with high volatility would be known later when we test the two time series for heteroscedasticity.

Thus, from investors' point of view, although a lot of investors do consider gold as a safe haven asset which has already seen also gives a decent return, however over a ten year period of study, the results also revealed that it had a very high variability classifying this as a highly risky asset. This in simple words would mean that there are high chances that an investor might buy gold at high prices and then see a big fall in its prices within a short

period of time. Thus, gold falls into high return and high risk category class of assets and hence the asset appears to be more suitable investment for seasonal investors who are also risk takers, but the same may not be true for a risk averse investor.



The statistical analysis of risk and return would be incomplete unless we evaluate the two assets by applying a measurement tool which would balance risk and return from an asset. To achieve this task, we compute another yardstick of measurement, the Coefficient of Variation (CV), which gives risk adjusted return for our asset under consideration. Now, lower the CV better is the risk adjusted return for precious metal under consideration. A look at the Table 1 reveals that return on gold has the CV of 56.67 and for silver it is 18.36 thereby making silver score over gold and making it a better choice for those investors who want to take calculated risk to obtain the desired return.

The other useful information available from Table 1 is about distribution characteristics of the two precious metals and these are the third and fourth moments i.e. Skewness and Kurtosis. The objective here is to compare these parameters with a normal distribution, which is symmetric and has a skewness of '0' and kurtosis as '3'. For our two distributions, although both distributions do not match the parameters of normal distribution, silver appears to be closer to normal than gold in terms of shape, peakedness and fatter tail characteristics. The examination of the two distributions reveal that both the distributions are positively skewed and leptokurtic. The typical characteristic of a leptokurtic distribution is that these have a lot of outliers (extreme observations) which may have a lot of bearing on the final results. Further, we performed a formal test of normality, JB test which has a Null as Normal Distribution. The applicable formula is  $JB = \frac{n}{6} \left\{ S^2 + \frac{1}{4} (K - 3)^2 \right\}$ , where 'n' is the number of observations, 'S' is the Skewness of

the distribution and 'K' is the Kurtosis and it was seen that in case of both distributions; Null was rejected ( probability 'p' was 0.00 for both distributions of precious metals)

### **3. Research Methodology and test of hypothesis**

Statistical Distribution of Returns as given above has provided some insight about the return and risk characteristics of our two precious metals and the differences that are visible gives us an indication that the two assets need not be moving in the same direction at all times which gives us a rough idea that the two assets may be considered as separate assets to meet the goals of asset allocation and diversification. However more to obtain more insight into this aspect we must examine this aspect from short and long run perspective and to this end we perform the cointegration and causality tests on the two variables. We begin with the test of cointegration for which we have applied two techniques which are discussed in next sub section.

#### **3.1. Developing a Co-integration Model**

Co-integration implies a balance between variables of the model in the long run. The need for this test arises as on many occasions a variable may tend to exhibit an inconsistent behaviour in the short run, however in the long run the same variable may tend to comove with other variables in a stable and predictable manner.

Since the objective of the study is to determine whether or not the two precious metals should be considered as a single asset class or two separate asset classes, it is imperative that we carry out a cointegration analysis to determine any long-term relation amongst the movement of these precious metals and to this end we would be applying two popular cointegration techniques, first one is the Johansen Co-integration Model (1998) and second being Gregory Hansen (GH) Co-integration Model (1996) which is sometimes called the Threshold Cointegration Model. Whereas, Johansen Co-integration Model (1998), although is a popular model as it is based upon a VAR, however the model assumes that the adjustment process from disequilibrium to long run equilibrium is symmetric or linear while the second model, GH Model can be applied in case the same follows non-linear character. The application of cointegration models, one which



considers variables as linear and second as non linear is warranted by the main motive behind the present study. Here we would be first discussing the Johansen Co-integration followed by Threshold Cointegration Model.

### 3.1.1. The Johansen Co-integration Model (1998)

The Model estimates the following equation (1) and computes the  $(\delta_{i,1-1})$  which is developed as a matrix of coefficients  $(\gamma_i)$ .  $\mu$  is model constant, 't' is the time period, 'i' is  $i^{\text{th}}$  variable, m denotes no. of lags of the variable  $Y_i$ ,  $\Delta Y_t$  represents the short run relation with  $\delta_1, \delta_2, \delta_3$  as the slope coefficients and finally  $e_t$  is the error term.

$$\Delta Y_{it} = \mu + (\delta_{i,1-1})(Y_{i(t-1)}) + \delta_{i,2}\Delta Y_{i(t-1)} + \delta_{i,3}\Delta Y_{i(t-2)} + \dots + \delta_{i,k}\Delta Y_{i(t-(m-1))} + e_t \dots (1)$$

Let  $\gamma_i$  signify long term relation among the variables;  $\gamma_i$  therefore is the fundamental matrix of the co-integration i.e.

$$\gamma_i = \begin{pmatrix} \beta_{11i} & \beta_{12i} & \dots & \beta_{1mi} \\ \beta_{21i} & \dots & \dots & \vdots \\ \beta_{m1i} & \dots & \dots & \beta_{mmi} \end{pmatrix},$$

If there is no co-integration amongst any variables, ' $\gamma$ ' shall have a rank '0' and in case of co-integration amongst variables, characteristic roots and Eigen values are computed. The popularity of Johansen model of co-integration lies due to the fact that it avoids choosing a dependent variable and then subsequently running an OLS regression but this model treats every variable as endogenous variable. The method employs MLE Procedure which estimates the parameters by maximizing the likelihood function.

### 3.1.2. Threshold Cointegration Model [GH Model(1996)]

The second model of co-integration applied in our study is Threshold Cointegration Model or the Gregory Hansen (GH) Co-integration Model has a feature of testing the cointegration amongst variables in the presence of a structural break. Considering that our model is built up on high frequency daily data for ten year period, the chances of break in time series are therefore high, which actually necessitated the inclusion of this model in our study. In the presence of a break in time series, there is high probability that the co-

integrating relation might undergo a change at the stated break point. We can imagine such a situation to be similar to somewhat a regime switch and the GH Model in a way cross checks and reinforce the results of Johansen Cointegration Model which ignores the structural break in time series. The Gregory Hansen test uses a simple methodology to incorporate a structural break by computing the usual ADF and Philips test statistics at all possible break points and then selecting the smallest values which becomes a breakpoint for the time series (Shahani and Singhal, 2022). However, the model also has its limitation in the sense that its inbuilt capacity to detect a structural break increases the chances of committing a type 2 error which actually would imply that rejection of Null of no co-integration becomes rather difficult (Shahani, Kumar and Goel 2020).

The paper discusses three variants of the Gregory – Hansen Co-integration Model viz. (i) Level shift (shift in intercept), (ii) Level shift with trend and (iii) Regime shift (or shift in both slope and intercept). The following equations (2, 3 and 4) are developed, one for each of three model versions:

$$\text{Model I: Level Shift only: } Y_t = \theta_1 + \theta^*_1 D_{1,t} + \theta_2 X_{i,t} + e_{1t} \dots \dots \dots (2)$$

$$\text{Model II: Level Shift with trend: } Y_t = \theta_1 + \theta^*_1 D_{2,t} + \theta_2 X_{i,t} + \theta_3 T + e_{2t} \dots \dots (3)$$

$$\text{Model III: Regime Shift: } Y_t = \theta_1 + \theta^*_1 D_3 + \theta_2 X_t + \theta^*_2 D_4 X_{i,t} + e_{3t} \dots \dots (4)$$

The breakpoint in Model I (eq.(2)) is represented by Dummy ( $D_1$ ), which takes the following values  $D_{1,t} = \begin{cases} 1 & \text{if } t \geq BD_1 \\ 0 & \text{if } t < BD_1 \end{cases}$  i.e. Dummy shall be ‘0’ if time period(t) is before the break date ( $BD_1$ ) and shall be ‘1’ if time period is after the break, including break date.  $BD_1$  is the Break Date for Model I (see Table 3) and  $e_{1t}$  is the error term. For the model, intercept before the break shall be  $\theta_1$  while intercept after the break shall be  $\theta_1 + \theta^*_1$ . Further, in case of Model I, slope does not undergo any change.

Model II adds a trend variable ‘T’ to the Model I; thereby any variation in the variables due to trend is taken care of. The shift parameter  $\theta^*_1$  is represented by Dummy ( $D_2$ ) and is represented by  $D_{2,t} = \begin{cases} 1 & \text{if } t \geq BD_2 \\ 0 & \text{if } t < BD_2 \end{cases}$ .  $BD_2$  is the Break Date for Model II and  $e_{2t}$  is the error term.

Finally we have the Model III which is a Regime Shift Model where both intercept and slope undergo a shift. The shift in slope has been represented by a Dummy Variable ( $D_4$ )

and is the nature of multiplicative dummy when it get multiplied with the independent variable  $X_{i,t}$ . Thus, Model III includes two dummies;  $D_3$  for a shift in intercept and  $D_4$  for shift in slope. Both Dummies are defined alike i.e. Dummy = '1', if 't'  $\geq$  Break Date and '0' otherwise (see Shahani, Kumar and Goel, 2020). The model has  $BD_3$  and  $BD_4$  as break date points.

Null Hypothesis ( $H_0$ ) for all three Models: No Co-integration at break point.

Alternate Hypothesis ( $H_A$ ): Co-integration exists at breakpoint.

The test criteria values for all the three models are directly taken from ADF ( $\tau$ ) & two Philip test statistics as  $Z_t(\tau)$  &  $Z_a(\tau)$  and if all the three absolute computed values obtained from model viz.  $|ADF(\tau)|$ ,  $|Z_t(\tau)|$  and  $|Z_a(\tau)|$  are more than critical we reject the null hypothesis. The rejection of null implies that the linear combination of variables exhibit long run stable characteristics (co-integration) and the breakpoint included does not alter these characteristics.

### 3.2. Developing a Return and Volatility Spillover Model for Gold and Silver

Under this section we would be developing a return and volatility model and also testing for spillover from one precious metal to another. Volatility spillover (sometimes called volatility transmission) is the occurrence of volatility price change in one market causing its impact (usually a lagged one) on another market. We would be focusing on the technique of spillover which follows the standardized residuals transmission as given by Masson, (1998) and also by Dungey and Martin, (2007). Under this technique we would be using the both GARCH (1,1) and GARCH (2,1) model and developing the conditional mean and variance equations, one each for the two precious metals namely gold and silver. Although GARCH (1,1) is popular model and is employed in most research studies, need for GARCH (2,1) becomes necessary to obtain squared residuals from the model to be used in variance equation.

### 3.2.1. Conditional Mean and Variance Equations

We start by developing equation (5) as given below which represents the conditional mean equation for variable gold has been developed as an AR(2) model with additional term as first lagged standardized residuals ( $e_{(s),Silver,t-1}$ ) showing spillover in returns. The term ( $e_{(s),Silver,t-1}$ ) have been obtained by first running AR(1) equation of Silver and then applying the formula  $e_{(s),Silver,t-1} = \frac{(e_{Silver,t-1}) - \overline{(e_{Silver,t-1})}}{\sigma_{(e_{Silver,t-1})}}$  to obtain standardized residuals; where  $\overline{(e_{Silver,t-1})}$  is the mean of the residuals of the silver metal while  $\sigma_{(e_{Silver,t-1})}$  is the standard deviation of the residuals of the silver. We also have  $e_{gold_t}$  as the residual error term of eq (5). The variance equation under GARCH model eq.(5a) has a constant term ;  $\alpha_1$ , the ARCH term ;  $\alpha_2 e_{gold,t-1}^2$  and a GARCH term;  $\alpha_3 \sigma_{e_{gold,t-1}}^2$ . The equation (5a) also includes additional terms as first lagged standardized squared residuals of silver  $\alpha_4 (e_{(s),silver,t-1}^2)$  showing spillover in return volatility, these have been directly obtained by running an AR(2) model for the variable silver and then following process of standardization as discussed above. Again using the same methodology we build up eq. (6) and eq.(6a) for our variable silver.

Spillover equation for Variable Gold

$$Y_{Gold,t} = \beta_1 + \beta_2 Y_{Gold,t-1} + \beta_3 Y_{Gold,t-2} + \beta_4 e_{(s),Silver,t-1} + e_{gold_t} \dots \text{eq. (5)}$$

$$\sigma_{e_{gold,t}}^2 = \alpha_1 + \alpha_2 e_{gold,t-1}^2 + \alpha_3 \sigma_{e_{gold,t-1}}^2 + \alpha_4 (e_{(s),silver,t-1}^2) \dots \text{eq. (5a)}$$

Spillover equation for Variable Silver

$$Y_{Silver,t} = \pi_1 + \pi_2 Y_{Silver,t-1} + \pi_3 Y_{Silver,t-2} + \pi_4 e_{(s),Gold,t-1} + e_{silver_t} \dots \text{eq. (6)}$$

$$\sigma_{e_{silver,t}}^2 = \delta_1 + \delta_2 e_{silver,t-1}^2 + \delta_3 \sigma_{e_{silver,t-1}}^2 + \delta_4 (e_{(s),gold,t-1}^2) \dots \text{eq. (6a)}$$

### 3.3. Model Diagnostics

The models developed would give us robust results only when the model pre-requisites are satisfied to a reasonable extend. These are covered under Model Diagnostics and here we state the methodology adopted for variable stationarity, serial correlation, stability of model and heteroscedasticity.

### 3.3.1. Stationarity

For stationary test we have applied Dickey Fuller Generalized Least Squares (DF GLS) technique which is known to have more power than simple ADF test. We have constructed eq. (7 and 8) to test stationarity of our variables, gold and silver.

$$\Delta \ddot{G}öld_t = \beta_1 \ddot{G}old_{t-i} + \sum_{j=1}^m \beta_j \Delta \ddot{G}öld_{t-j} + e_{1t} \dots (7)$$

$$\Delta \ddot{S}ilv\ddot{e}r_t = \alpha_1 \ddot{S}ilv\ddot{e}r_{t-i} + \sum_{i=1}^m \alpha_i \Delta \ddot{S}ilv\ddot{e}r_{t-i} + e_{2t} \dots (8)$$

In the above equations (7) and (8),  $\ddot{G}öld$  and  $\ddot{S}ilv\ddot{e}r_t$  are the two de-trended variables with  $\beta_1$  and  $\alpha_1$  being the two coefficients which test for the stationary of our variables.  $\Delta \ddot{G}öld_{t,j}$  and  $\Delta \ddot{S}ilv\ddot{e}r_{t-i}$  are the augmentation terms which take care of serial correlation in time series and these are added 'm' times till serial correlation is removed. Further as we are working on de-trended data, model excludes intercept and time variable.

### 3.3.2. Serial Correlation

For serial correlation we apply BG-LM test and we develop an autoregressive regression for our variable gold as eq. (9) given as under:-

$$u_{Gold_t} = \beta_1 + \beta_2 Gold_{t-1} + \beta_3 Gold_{t-2} + \dots + \beta_p Gold_{t-p} + \rho_1 u_{Gold_{t-1}} + \rho_2 u_{Gold_{t-2}} + \dots + \rho_m u_{Gold_{t-m}} + e_t \quad (9)$$

('p' is the no. of lags in the regression and 'm' being the lags of the error term, BG-LM test assumes 'p' > 'm')

Null:  $\rho_1 = \rho_2 = \dots = \rho_m = 0$  (no serial correlation between residuals). If  $R^2 (n-p)$  of eq. (9) >  $\chi^2_m$ , we reject the Null. Using similar methodology, we test our serial correlation for second variable silver.

### 3.3.3. Heteroscedasticity

For testing heteroscedasticity we apply Glejser (1969) method where the absolute residuals are regressed against the independent variable developed as three functional forms eq. (10a), (10b) and (10c). The equation with the highest  $R^2$  and lowest standard error is selected and if slope coefficient of independent variable is significant, there is heteroscedasticity. The Null Hypothesis shall be Homoscedasticity.

E.g. for variable gold;  $Gold_t = \beta_1 + \beta_2 Silver_t + e_{1t} \dots (x)$

$$|e_{1t}| = \beta_1 + \beta_2 Silver_t + e_{2t} \dots \dots \dots (x \text{ (a)})$$

$$|e_{1t}| = \beta_1 + \beta_2 \sqrt{Silver_t} + e_{2t} \dots \dots \dots (x \text{ (b)})$$

$$|e_{1t}| = \beta_1 + \beta_2 \frac{1}{Silver_t} + e_{2t} \dots \dots \dots (x \text{ (c)})$$

### 3.3.4. Stability

Since we have applied VAR based cointegration model we check for stability of the parameters by applying Inverse Roots of AR Polynomial. In case of VAR Stability test, stability would exist only when all the characteristic roots lie in region  $\pm 1$ .

### 3.3.5. Test for Linearity or the BDS test

BDS test statistic was developed by Brock, et al., (1987) to detect a complex random non-linear pattern of variables and forms the basis for deciding the co-integration technique in our study. Under this we begin by specifying 'm' embedded dimensions ('m' histories and no. of observations 'n' > 'm') followed by Correlation Integral  $C_{\epsilon, m}$  which measures spatial correlation between two points. We roll over the histories in the following manner:  $y_1^m = y_1, y_2, y_3 \dots y_m, y_2^m = y_3, y_4, y_5 \dots y_{m+2}$  and so on.

We define our Null Hypothesis under BDS as follows:-

$H_0$ : The data are independently and identically distributed (I.I.D.)

$H_1$ : The data is not I.I.D. thus implying that the time series is non-linear

#### 4. Results

Under this section we would be discussing the study results, the results of two co-integration tests, causality and volatility spillover results, followed by results of prerequisites necessary for model building. (Table 2-9)

As already stated before, co-integration between gold and silver was tested by applying two models, Johansen (1998) Model and Gregory Hansen (GH) (1996) or Threshold Cointegration Model, the results of the same have been discussed in Table 2 and 3 respectively. The first Model i.e. Johansen (1998) test procedure uses the Trace test and Max Eigen value test with Null Hypothesis being stated in Column I as Hypothesized Number of Co-integrating relations in Table 2. Looking at the 'p' values obtained, we find the Null Hypothesis of No Co-integration is accepted using both Trace and Max Eigen Value Statistics thereby inferring that the test failed to detect any co-integration amongst the two precious metals.

**Table 2: Johansen Co-integration results between GOLD and SILVER during the period (April 1, 2022-March 31, 2022)**

*Unrestricted Co-integration Rank Test (Trace & Max Eigen Value)*

Hypothesized	Trace	Prob.	Max Statistic	Eigen Prob.
No. of CE(s)	Statistic			
<b>None</b>	12.50791	0.1341	10.83655	0.1626
<b>At Most 1</b>	1.67136	0.1961	1.67136	0.1961

*Notes (1) The optimal lag has been identified as 5 using SC Criteria*

*(2) The Table result shows no cointegration between the two variables*

Source: Authors' own computation

The results of our second cointegration test, GH Co-integration test are shown under Table 3(a) pertaining to variable gold and 3(b) for variable silver. For each of these two tables we give results for three different versions; level shift, level shift with trend and regime shift. The results clearly show no cointegration amongst two variables for any of

the three versions for both the tables showing that the two precious metals do not have a long run relation even if the assumption of linearity is relaxed (as in case of GH model).

Table 3 Gregory Hansen Co-integration results between Gold and Silver during the period (April 1, 2022-March 31, 2022)							
Table 3(a) Gregory Hansen Co-integration: Dependent Variable : Gold							
Model	Computed	Computed	Computed	Break Date according to			Result
	ADF(*t')	$Z_a$	$Z_i$	ADF	$Z_a$	$Z_i$	
I: Level Shift	-4.519314	-49.3856	-3.922165	05-05-2012	05-02-2012	07-12-2012	No Cointegration
II: Level Shift with trend	-5.923038	-53.88832	-5.20849	14-07-2012	05-09-2012	18-04-2012	No Cointegration
III: Regime Shift	-6.183299	-74.63677	-7.663285	09-09-2012	07-05-2012	02-06-2012	No Cointegration

Table 3(b) Gregory Hansen Co-integration: Dependent Variable : Silver							
Model	Computed	Computed	Computed	Break Date according to			Result
	ADF Further, (*t')	$Z_a$	$Z_i$	ADF	$Z_a$	$Z_i$	
I: Level Shift	-5.303465	-38.043211	-5.245075	06-02-2020	08-12-2020	06-03-2020	No Cointegration
II: Level Shift with trend	-5.429385	-52.705058	-5.626485	07-03-2020	6/21/2020	06-02-2020	No Cointegration
III: Regime Shift	-6.941655	-68.839119	-6.395135	7/19/2020	7/19/2020	7/19/2020	No Cointegration

*Null Hypothesis : No Cointegration at breakpoint*  
*Result : Null Hypothesis of No Cointegration is accepted*

Further, GH test provides additional information about the breakpoint of the two precious metals and the results reveal that for Gold the breakpoint, broadly falls in the year 2012 while the same for silver the year is 2020.

Next, we discuss the results of our test of causality for which we have applied VAR Granger Causality Wald test (Table 4). An important consideration here is that although long run co-integration was not proved, short run causality amongst the precious metals still can exist and the study results also indicate short run causality moving from gold to silver (Null of No Causality is rejected in case of gold to silver). The reason identified for existence of short run causal behaviour but no long run relation amongst precious metals could be the tendency of investors to move away from stocks during adverse conditions in stock markets towards gold at first instance followed by silver thereby resulting in cause-effect relation between the two.

Further the causality results discussed also do match with the results of our next test which we carried out to check the spillover of return and volatility from one variable to another (Table 5). The spillover test applied is based upon standardized residuals transmission as given by Masson (1998) and Dungey and Martin, (2007) in their studies



(for methodology see eq.(5) and eq.(6)). The results showed that both standardized residuals and standardized squared residuals from variable Gold are significant in the equation of silver showing that spillover exists from gold to silver both at return as well as volatility levels.

**Table 4: VAR Granger Causality Wald test Results**

<b>Null Hypothesis</b>	<b>Chi- sq</b>	<b>Prob.</b>	<b>Degrees of freedom</b>	<b>Causality Direction</b>
<b>Gold does not cause Silver</b>	11.1077	0.0493	5	Null Rejected, (Gold) → (Silver)
<b>Silver does not cause Gold</b>	6.8321	0.2711	5	Null Accepted, (Silver) → (Gold)

Our final set of results pertain to that of Model pre-requisites which are given in Tables (6-9) and Fig (2). The first results are the BDS test results for linearity of variables of gold and silver respectively which are given under Table 6 (a) and 6(b) respectively.

These results reveal that at all different 'm' dimensions considered in the study, Null Hypothesis of linearity is rejected for both the variables Gold and Silver and this was one of the reasons behind inclusion of Gregory Hansen (1996) Cointegration Model which detects cointegration in the presence of a structural break. The next two tables (Tables 7 and 8) give the results for serial correlation and heteroscedasticity and both the tests accept the Null Hypothesis of no serial correlation and homoscedasticity which are model satisfactory.

We also carried out stationary test and test applied was DF-GLS test which is known to give a superior result than a simple ADF unit root test and here the results revealed that both variables stationary at I (1). Finally, we have results for stability of parameters (Fig 2) given as AR Characteristic roots polynomial. Here stability would exist only when all the characteristic roots lie in region  $\pm 1$  and we find that all the three dots on the plot are lying in region  $\pm 1$  showing that the model is stable.

	<b>(a)Gold to <u>Silver</u></b>			<b>(b) Silver to <u>Gold</u></b>		
<i>Mean Equation</i>	Beta Coeff.	'p' value	Return Spill-over	Beta Coeff.	'p' value	Return Spill-over
Std Residuals: Gold(-1)	0.00311	0.000	Yes	-	-	-
Std Residuals: Silver(-1)	-	-	-	0.00015	0.6133	No
<i>Variance Equation</i>	Beta Coeff.	'p' value	Volatility Spill-over	Beta Coeff.	'p' value	Volatility Spill-over
ARCH term	-0.01558	0.0496	NA	-0.156948	0.0001	NA
GARCH term	0.99362	0.000	NA	0.339367	0.0005	NA
Std Residuals SQR: Gold(-1)	-9.98E-05	0.0024	Yes	-	-	-
Std Residuals SQR: Silver (-1)	-	-	-	5.84E-03	0.2544	No

**Table 6(a): BDS for Gold**

Dimension	BDS Statistic	Prob.	Result
2	0.204817	0	Null Rejected, time series is non-linear
3	0.348536	0	Null Rejected, time series is non-linear
4	0.449188	0	Null Rejected, time series is non-linear
5	0.519598	0	Null Rejected, time series is non-linear
6	0.568745	0	Null Rejected, time series is non-linear

Notes : (1) Null Hypothesis: The data are I.I.D.

(2) Result : Null is Rejected

**Table 6(b): BDS for Silver**

Dimension	BDS Statistic	Prob.	Result
2	0.199829	0	Null Rejected, time series is non-linear
3	0.340506	0	Null Rejected, time series is non-linear
4	0.43897	0	Null Rejected, time series is non-linear
5	0.507626	0	Null Rejected, time series is non-linear
6	0.555288	0	Null Rejected, time series is non-linear

Notes: (1) Null Hypothesis: The data are I.I.D.

(2) Result : Null is Rejected

**Table 7: BGLM Test results for Serial Correlation**

Variable	Obs. R Square	Prob. Chi Sq.(2)	Null Hypothesis
Gold	14.553	0.321	Accept
Silver	21.765	0.127	Accept

*Notes: (1) Null Hypothesis: Serial Correlation  
(2) Result: Null is accepted*

**Table 8 :Glejser Heteroscedasticity Test**

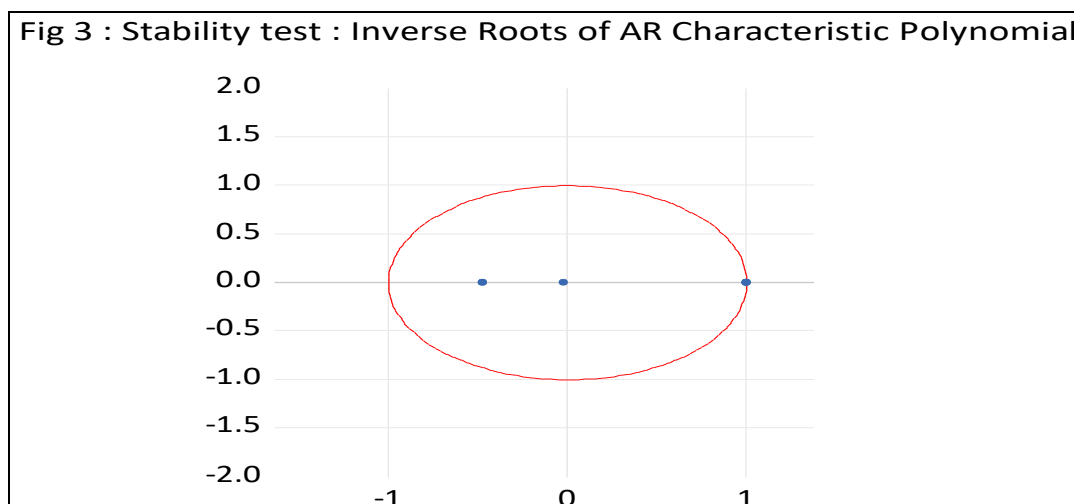
Variable	Obs. R Square	Prob. Chi Sq.(1)	Null Hypothesis
Gold	6.721	0.118	Accept
Silver	9.742	0.103	Accept

*Notes: (1) Null Hypothesis: Homoscedasticity  
(2) Result: Null is accepted*

**Table 9: Results of DF-GLS test for variable stationarity**

Null Hypothesis	Computed 't' statistics	DF-GLS test Critical Value at 5 %	Result
Gold Spot Prices has a Unit root	-1.181889	-2.89	Null Accepted
Gold 1 <sup>st</sup> Difference has a Unit root	-33.66941	-2.89	Null Rejected
Silver Spot Prices has a Unit root	-1.116159	-2.89	Null Accepted
Silver 1 <sup>st</sup> Difference has a Unit root	-6.396205	-2.89	Null Rejected

*Note: (1) Model includes trend and intercept', level of significance: 5%  
(2) Result: Both Variables are stationary at first difference only*



### 5. Conclusion and Policy Implications

To conclude, the study made an attempt to examine whether the two precious metals viz. Gold and Silver are considered as single or two separate asset classes while considering key decisions pertaining to asset allocation and portfolio diversification. To achieve this objective, the paper first analysed the risk-return profile of the two assets and later developed a co-integration and volatility spillover model to understand the characteristics and dynamic movement of the two precious metals. Ten year daily closing prices for the period; April 1, 2012-March 31, 2022 was collected for the two metals from the MCX Exchange of India. The results of the study however failed to detect any long run cointegration for which two different tests were employed viz. Threshold and Johansen Co-integration Models. The need for two cointegration tests was necessitated after the BDS tests showed non linearity in the movement of both the variables under study. There can be two possible reasons for no long run cointegration amongst the precious metals, first in the long run as most financial markets tend to recover from recession or a crisis , investors who had shifted to safe havens like gold tend to revert back to traditional financial assets like stocks and bonds. Although same may also be true with silver, however as things are placed today, the asset still does not qualify as an appropriate safe haven asset in the eyes of investors and therefore question of reverting back from silver to other assets may not be in same proportion to gold which can impact the co-movement of two assets. The second reason why these two assets were not found to be co-integrated in the long run could be due to sharp differences in industry usage of two assets. Apart from being a hedge and safe haven, gold has a strong industry demand for ornamental purposes

and as already seen before, 50 % of total global demand for this yellow metal comes only from ornamental industry. This is bound to impact the price of this asset and its correlation and co-movement with other financial assets.

In terms of other results, short run unidirectional causality was seen to move from gold to silver and also unidirectional return and volatility spillover was again seen moving from gold to silver from the results. The statistical description of data revealed vast differences in risk and return profile of the two assets. The model pre-requisites of Stationarity, Serial Correlation, Stability and Heteroscedasticity were tested and were found to be satisfactory. The study concludes that the two assets may be considered as two separate categories as no long run relation between the two variables was visible from results giving the portfolio managers a choice with respect diversification provided the viewpoint is of the manager is long run with respect to these assets.

The above results clearly give a signal that investors and portfolio managers could safely consider gold and silver as two separate asset classes and hold silver as well as gold in his/her portfolio as a part of asset allocation and diversification strategy where the viewpoint of such an investor is long run. Now considering the present dynamic economic and market conditions where almost all the assets have a tendency to move in tandem especially during a crisis situation thereby giving investors very little choice with respect to diversification, any new development in the financial markets like the one above which has any potential with respect to portfolio diversification is always a welcome sign.

Further, the unidirectional cause-effect relation from gold to silver would imply that lagged information on gold price movement could make a prediction about the price movement of silver giving an opportunity to the fund manager in the short run to develop a strategy to encash such a situation. e.g. if gold has seen an upside, the manager can expect the same for silver in near future and can easily sell gold and buy silver to benefit from the situation. Further the manager can work out similar mechanics with respect to volatility of two precious metals as spillover from gold to silver was also seen in the study results. Since both causality and volatility spillover is noticed to move from gold to silver, this also implies that the markets for gold and silver are 'informationally' inefficient in the short run and hence results are in line with some of the other research studies (Ntim, et al., 2015; Solt, et al., 1981).

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## **Is Leisure a Dream? : An Analysis on Challenges faced by the transgender community in Sri Lanka during the leisure time**

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### **ABSTRACT**

Transgender individuals have reported the utmost difficulty which they have undergone in securing and maintaining leisure because of their gender identity. Against this background, transgender; vulnerable communities in Sri Lanka do not share the same economic opportunities in the leisure spaces as cisgender individuals as a result of the trans-phobia. This paper examines the barriers faced by transgender people in Sri Lanka during the three stages of the employment cycle namely the pre-working stage, during the work, and post-working stage. This qualitative study used a snowball sampling technique to select a working-age transgender sample of 25 participants. The in-Depth Interview method was used as the dominant data collection method along with observations, field notes, web/digital content, and photo/video elicitation. The reflexive thematic analysis (RTA) approach is used for the data analysis and it was facilitated by the NVivo analytical tool. The researcher, who

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identified liberty and equality as the two main dimensions of leisure for transgender individuals, presented the nature of their leisure as a "restricted leisure", emphasizing financial difficulties, limited social network, gender discriminations and harassments, social phobia as the key barriers to their leisure. At last, the study emphasized the importance of having transgender-friendly, more equitable leisure space policy in Sri Lanka.

**Keywords: Leisure challenges, Sri Lanka, Thematic Analysis, Transgender People**

## **1. Introduction**

### **1.1. Background**

Leisure is commonly accepted as a significant part of life satisfaction (Unger & Kernan, 1983). Leisure of transgender individuals is a less researched area although there's a recent growth in focus on that area. However, absence of welcoming background for transgender individuals was recognized as one of the dominant issues (Oakleaf 2018) related to leisure stay of transgender individuals. Discriminatory attitude present in various leisure spaces is identified as a fact which suppressed this welcoming background (Barbosa and Liechty 2018). Although western countries have showed some sort of acceptance for transgender individuals by establishing LGBTQ-specific bars, community centers, hotels, and cruises provide recreational spaces for LGBTQ individuals and their families (Oakleaf 2018), such platforms are not available in Sri Lanka because of absence of transgender friendly environment within the country. However, in western nations, most of indoor leisure & fitness centers have separate individual changing rooms and communal changing areas, thus gender identification is not imposed on the others. This was helpful for transgender individuals to protect their privacy during their leisure. Only few older leisure venues have unisex pool-changing stalls (Manchester City Council 2010). However, Sri Lankan situation is totally different from those countries because there are no leisure spaces which specifically

address the transgender requirements. Moreover, Mechanisms such as transphobia, cisnormativity, and lack of access to gender-affirming care may be barriers to transgender youth leisure participation (Gotfredsen and Linander 2023).

### **1.2. Research Problem**

Transgender leisure is a major problematic area that can be observed among the transgender community in Sri Lanka. According to the previous literature, they chose their leisure modes to fit their mental body rather than their biological body. The literature confirmed that trans men born as females are more interested in engaging in masculine-type leisure activities such as sports, athletics, and martial arts. Meanwhile, feminine-style leisure activities such as music, art, and drama were recognized as modes of leisure for trans women who were born female (Ginige , Malalagama and Wijesinghe 2018). This mismatch between the biological body (sex) and leisure choices made transgender individuals uncomfortable in their leisure time. This is mainly due to the prevalent trans-phobia in Sri Lankan society. Understanding the true nature of leisure for transgender individuals in Sri Lanka and focusing on challenges to leisure has emerged as an urgent need in Sri Lanka in ensuring gender equality. This problem is addressed in this study.

### **1.3. Research Questions**

Based on the problem statement above, the researcher expected to answer two (2) research questions to achieve the ultimate aim of this study

RQ1: What is the meaning of leisure for non-binary transgender individuals in Sri Lanka?

RQ2: What are the challenges faced by the transgender community in Sri Lanka during the leisure time?

#### 1.4. Objectives

In order to answer the stated research problem and research questions, following objectives of the study were set.

O1: To recognize the meaning of leisure for non-binary transgender individuals in Sri Lanka?

O2: To identify the challenges faced by the transgender community in Sri Lanka during the leisure time

## 2. Literature Review

### 2.1. Leisure of Transgender Individuals

Complexity of meaning of leisure for transgender individuals compared to cisgender individuals can be cited as the key root cause for emergence of the need to analyze on challenges faced by the transgender community in Sri Lanka during the leisure time.

### 2.2. General Meaning of leisure

Leisure is commonly accepted as a significant part of life satisfaction (Unger and Kernan 1983). Voss showed the importance of analyzing the definition for leisure because of three key reasons namely; changes in the working nature, increasing income, leisure being a topic of multiple disciplines (Voss 1967). According to the perception of Kenneth Boulding, time is recognized as the “Ultimate Resource”. Therefore, all activities including the leisure are assumed to be a fraction of the limited time (Boulding 1966). Fraction of the day not spent on working is cited as leisure in ancient literature. Many economists have implicitly or explicitly identified leisure as time per day minus work (Voss, 1967).

$$L = T - W \dots\dots\dots \text{Equation 1}$$

(L = Leisure, T = Time per day, W = Work)

According to these traditional definitions of economists, “non-work time” or “free time” is

cited as the leisure. However, conceptualizing the concept of leisure as non-work time or free time is not correct in all cases. As well as that, Kelly (1982) had rejected the way of defining the leisure as an “activity”. Since defining leisure as free time or activity is not appropriate to identify gender differences in meaning of leisure, leisure was conceptualized as an experience in later part of twentieth century (Fontenelle and Zinkhan 1993).

However, requirement of non-inclusion of necessities or essential activities in leisure was recognized in ancient literatures too. Since individuals have to spend some time on commuting to and from his/her job, it should also count under “work”, not under leisure. Further, unpaid domestic works like cooking, cleaning etc. and time spending on necessities such as eating and sleeping are also not considered as leisure because those survival ensuring activities are acting as pre-requisites for the leisure. Therefore, time which is not spent on paid work (including commuting time), unpaid works & survival was considered as the “Leisure” (Enke 1968). Recent scholars also had a similar ideology about the leisure. Discretionary time remaining after working, commuting, sleeping and doing necessary household and personal chores which can be used in a chosen way is defined as the leisure recently (Tribe 2020). These findings also prove that the leisure is an opportunity cost in all forms of work from according to the general perspective. Although the literature in relation to cisgender individuals proved consistent with this general meaning, it showed complexity with the leisure of transgender individuals.

Although, leisure is defined as above in general angle, meaning of leisure different from one gender category to another gender category because of differences in their gender roles, behaviors and attitudes. The empirical evidences on the labor -leisure choice have been hampered by the lack of theoretical explanation on gender segregation in the labor-leisure choice model based on this gender difference in meaning of leisure. This gender based difference in meaning of leisure is addressed in the next section.

### **2.3. Meaning of Leisure for Cisgender Individuals**

Meaning and nature of the leisure of cisgender males and cisgender females are clearly

described throughout the literature since the past.

### *Leisure for Cisgender Male*

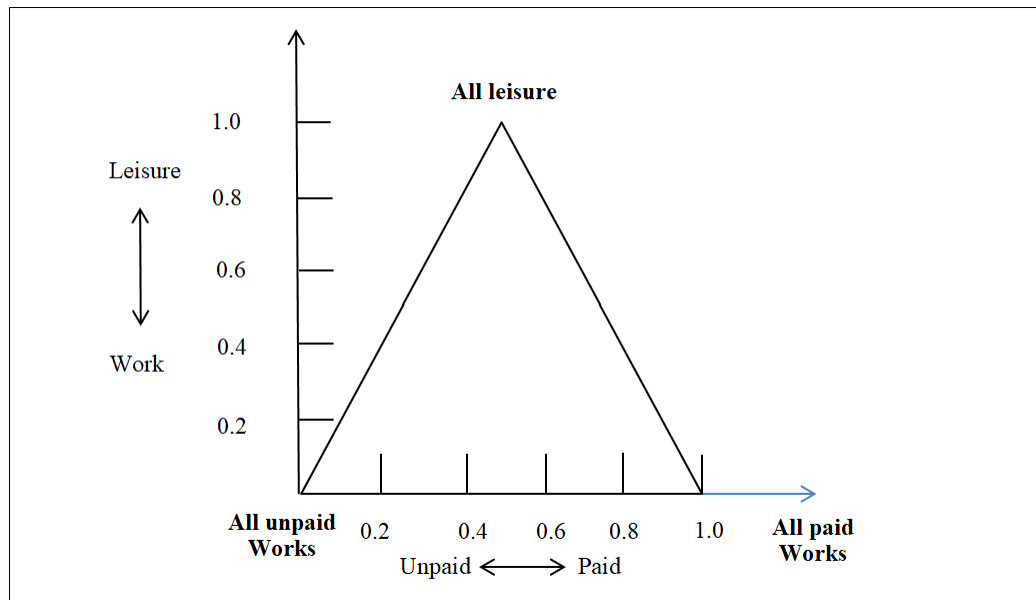
Being a male reduces the responsibility on household activities & child care, so that, it increases the independence of males to enjoy leisure. Males have greater freedom to choose leisure venues, leisure companions and leisure activities than females. Therefore, male's leisure is strongly attached with "freedom" component (Fontenelle and Zinkhan 1993). This idea was supported by previous literatures too. As per the findings of Seppo E. Iso-Ahola, the interactive effects of freedom and work-relationship were real for men (Iso-Ahola 1979). Further, some scholars had showed that males have significantly more leisure time than females on weekends even though there are no considerable gender-based differences in weekends (Shaw 1985). These ancient explanations regarding the leisure for male are quite similar to coverage in modern literatures too. A research conducted on adolescents' participation on leisure activities also found that, men's participation in social leisure is relatively higher than that of female mainly because of greater level of socialization observed among males (Passmore and French 2001). This concludes that there is a high tendency for this behavior to continue from adolescence to adult age. Recreation and traveling & tourism are also recognized as another ways of spending leisure time by the individuals (Tribe 2020). Modern literature too argued that males have comparatively longer leisure especially to spend on outdoors, indoor activities, internet use and other leisure activities (Cha 2018). Further, males have fewer constraints on traveling and tourism too (Khan 2011). Further, males have tended use their leisure time for very few unpaid domestic volunteering activities like gardening (Miranda 2011).

As a whole, we can conclude that men can enjoy their leisure time independently of the needs of others, and that men have a relatively long stay for leisure because they are not overburdened with unpaid housework and social responsibilities. Therefore, it seems nature of cisgender men's work-leisure choice was smartly discussed in previous literature. Although, this aspect of women is different than cisgender men, it was also deeply addressed in the literature.

**Leisure for Cisgender Female**

Since women's non-work time consists of two components, reproductive / social reproductive activities, time available for leisure is substantially limited for women. Therefore, trade-off between labor and leisure is more complex for women than for men (labor - leisure model) (S. Madurawala 2009). Majority of men’s work include paid works & majority of woman’s work include unpaid works because traditional role of women has assigned big workload of unpaid works on them. Therefore, in most of the cases, women’s plots are always found at left-hand side of the triangle shown in Figure 2.1 & men’s plots in right-hand side (Gershuny 2003). As per the recent research findings of OECD, time spend on unpaid works is greater for women than men (OECD 2018). This is because; traditional role of women has naturally pushed them to do more unpaid works. This trend has limited the leisure time of working women and discouraged women from entering the workforce.

**Figure 2.1: The virtuous triangle -three sorts of time use**



Source: (Gershuny, 2003)

In most instances, females do not identify a time to be labeled as “leisure” because they are overloaded with household activities, activities related to child care, social responsibilities etc. (Wearing and Wearing 1988). This implies that, there’s no clear-cut boundary between

leisure and unpaid works although unpaid works and leisure were identified as two different sorts of time use in general meaning. Men use their leisure basically for personal leisure activities. Research on women and leisure in past decade has highlighted leisure for women and its meaning from cultural, theoretical and systematic perspectives (Henderson and Hickerson 2007).

Henderson (1990) attempted to explain the meaning of “leisure” for women using a different mode with an emphasis on empowering females genetically to spend leisure. As per her findings, women lived in the period of 1980-1989, shared a common world in their inequality regarding opportunities for leisure. They used leisure to find social relationships and also tended spend time at home with unstructured activities. Her integrative reviews at the beginning of 21<sup>st</sup> century found that physical activities and health is also linked to the women’s leisure (Henderson and Hickerson 2007). New studies about women’s leisure have given more focus on family matters. Accordingly, parenting role of women including child care and responsibilities in broader family unit became not only the components of women’s unpaid works , but also the significant components of leisure (Henderson and Gibson, *An Integrative Review of Women, Gender, and Leisure: Increasing Complexities* 2013). This shows that, it’s difficult to separate women’s leisure from their family responsibilities in traditional societies. However, the results earlier found by later stage Sri Lankan scholars are indeed supportive to Henderson & Gibsons’ conclusion (S. Madurawala 2017).

Further Europe Union (2016) also showed that the borderline between care and leisure is harder to separate for females caring children and the elderly at home than for males. Care includes assistance and supervision provided to meet the day-to-day needs of both children and adults. In addition to that care can be provided to both family and external parties too. It also processes an extra dimension, which includes emotional cost of the caregiver's care and relationship (Sharma, Chakrabarti and Grover 2016). This exhibits that, “care” is a part of women’s leisure. All these findings imply the hardness of separating unpaid works and leisure in case of females. Since giving up leisure for work by females can create bigger opportunity cost for female labor, it would argue that high wages are needed to encourage

employment of females.

Accordingly, females especially mothers' role is centralized on unpaid household work which represent a greater percentage of total workload which is must to do. Under this kind of situation, if females enter to the labor force their opportunity cost in terms of leisure will be higher than that of males because females have to give-up substantial time of leisure for unpaid works because unpaid works assigned to females are "must" for them.

In this way, past research works have clarified the meaning of leisure of cisgender women. Furthermore, as described above, the literature clearly identified the nature of cisgender women's work-leisure choices, suggesting that they demand higher wages for even small scarification of leisure.

Although the nature of labor-leisure choice is explained for both cisgender males and females, that aspect of transgender individuals is the part lacking in the literature.

#### **2.4. Meaning of Leisure for Transgender Individuals**

There is considerable literature that focuses on the analysis of the "Leisure" of the gender, especially women (Henderson and Gibson 2013). Those analyzes largely rely on the binary concept of gender and ignored the one's gender identity. Simply those literatures had focused not on the social construct "gender identity", but on the biological construct "sex". Although some scholars highlight the fact that leisure can be used to confirm one's gender identity, meaning of leisure for each gender identity was not explained concretely (Oakleaf and Richmond, *Dreaming About Access: The Experiences of Transgender Individuals in Public Recreation* 2017). Similar idea was forwarded earlier by Lewis and Johnson (2011) too. Accordingly, there is no more literature about transgender individuals, especially within the leisure setting. Therefore, meaning of trans-gender's leisure is still questionable because of the absence of clear-cut definition for the meaning of transgender individuals.

Although, recent scholars pointed the failure of leisure researchers in consideration of diversity in gender identity, previous literatures exhibit that, leisure experience of



transgender individuals is limited by the constraints available for their leisure. Society has adapted to the general assumption that gender is binary in nature and we are all male or female (Oakleaf and Richmond, *Dreaming About Access: The Experiences of Transgender Individuals in Public Recreation* 2017). This general assumption has already made the meaning of leisure of transgender individuals more complicated. Although, meaning of transgender's leisure was not concretely addressed, oppressions faced by transgender individuals during their leisure experience because of the abnormality of their gender identity in traditional minded society were elaborated in the literature. For example, transgender individuals are identified as a group who are more likely to be negatively treated when they spend leisure time in sports or any other physical activity. Even leisure service providers are also limiting sports only to one gender in western binary (Elling-Machartzki 2017). Compared to cisgender groups, transgender groups are less likely to engage in physical activities at their leisure time (VanKim, et al. 2014). Ancient scholars identified this negative social evaluation as a force that push transgender groups away from the leisure experiences (Fontenelle and Zinkhan 1993).

Accordingly, "Leisure" is a concept which is complex for transgender individuals with compared to cisgender individuals. This gender-based complexity in the meaning of leisure is not broadly addressed in the previous literature. This research gap will be filled by this study through an exploration of changes faced by transgender community during their leisure.

### **3. Methodology**

#### **3.1 Research Paradigm**

Research have to be functioned based on a research paradigm or research philosophy, and it is defined as "The basic belief system or worldview that influences the investigator on how to conduct a research" (Guba and Lincoln , *Competing paradigms in qualitative research* 1994). Creswell identified the four worldviews that inform qualitative research and how these worldviews shape research practice (J. W. Creswell 2007). Those four major research paradigms or worldviews are; post-positivism, constructivism, advocacy/participatory,

and pragmatism. Out of these paradigms, the researcher has adopted “advocacy/participatory” research paradigm as the base. Advocacy/Participatory can be identified as an alternative word view for above mentioned post-positivism and constructivism. On one hand postpositivism impose theories and structural laws which are not fitted with marginalized, vulnerable groups and on the other hand, constructivism couldn’t go far to advocate actions to assist such groups. According to Creswell (2007), this research paradigm is appropriate to study marginalized groups who are facing issues such as suppression, domination, alienation, oppression and hegemony. Since this study focused on transgender community, one of most marginalized group in Sri Lanka in terms of choices of leisure, the current study adopted the “advocacy/participatory” research paradigm. Moreover, the researchers provide a voice for transgender participants to get-rid from leisure-time issues. Further, selection of “advocacy/participatory” research paradigm for the current study is rationalized by the presence of dominant features of participatory practices in the study. According to Kemmis and Wilkinson (1998), participatory action should be recursive or focused on bringing change in practices. The current study also aims to create a political dialogue and discussion on challenges in leisure related to transgender groups to empower the transgender community in Sri Lanka and create change (Atweh and Kemmis 1998).

Participatory action research (PAR) adheres to the ontology that humans are dynamic agents capable of reflexivity and self-change (Kindon, Pain and Kesby 2007). Knowledge is embedded in social relations and symbolizes an epistemology of this research paradigm that believes it is most powerful when it is collaboratively produced in action (Hawkins 2008). The qualitative research methodology in which researchers and participants collaborate to understand social problems and act to create social change is identified as the methodology of participatory research paradigm (Bergold and Thomas 2012).

### **3.2 Research Approach**

Although this study is not a purely ethnographic research; it adopted features of the ethnography as the research approach of this qualitative study. Ethnography is a qualitative design that describes and interprets the shared and learned patterns of values, behaviors,

beliefs, and language of a culture-sharing group (Sanday 1979). The culture-sharing group focused in the present study is transgender individuals in early adulthood, whose values, behaviors, and beliefs differ from those of cisgender adults. As a process, ethnography involves extended group observation, often through participant observation, in which the researcher is immersed in the everyday lives of individuals. Data collection of these researches can be conducted through observing and interviewing the group participants which has employed in current study too (Creswell 2016). Out of multiple forms of the ethnography, critical ethnography is the form adopted by this study because of its relevancy to the study. Critical ethnography is an ethnographic research form in which researchers advocate for the emancipation of marginalized groups in the society (J. Thomas 1993). This research approach consistent with the advocacy or participatory research paradigm as the paradigm too set the base to address the issues of marginalized groups.

In the literature review, the research approach appeared to be a design previously used in transgender studies (Johnson 2017). It asserts the appropriateness of using the critical ethnographic approach for the present study. Although there is a dearth of literature on the transgender community in Sri Lanka due to being a non-mainstream group, the existing literature has proven the Sri Lankan transgender community to be a much marginalized group (Institute for Participatory Interaction in Development (IPID), Sri Lanka 2016). As the current study focuses on the leisure time challenges of marginalized group, the transgender community in Sri Lanka, features of the critical ethnographic research approach was identified as the most appropriate approach for this study (Creswell 2016). After identifying and locating the transgender individuals in early adulthood (age 20-40 years) as the culture-sharing group for study, researcher spends time observing and interviewing this group. As it was essential to find a “gatekeeper” or “key informant” who would facilitate the access to this somewhat hidden group, the researcher contacted the “Prana Transgender Collective” (Appendix 2) and the National Transgender Network (NTN) to reach out to the transgender community in Sri Lanka. As all other ethnographers, researcher of the current study too began the study by examining participants interacting in typical settings and trying to identify pervasive patterns such as life cycles, events, life experiences, feelings etc. (Aktinson and Hammersley 1998). In order to incorporate that ethnographic research characteristics, in

addition to conducting interviews with participants, the researchers became part of the transgender community's work of the participants by participating for their events at workplaces such as NGOs, Beauty Salons, gender-equity awareness institutions and leisure events of transgender individuals such as drama festivals, cricket tournaments, get-together parties, birthday parties, CSR projects like beach cleanups etc. (*Appendix 3 to 8*). Ethical Approval for this research was requested and taken from Ethic Review Committee for Research Humanities and Social Sciences at University of Sri Jayewardenepura, Sri Lanka (*Appendix 9*).

### **3.3 Research Design & Data Analysis**

This is a qualitative study which use snowball sampling technique to select a working-age transgender sample of 25 participants. In-Depth Interview method was used as the dominant data collection method along with observations, field notes, web/digital contents and photo/video elicitation. Average total time duration consumed per interview is 90 minutes. The interviews are consisted with three phases. First 10-15 minutes were used to create close and harmonious relationship with the participants to understand each other. Approximately 1 hour was consumed to drive targeted discussion and last 10-15 minutes were spent on post-interview conversation. However, the data collection took about three (6) months from January to July in 2022. The entire interviews were recorded (audio-recording) with the permission of participants. In this paper, data gathered were qualitative in nature and were therefore subject to thematic analysis. Thematic Analysis can cover the board aspects of the full data set, and then pick a particularly interesting part of those results to investigate in more depth with narratives of participants. This research will use widely cited theoretically flexible approach to thematic analysis (TA) method called reflexive thematic analysis approach which was introduced by Virginia Braun and Victoria Clarke (Braun and Clarke 2020). There are six phases in the reflexive thematic analysis. According to Braun and Clarke (2006), theoretical thematic analysis and inductive thematic analysis are the two ways available to identify potential themes.

This study has adopted the inductive thematic analysis to identify theme because it's the way which is driven by data instead of theories (Elo and Kyngäs 2008). Semantic or explicit level and latent or interpretative level are the two optional levels of identifying themes. With the semantic approach, analyst is not seeing anything beyond what participants said. But latent approach guide analyst to go beyond the semantic content (Braun and Clarke 2020). This involves in interpretative work when developing themes. Therefore, this study uses latent level as the level of identifying themes. Data analysis and it was facilitated by the NVivo analytical tool. The phases of reflexive thematic analysis introduced by Braun & Clarke (2006) were modified in 2020 and this study employed modified technique. Table 1 illustrates those phases and description of the process.

**Table 1: Phases of Thematic Analysis (TA) and description of the process**

<b>Phase</b>	<b>Description of the process</b>
1. Data familiarization and writing familiarization notes	In this phase, researchers have to familiarize own self the data through data immersion and active reading. And, then initial list of ideas should be generated about what is in the dataset and what parts are interesting about them. Further, transcription of verbal data (verbatim transcription) is necessary to be prepared if researcher's data collection method is an interview or similar verbal mode.
2. Systematic Data Coding	Code is a brief phrase. This phase involves in the coding process which is used to recognize parts from the data set that are interesting to analyst and related to answer research question.  This step should ensure that all relevant actual data extracts are coded and then merged together within each code. Initial coding needed to be

	done with use of data sets and data items. Further, research should decide coding strategy too.
3. Generating initial Themes from coded collated data	Classification of the various codes into potential themes and merging of all relevant coded data within the identified themes are done under this phase. Sorting of codes for themes and development of themes are happened under this stage. At this phase, visualization of themes is required be done.
4. Developing & Reviewing themes	In this phase, researchers have to review themes in two levels. Under level one, all the collated extracts for each theme are needed to be read by the researcher in order to identify whether coherent pattern is appearing in coded data extracts. Through it, researcher can build thematic map. If coherent pattern is there, then researcher could move to the level two in which validity of individual themes in relation to the data set is reviewed.
5. Refining, Defining and naming themes	Phase of 'defining and refining', involves in recognizing the 'essence' of each theme and determining the aspect of the data captured by each theme. An informative name for each theme is also determined under this phase.
6. Writing the report	All the themes identified in early phases are presented in written form together with the data extracts and analytic narrative under this step.

	Contextualizing of the qualitative analysis in relation to prevailing literatures is also done under this final step. Visualization and audit trail parts are also done under this stage.
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Source: (Braun and Clarke 2020)

#### 4. Results and Findings

This section explains the main findings of this qualitative study which addresses the following research questions:

RQ1: What is the meaning of leisure for non-binary transgender individuals in Sri Lanka?

RQ2: What are the challenges faced by the transgender community in Sri Lanka during the leisure time?

The results of the thematic analysis related to the “Meaning of Leisure and Nature of the Leisure of Transgender Individual” are presented in detail under this section. Extract from the interviews conducted with participants, observations and field notes made by the researcher provide supporting evidence of the themes emerging from the data. According to the participants, meaning of leisure for transgender individuals is different from that of gender binary category. Further, as per the study results, it seems that leisure of the transgender individuals are narrowed compared to that of cisgender community because of barriers to leisure of transgender community in Sri Lanka. Accordingly, to answer the first research question (RQ1), researcher has derived one major theme named “Trans-gender’s Leisure Meaning: The Freedom to be "Own-self". At the end of each theme, this section discusses the findings of the current research with existing knowledge. Major Theme and sub themes are presented as follows.<sup>4</sup>

<sup>4</sup>When presenting extractions under each theme, fake names are given to participants by the author to protect their personal identity.

#### 4.1 Transgender's Leisure Meaning: The Freedom to be "Own-self"

Transgender participants in the study understood leisure as the freedom to be "Own-self". On the other hand, their leisure is recognized as the opportunity to live freely while being "who they are" in front of the society. Their idea of "freedom" included a couple of major dimensions as per the participants. Those dimensions are presented as subthemes; (1) Liberty and (2) Equality. This finding was followed by progressive thinker and activist Billy Bragg who pointed out that freedom requires three dimensions namely "Liberty", "Equality", and "Accountability" in order to create a space where everyone can exercise leisure (Bragg 2019). In this study, first two elements of those are recognized as the two key dimensions of the freedom.

#### 4.2 Liberty for leisure

According to G.D.H. Cole, "Liberty" is the individual's freedom to express his or her identity or personality without external interference (Cole 1920). That means there is no physical and mental freedom from any act of artificially concealing someone's identity, so transgender participants in this study recognize the "freedom to work on their true gender identity" as their leisure. For example, Rohani (a 40-year-old trans woman), who cut her long hair to achieve a masculine look at her family's request, shared how she loses the freedom to express herself as a trans woman within family boundaries. The change in appearance was clearly observed by the researcher during the interview, as the researcher met her as an all-lady at a theater festival in the transgender community.<sup>5</sup>

*I lost everything. I lost my appearance and now I am having this appearance (masculine look). As you saw earlier last meet-up, I had a long hair but now everything has changed because of my parent's request. Now I am once again at the same state when I was 19 and 20 years old but the mentality hasn't changed as I'm internally a Trans lady. I'm shy to go*

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<sup>5</sup> Research has visited this theater festival as a prior interview task to build initial personal connection with the participants



*out and be with individuals because they ask that you change your appearance from time to time. So, tell me, how can expect leisure for me with no way to live as I wish.*

One of the other participants, Deshan (a 31-year-old trans man) who currently works at a LGBT led international organization in Geneva, Switzerland, perceives even his current job as a leisure because of the personalliberty available to come out as a transgender man. He said:

*I think working here is completely leisure for me. That's the situation... Working in an international organization is a different story. I feel even job as leisure because of couple of reasons. Major one is, thanks to LGBTQ friendly working environment, we can live as who we are. But story in Sri Lanka is different. For an example, job that I did at \*\*\* finance<sup>6</sup> was a hectic job. I was responsible to look after the recruitment side. To be honest, it was a headache for me at that time because everybody including co-workers and new job candidates started judging me because of my feminine mixed masculine appearance. I didn't see any leisure within the job in my country (Deshan, Female to Male Transgender Person).*

Accordingly, liberty to be expressive with transgender identity can be recognized as the first dimension of "Freedom to be Own-self" which they consider leisure.

### **4.3 Equality for leisure**

Equality means ensuring that every person has an equal opportunity to make the most of their lives (Equality and Human Rights Commission, UK 2018). According to the results, transgender individuals are more likely to be discriminated during leisure time. Under this kind of circumstance, they argued that they should too have the same space to enjoy leisure

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<sup>6</sup> This is a name of a leading finance company in Sri Lanka

time as cisgender individuals. Therefore equality is identified as a dimension transgender freedom. For example, Savindya (a 24-year-old trans lady) has also manifested leisure as freedom to live without getting discriminated and marginalized in the society. She explained the reason for this:

*To be honest, in my side, leisure means having a freedom to work and go back home without being discriminated. I can't walk to my home, I have to take a private cab to go there because my mother doesn't like when others discriminate me due to my gender identity. Simply, leisure is having equal treatments for all (Savindya, Male to Female Transgender Person).*

Similarly Padmawathi (a 33-year-old trans lady) who were there at India for about 7 years expressed leisure as living with friends who accept her gender nature. Further she reveals that it's difficult to find leisure within the Sri Lankan context in many instances because society is not yet ready to accept non-binary community as "they are". Indirectly, she implied that leisure is a situation in which transgender individuals experience the same social acceptance as cisgender individuals. Padamawathi said:

*I was in India during that period and there, individuals are very sweet noh. Bunch of friends those who were in my Department of Dancing didn't care whether I was a man or a woman. .... (Thinking) my transition was very casual. Still in dancing boy's WhatsApp group<sup>7</sup>, there are no any stigma discriminations. They joke by saying "you are the only girl in our group" (Both laugh). There was no any discrimination for me, they took it as positive and I showed them it as something positive. I feel like the time I spend openly as a trans person with that group of individuals is the leisure for me (Padmawathi, Male to Female Transgender Person).*

In summary, Equality could be recognized as the second dimension of the trans-gender's freedom to be "Own-self" what they understood as the leisure.

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<sup>7</sup> A WhatsApp group works like a chat room. Group participants can chat with each other and all messages sent to the group can be seen by everyone else in the group.

Analyzing the responses of the majority of the participants in the entire study, it is evident that they consider their leisure as the time in which they could spend with liberty and equality.

This finding is supported by the gender freedom model constructed by McDaniel and Meng (2021). It spotlighted that, the main focus of transgender individuals is on minimizing risk throughout their lives because of the high risk they face due to the non-acceptance of their gender in many segments of the society. This particular article presents a therapeutic framework that rests on the three pillars of play (having a playful mind), pleasure (justice and pleasure equity) and possibility (imagining positive futures) as focal points of the freedom of transgender individuals. McDaniel and Meng further emphasized that coming out as transgender is essential to enhancing the three pillars of freedom, play, pleasure, and ability (McDaniel and Meng 2021). Collectively, "the freedom to spend time with one's own gender-identity" can be understood as the meaning of leisure for the transgender community.

In order to answer the second research question (RQ2), researcher has derived one major theme named Restricted Leisure. At the end of each theme, this chapter discusses the findings of the current research with existing knowledge. Major Theme and sub themes are presented as follows.<sup>8</sup>

#### **4.4 Restricted Leisure: Challenges to leisure of transgender community in Sri Lanka**

This theme identified the nature of the transgender leisure as a restricted one which is obstructed by multiple barriers. Findings of this section of the qualitative study are presented under four sub themes which are explored as the leisure stay challenges faced by non-binary transgender individuals in Sri Lanka.

##### **4.4.1 Financial Difficulties**

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<sup>8</sup>When presenting extractions under each theme, fake names are given to participants by the author to protect their personal identity.

Money is identified as a crucial factor that determines the productive spending of leisure. Lacking of money in hand discourages the spending on at recreation spaces. Most of the participants expressed traveling, watching movies, hanging out with friends as their preferred modes of leisure. However, without money, no one would be able to spend time in those leisure activities with greater utility. This aspect was focused in this research in the perspective of transgender individuals. According to the findings, getting rich is appeared as a difficult goal for Sri Lanka's transgender community, so that, financial difficulties act as a key barrier for leisure stays of them. For example, Janaki (a 35-year-old trans lady) said:

*It is very difficult to earn as a Trans and become rich. If a Trans has become rich, he is a hairdresser or designer or a beautician. What I think is, to have leisure; there should be a handsome wage (Janaki, Male to Female Transgender Person)*

The study further emphasized how transgender individuals choose hidden economic activities like sex works to mitigate the financial difficulties due to less availability of economic opportunities to earn. However, such works themselves obstruct the productive stay of leisure because it limits the time availability for leisure stay. Kaushi (a 29-year-old trans lady) expressed the experiences of her transgender female friends. She commented:

*We, as transgender individuals, are also enjoying leisure as others. But most of my transgender friends are having restriction on it because of financial difficulties. So, some engage in sex works because they can easily earn a lot of money to enjoy the leisure time. But they do not get a chance to spend money for leisure because they spent morning time for sleeping and night for that job. That's the common background (Kaushi, Male to Female Transgender Person).*

In participatory observations too, financial difficulty was recognized by the research as a barrier for leisure when visiting Rohani's (40-year trans lady) house. The house was a small house with only bare brick walls, at least with no minimal plastering. The interview with Rohani was also conducted sitting on her sleeping bed in the small space of her room.

According to the researcher's interpretation, Rohani is failure story because these observations revealed that even at the age of forty she had failed to earn enough to make her material life successful. At the time of interview, she was suffering from unemployment. Therefore, her story implied that the reason for this fate she has faced is that she is a transgender who is considered unacceptable by the society. After falling into extreme poverty because of the gender identity, she failed to at least to think about leisure or to spend it meaningfully because of the financial problem created by socially unacceptable gender identity.

Transgender individuals overall appear to experience greater financial challenges than their cisgender individuals. Previous scholars highlighted differences between cisgender and transgender groups, including measures of financial stress, financial self-efficacy, and financial knowledge (Ohio State University, USA 2017). The findings of the current study corroborate this notion by revealing that, there is financial deprivation or income poverty as one of salient features available among transgender community in Sri Lanka due to barriers available in labor market for trans-gender's employment. Ultimately, this financial difficulty is found as a primary factor limiting their discretionary leisure.

#### **4.4.2 Limited Social Networks**

Social networking is recognized as a part of leisure, or should be considered as fluid leisure as its boundaries are fluid. Accordingly, having a large scope of social networks is an essential factor to have broad experiences in leisure times. However, this study found that the majority of transgender participants narrowed their leisure because they often limited their social network scope to only transgender friends. Nuwan (a 24-year-old trans man), expressed how transgender nature pushes them to be introverted personality who has tended to spend his leisure only with his close circle of transgender friends. This limits transgender individuals's ability to form wider social connections during leisure time and may feel isolated if they do not have that close circle to enjoy leisure time with. Nuwan said:

*Every weekend I travel to Kandy with my trans friends through a car of one. I have seen so many beautiful places that others haven't seen there. I*

*like that environment. However, I feel that I've been socially limited because I'm a transgender person, even when I spend leisure I didn't talk with strangers, just comfortable with a close circle. That circle is mostly filled with my trans friends because they are the set of the individuals with whom we can leisurely be expressive (Nuwan, Female to Male Transgender Person).*

Few participants showed a big social isolation during their leisure due to continuous marginalization happened in the society. One of the participants, Rohani (a 40-year-old trans lady), shared that her leisure is confined to a solitary bed and the only one left at least to chat with during her leisure time through social media is identified as her loving partner. She commented:

*Yes exactly I spend my leisure time on a bed. I'm staying at least here because of the romantic life. Only my loving partner is there for me at least to chat via messenger app<sup>9</sup>. Also I do photo shoots whenever I feel like changing the profile pictures on my social media platforms. That is the only thing I do for the sake of my mental peace. I am fed up of everything else (Rohani, Male to Female Transgender Person).*

Although there is no reason not to consider social networking as leisure, there was a significant discrepancy between those who considered social media a leisure activity and those who did not. Therefore, Rohani's leisure could be identified as a liquid leisure form that could change frequently. These findings reveal that limited social network is another constraint that limits the ability to have broader experiences during leisure time.

This finding was further observed when the researcher attended a beach party of the youth transgender community (*Appendix 6*). Here, the researcher observed that transgender men were sitting together in one round table and transgender women were sitting together at another area, sharing the joy of the party only with individuals of the same gender identity as

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<sup>9</sup> Facebook Messenger is a free mobile messaging app used for instant messaging, sharing photos, videos, audio recordings and group chats.

themselves. From this, the researcher understood that not only do transgender individuals prefer to be separated from cisgender individuals and isolated, but also within the transgender society, their social network at leisure is limited to only the closest ones.

This finding is supported in previous scholarly works which state that lack of a sense of belonging, inability to connect with others, and neglect or deterioration of social relationships as factors which limits free engagements of transgender individuals in leisure time (Garcia, et al. 2021).

#### 4.4.3 Gender Discrimination and Harassments

This study identifies that, gender based discriminations and harassments happening in the society as another primary factor which obstruct freedom in leisure time of transgender individuals. Accordingly, the discrimination and harassment faced by transgender individuals can greatly discourage their leisure engagements. One of the participants, Neela, (a 33-year-old trans lady), who is working as an employee at a garment factory shared one of her experiences in which she was largely discriminated at a staff trip.

*On a certain holiday, we (staff members) went on a trip and we decided to stay at a previously booked hotel. We got shared rooms and our boss said males and females to share separate rooms. Since I'm a born male, I went to male's room. But, my co-workers in that room said that, they are not ready to sleep with "ponnaya"<sup>10</sup>. They asked me to go to the room of ladies. I didn't have any other option. Since I wanted to sleep somewhere, I tried that option too. When I was requesting to enter the lady's room, they directly complained to the hotel management and security guard. Finally, I got unprecedented blame from the security guard. At the end, I thought to sleep on the floor at the outside front verandah (Neela, Male to Female Transgender Person).*

Similarly, Rohani (a 40-year-old trans lady) said:

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<sup>10</sup>Ponnaya is term in Sri Lankan vocabulary which is used to call impotent, effeminate, intersexual, genderless, and gay people

*On Sundays I go to church and usually on these days I face this kind of unpleasant incident. I ordered a \*\*\*<sup>11</sup> bike driver to go back to home from the church. A bike rider arrived and to offer me a lift he asked something which worries me and tried to touch me forcefully. That is something general. Just imagine is a sexual harassment happened in a leisure venue to a cisgender girl, others come and raise voice against it, but if it happened to a Trans, the situation is completely different. No one will be supportive (Rohani, Male to Female Transgender Person).*

According to Rohani, it seems challenging for transgender individuals to go on religious pilgrimage during their leisure time due to the society's perception of identifying transgender individuals as sexual objects. Such unpleasant experiences limit the access of transgender individuals to public places to spend their leisure time.

Another participant, Padmawathi (a 33-year-old trans lady), commented:

*No...My family was not a good team to enjoy leisure together. They always discriminated me. One day one of my cousin sisters said me, Ponnaya. I asked her "what is the difference between your femininity and mine to call me like that". I asked it and she didn't answer anything. Just imagine if family member says that, being with them will a bitter experience, Noh. So, most of the times, I deliberately skipped family events and trips (Padmawathi, Male to Female Transgender Person).*

Padmavathi's sharing reveals the common tragedy that most transgender individuals face due to discrimination from their families. Even verbal abuse is a type of harassment. Refusal to leisure spending with family members was the ultimate decision of Padmavathi. If the family becomes an unpleasant environment for someone to enjoy leisure time, they tend to isolate themselves during leisure time as observed in this study.

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<sup>11</sup> This is a technology platform that connects drivers and riders where clients can order motor-bikes, cars, vans or any other required vehicle for their transport purposes.



Accordingly, gender-based discriminations and harassments make leisure as only a dream for them in trans-exclusive society.

#### 4.4.4 Social Phobia: Fear of being visible to public

According to the National Health Service (NHS) in United Kingdom, social phobia or social anxiety disorder defined as a long-term and overwhelming fear of social situations. It is a common problem that usually starts in adolescence. It can be very distressing and can have a huge impact on your life. Some individuals get better once they reach to adulthood. In contrast, findings of this study recognized this situation different for transgender individuals compared to cisgender community. Social phobia of trans individuals is identified as a disorder which could continue from teenage to adulthood because of non-stop marginalization available in Sri Lankan society since the school age against non-binary community. This social phobia pushes transgender individuals to being less visible to public. Some participants indicated a tendency not to disclose their previous gender identity after gender transition through social media platforms due to fear of discrimination. Dhanuka (a 28-year-old trans man) shared similar experiences. He said:

*What the Trans majority does is they delete their old social media accounts and make new ones... I did the same...Even though I haven't expressed it verbally, my close ones know that I am a Trans man...But I don't want to reveal it to the society. Now if anyone searches for me suddenly my Instagram<sup>12</sup> or Facebook<sup>13</sup> ...mostly Instagram...they couldn't get to see the gender change that I have made. The way I cut my hair is changed and I looked different from my previous self. Earlier, I was skinny, now I have grown with muscles. I haven't shared my personal journeys of previous gender identity in social media posts ...Hence, through the social media, no one identify that I am a trans man...I am presented as a new person in the society because of fear of being*

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<sup>12</sup> Instagram is a photo and video sharing social networking service owned by American company Meta Platforms.

<sup>13</sup> Facebook is an online social media and social networking service owned by American company Meta Platforms.

*discriminated in public places...If someone questions about the previous life, I could feel uncomfortable in front of them and it would be hard for me to enjoy leisure in public venues...However, I had to intentionally hide my true gender identity. It still weighs heavily on me (Dhanuka, Female to Male Transgender Person).*

Such behaviors, which hide the reality of identity, limit the physical and psychological openness of transgender individuals in their leisure time. That's how leisure of transgender individuals is narrowed and limited compared to cisgender individuals.

Furthermore, social phobias seem to push transgender individuals to choose less crowded places or to seek isolation as alternatives for leisure stay. For an example, Chanu (a 26-year-old trans lady) commented:

*If I get leisure I hang out with my friends or else I spend time alone. I go out for a vacation to hotels because only a little crowd is there in a hotel. I don't like to go for crowded public spaces (Chanu, Male to Female Transgender Person).*

Another participant, Raj (a 22-year-old trans man) who loves traveling at leisure time expressed how it was challenging for him because of barriers available for public spaces. According to his words, he missed opportunities for his favorite rides due to social phobia of being visible on public transport. Raj said:

*Before the Transition process, I had to face some in public transports. So, traveling was not a possible mode for me to enjoy leisure although I love traveling. One day, I remember, inside the bus, the woman who was sitting on the seat next to the arsenate where I was sitting, looked at me, got up angrily with a look of disgust and went to the back seat. So, being visible in public transport modes is really a disgusting thing for me. These things*

*made me uncomfortable at leisure time*<sup>14</sup>(Raj,Female to Male Transgender Person).

Smooth observations made by the researcher confirm this finding. Throughout the whole expression of Raj, his eye contact was not directed to the interviewer. According to the psychology, it could be identified as one of the symptoms of social anxiety disorder or social phobia. As per the observations, transgender individuals suffering with social phobia seem to find it difficult to make direct eye contact with strangers. This discourages them to enjoy leisure with broader social scope.

Usually individuals use their non-working leisure time to get support services like banking, insurance, communication etc. But being a transgender appears to be a barrier that limits access to public spaces such as banks, insurance offices and communication centers. This fact also expands the social phobia to reach such public places that provide support services to transgender individuals in their spare time. For example Shehan (a 22-year-old transman), said:

*But there are some instances that our individuals are not accepted. If we go to a public place like bank or an insurance office, until we are not recognized as Trans, we can work freely without being rejected. But there is a doubt as I'm a Trans. Just think, when friends are talking, they just ask about the school... then how should I answer my real school*<sup>15</sup>?  
(Shehan, Female to Male Transgender Person).

In summary, fear of transgender individuals to be visible to public which is also termed as social phobia seems as a growing issue in the society which restricts freedom of transgender to spend their leisure as they wish. As per the findings, they always feel self-conscious or afraid that individuals will judge them negatively in public spaces. As a result of social phobia, it seems that, transgender participants have tended to avoid places where there are

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<sup>14</sup> Throughout the whole expression Raj's eye contact was not directed to the interviewer.

<sup>15</sup> Real school is an uni-sex school (girls only) to which Shehan attended at his childhood

more cisgender individuals. Therefore, it proves that, leisure of transgender individuals is relatively narrow compared to cisgender individuals.

However, the issue of public visibility was previously recognized a serious issue exists among transgender individuals ( Michelson and Harrison 2020), but it was not discussed much in literature in the dimension of leisure. Hence, this finding fills a gap in current knowledge about "how social phobia limits transgender leisure by limiting presence in publicly open spaces such as social media platforms, public entertainment spaces, and public support service centers etc."

## **5. Conclusion**

Transgender individuals have reported the utmost difficulty which they have undergone in securing and maintaining leisure because of their gender identity. Against this background, transgender; vulnerable communities in Sri Lanka do not share the same economic opportunities in the leisure spaces as cisgender individuals as a result of the trans-phobia. This study aimed at identifying the meaning of leisure for transgender individuals and examining challenges faced by transgender community in Sri Lanka during their leisure. This qualitative study has used a snowball sampling technique to select a transgender sample of 25 participants who belongs to early adulthood (20-40 Years of age). The in-depth interview method was used as the data collection method along with participatory observations and field notes. The reflexive thematic analysis (RTA) approach was used for the data analysis and it was facilitated by the NVivo (Nvivo 12 version) analytical tool. Entire research is driven by the participatory/advocacy research paradigm which was widely cited as the ideal research philosophy to employ in order to raise a voice for marginalized groups. Although, this is not a pure ethnographic research, it adopted the most features of ethnography because that research approach could complement the participatory research paradigm. The researcher, who identified liberty and equality as the two main dimensions of leisure for transgender individuals, presented the nature of their leisure as a "restricted leisure", emphasizing financial difficulties, limited social network, gender discriminations and harassments, social phobia as the key barriers to their leisure. As found by the researcher,

transgender individual's work-leisure choices are considered complex because the barriers created against their gender identity to work and leisure in Sri Lanka greatly influence that choice. Leisure service providers often offer programs exclusively for men or boys, or for women or girls. Those agencies should think carefully about adopting to gender-segregated programs within the country, Sri Lanka. They have ignored the "third gender" in Sri Lankan context. Establishment of transgender-specific bars, community centers, hotels, and cruises provide recreational spaces for transgender individuals and their families can be recommended as strategy executed by western nations to ensure transgender visibility and inclusion in leisure space (Oakleaf, 2018). Sri Lanka can also test the possibility of adopting such a strategy. Usage of trans-inclusive signage, creation of inclusive public spaces such as gender-neutral toilets, mandating human resource training to ensure that staff in leisure service agencies do not discriminate transgender individuals), Collecting feedback from clients of leisure spaces including transgender individuals in a manner that transgender community can influence facilities, policy, and programs of leisure service providing agencies (Litwiller, Johnson, & Oakleaf , 2020) can be cited as few strategies could be followed to ensure transgender visibility and inclusion in leisure space . This policy executing might be supportive to reduce the leisure barriers such as limited social network, social phobia, gender discrimination and harassments.

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## APPENDICES

## Appendix 1

S. No.	Pseudonym	Age (Years)	Transgender Identity	Education (Highest Academic Qualification)	Current Occupation	Previous Occupation/s
1	Prasad	32	Female to Male (FtM)	Senior Secondary Education	NGO worker	Automobile garage worker
2	Kaushi	29	Male to Female (MtF)	Tertiary Education <sup>16</sup>	NGO worker	TV Presenter, Journalist
3	Chanu	26	Male to Female (MtF)	Senior Secondary Education <sup>17</sup>	Own-account salon worker	Garment factory worker, Hair dresser in other's salons
4	Nuwan	24	Female to Male (FtM)	Collegiate <sup>18</sup>	NGO worker	Cashier at a Super Centre, Juice Bar Keeper
5	Nirodha	23	Female to Male (FtM)	Collegiate	Unemployed	None
6	Hemal	27	Female to Male (FtM)	Tertiary Education	Officer at a meat shop	None
7	Padmawathi	33	Male to Female (MtF)	Tertiary Education	NGO worker	Unemployed
8	Danu	25	Male to Female (MtF)	Collegiate	NGO worker	Financial Institute worker
9	Radini	27	Male to Female (MtF)	Collegiate	NGO worker	Assistant at a Pharmacy
10	Buwani	25	Male to Female (MtF)	Junior Secondary Education	Sex Worker	Professional Dancer
11	Aksha	37	Male to Female (MtF)	Collegiate	NGO worker	Computer shop keeper, Hardware worker, Hotel Manager ( <i>for short-term</i> )

12	Dhanuka	28	Female to Male (FtM)	Collegiate	Social activist, Worker in tourism industry	Hotel Worker (Foods & Beverage Department)
13	Sanath	33	Female to Male (FtM)	Senior Secondary Education	Insurance company officer	Self-employed business rep
14	Nilantha	27	Female to Male (FtM)	Tertiary Education	Unemployed	Intern at buying & selling company
15	Shehan	22	Female to Male (FtM)	Junior Secondary Education	Own-account worker (Electronic Equipment Repairing Works)	Super market assistant
16	Rohani	40	Male to Female (MtF)	Junior Secondary Education	Unemployed	Fruit Juice chef, Airline Catering Chef, Hotel chef, Sex worker, Office Cleaner
17	Asini	32	Male to Female (MtF)	Junior Secondary Education	Unemployed	Vegetable seller, SPA worker,
18	Ayoma	34	Male to Female (MtF)	Junior Secondary Education	Sex Worker	Housemaid worker, Tailor
19	Neela	33	Male to Female (MtF)	Junior Secondary Education	Garment factory worker	Self-employed clothes seller, Patient care giver
20	Savindya	24	Male to Female (MtF)	Collegiate	Beautician	Pre-school teacher
21	Kalka	29	Female to Male (FtM)	Collegiate	Army Driver	Tuition Lecturer, Cab Driver
22	Deshan	31	Female to Male (FtM)	Collegiate	Officer at LGBT led international organization	Officer at a finance company

23	Raj	22	Female to Male (FtM)	Senior Secondary Education	NGO worker	Marketing employee at an online sales company
24	Janaki	35	Male to Female (MtF)	Collegiate	Own-account worker (Tailor)	Hotel Chef, Garment factory worker
25	Ramal	32	Female to Male (FtM)	Senior Secondary Education	School Rugger Coacher	Lady Gym Trainer

Appendix 2



ප්‍රාණ සංක්‍රාන්ති සමාජභාවී පුද්ගලයන්ගේ එකතුව,  
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2022.01.17

W.M.P.M. විජයවර්ධන,  
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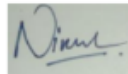
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සම්මුඛ පරීක්ෂණ සඳහා අවසරය ලබාදීම.

ශ්‍රී ජයවර්ධනපුර විශ්වවිද්‍යාලයේ ඔබ විසින් හදාරන ව්‍යාපාර ආර්ථික විද්‍යාව පිළිබඳ දර්ශනපති උපාධියේ පර්යේෂණ කටයුතු සඳහා අප සංවිධානයේ සහය ලබාගැනීම සම්බන්ධයෙන් ඔබ කළ ඉල්ලීම අප අනුමත කළ බව සතුටින් දැනුම් දෙමු.

ඒ අනුව " ප්‍රාණ සංක්‍රාන්ති සමාජභාවී පුද්ගලයන්ගේ එකතුව" සංවිධානය තුළ සේවය කරන හෝ සේවය නොකළ ද සංවිධාන ජාලය තුළට අයත් සංක්‍රාන් ලිංගික / සංක්‍රාන්ති සමාජභාවී පුරුෂයන් අදාළ පර්යේෂණයේ දත්ත රැස්කිරීම සඳහා සම්මුඛ පරීක්ෂණවලට සම්බන්ධ කර ගැනීම පිළිබඳ අප ආයතනයේ විරුද්ධත්වයක් නොමැති බවත්, ඊට අවශ්‍ය සම්බන්ධතා ජාලය නිර්මාණය කිරීමට සහය දෙන බවත් මින් දන්වා සිටිමු.

තවද පෙර ඇති කරගත් වාර්ෂික එකඟතාවය අනුව අප සාමාජිකයන්ගේ අනන්‍යතාව හා ඔවුන්ගේ පෞද්ගලික තොරතුරුවල රහස්‍යභාවය ආරක්ෂා කරමින් අදාළ පර්යේෂණයේ අරමුණු සඳහා පමණක් භාවිත කරනු ඇති බවත්, පර්යේෂණයේ සියලු කටයුතු අවසානයේ එම තොරතුරු විනාශ කර දමනු ඇති බවටත් අප දැඩි සේ විශ්වාස කරමු.

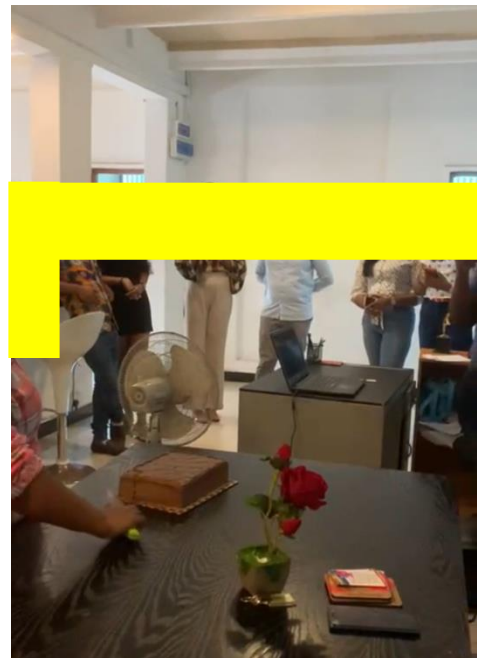
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E. A. නිර්වෘත්ත එදිරිසිංහ,  
අධ්‍යක්ෂක,  
ප්‍රාණ සංක්‍රාන්ති සමාජභාවී පුද්ගලයන්ගේ එකතුව  
[pranatransgendercollective@gmail.com](mailto:pranatransgendercollective@gmail.com)

Appendix 3: Transgender Workplaces

NAME	REGISTER	REACH	TESTING	NUMBER OF CONDOMS DISTRIBUTE	H
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
Weekly Total		29	10/7	435	
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
[Redacted]					
Weekly Total		10/6	10/6	870	

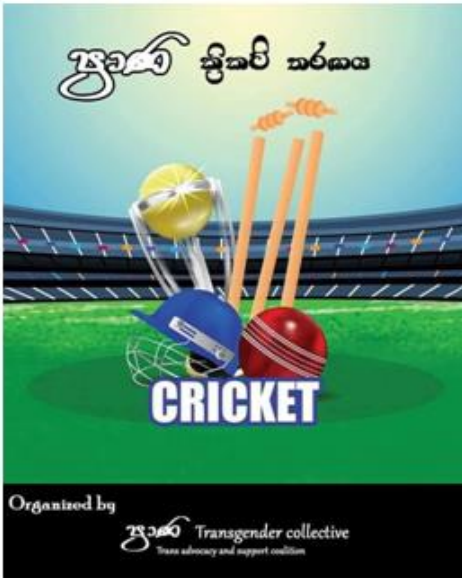


**Appendix 4: Transgender Theatre Festival**





Appendix 5: Cricket Tournament



Appendix 6: Parties and celebrations





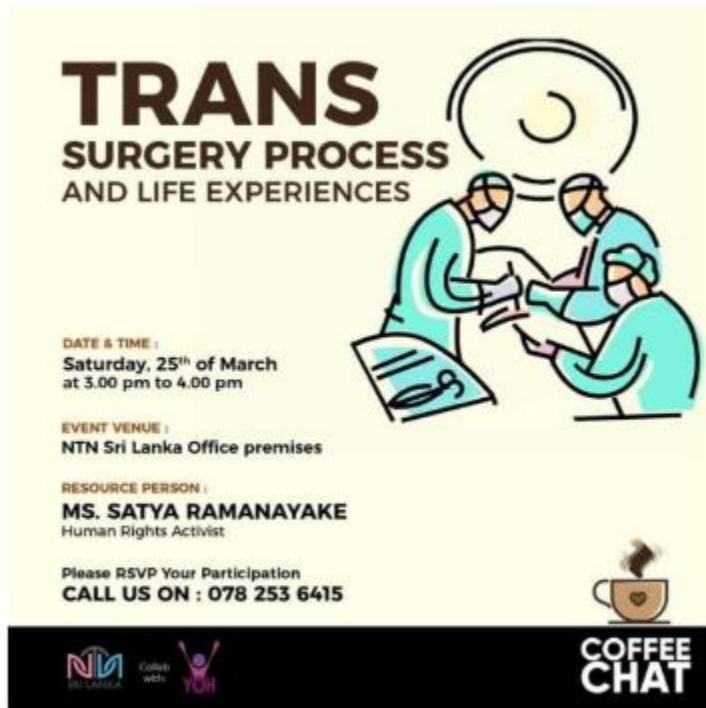
Appendix 7: Beach Clean-up



Contact  
078 941 0551 - Nirwan  
076 411 5802 - Sherman



**Appendix 8: Trans Surgery Process: A Session on Gender Transition Process**




**TRANS**  
**SURGERY PROCESS**  
**AND LIFE EXPERIENCES**



DATE & TIME :  
**Saturday, 25<sup>th</sup> of March**  
at 3.00 pm to 4.00 pm

EVENT VENUE :  
**NTN Sri Lanka Office premises**

RESOURCE PERSON :  
**MS. SATYA RAMANAYAKE**  
Human Rights Activist

Please RSVP Your Participation  
**CALL US ON : 078 253 6415**

  
**COFFEE CHAT**

## Appendix 9

W.M.P.M. Wijayawardhana  
42/5, Purana Rd, Wattegedara,  
Maharagama

Chair,  
ETHICS REVIEW COMMITTEE FOR THE RESEARCH IN HUMANITIES AND SOCIAL  
SCIENCES (ERC-HSS),  
Faculty of Graduate Studies,  
University of Sri Jayewardenepura

### APPLICATION FORM - ETHICAL APPROVAL

I'm Pasan Wijayawardhana (M.Phil. Reg.Num: 9118FM2021011), a Master of Philosophy postgraduate student attached to the Department of Business Economics in University of Sri Jayewardenepura. This is request for ethical approval to run the research study in MPhil degree titled "Gender Dimension of the Neo-Classical Model of Labor-Leisure Choice: Empirical Evidences from Transgender Community in Sri Lanka". I'm much obliged if you could please consider this request within the earliest possible time.

Thank you very much!

Yours Faithfully,



Pasan Wijayawardhana  
(Mphil Reg.Num: 9118FM2021011)

## **Japan's Anti-Malthusian Era - a comprehensive on depopulation in developed countries**

Prisha Visveswaran<sup>1</sup>, Ashoka University  
Bsc. Economics and finance (UG 2021-24)

### **Abstract**

This research article tries to analyze Japan's aging population with the help of existing literature and data on its fast changing demographic. This will be analyzed in two-partite manner– Japan's cultural and societal contributions to a lowering fertility rate and why western precedent policies of childcare and maternity leave services do not seem to have an impact on increasing the fertility rate. By analyzing the problem from the country's cultural context, this paper will argue that East Asian countries are less likely to adapt their culture of rigid gender structures to a developing economy which causes them to be stuck in an Anti-Malthusian trap where technological development leads to lowering fertility rates. We will see how imitating prenatal policies of the West will not easily work in Japan and how the country needs to use its existing skilled workforce in order to globalize its economy such that the country is not intensely dependent on its domestic labor force. We will also see that adapting to the older population is detrimental to moving forward for East Asian countries whose culture will take longer to change compared to the West.

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<sup>1</sup> E-mail: [prisha.visveswaran\\_ug24@ashoka.edu.in](mailto:prisha.visveswaran_ug24@ashoka.edu.in)

## **1. Introduction**

When we start talking about the success stories of countries reaching the developed nation status in Asia, one is only ever met with awe and appreciation. It is unprecedented and mind-boggling how countries like South Korea, Taiwan and Japan- who were once at the brink of unsolvable poverty, having completely turned around the fate of their nations. These countries were war stricken, colonized and invaded, their people suffering one of worst living conditions in the world and yet, today they are world leaders- they are producers of cutting edge technology, manufacturing giants and their consumer goods are household names in the rest of the world. Samsung, LG, HTC etc are mere examples of the bigger picture- with intensive development plans and restructuring of their economy, they have almost managed to stand at par with the looming West and place themselves as global powers.

The case of Japan might be the most interesting one yet. Prior to the 1970s, Japan experienced a period of rapid economic growth facilitated by the imitation of Western developed technology. This resulted in Japan “catching up” with developed nations like the United States. However, a model of imitation would not lead to a sustainable growth path for a developed nation. This caused Japan's economic reforms to be centered on financial restructuring and the promotion of investment activities by the public sector which resulted in a large-scale focus on innovation by the government. The automobile sector flourished, giving rise to household names like Toyota, Honda, Suzuki, Yamaha and Subaru. It also established itself as a technological giant with companies like Mitsubishi spearheading. It has an established export sector and a thriving IT industry, employing and developing human capital to furnish an already skilled population.

Evidently, the rapid development in Japan was not costless. Technological and economic development have hiked up standards (and costs) of living in the country. Despite the wealth of Japan, the per capita income does not reflect equitable growth. All of these factors combined have resulted in a major demographic transition in the country where the population is now aging with a below average fertility rate of 1.36 births as per 2020. Combined with a high life expectancy of 84.62, 29.8% of the population is aged 65 and above, which is reflected in the dwindling workforce of the country (Lam, 2009).

In 1798, Thomas Malthus came up with his infamous population theory, also known as the Malthusian Trap. The Malthusian Population Trap refers to the idea that increased food production as a result of advanced agricultural techniques creates higher population levels. These higher population levels then lead to food shortages, as the new population must live on land that was previously used for crops (Malthus, 1798). The only way to escape this trap was via rapid technological development, as was shown by the case of the Industrial Revolution in Britain.

At a very early stage of economic development, poverty prevents households from raising children and accumulating capital. In the poverty trap, although the fertility rates are high, the population cannot grow due to high infant mortality. After an economy gets out of the trap, not only the population itself but also its growth rate increases with per capita income. However, when per capita income reaches a certain level, the population growth rate begins to decline with an increase in income. As a result, the population itself starts decreasing with income. This is what some advanced economies are currently experiencing. These phenomena constitute the typical demographic transition, which explains the Japanese issue (Nakamura, 2018).

This article aims to provide an insight into this paradoxical anti-Malthusian Trap, where the economy is stuck in a negative demographic transition due to rapid economic growth. Technology, which was supposed to save the human race from the Trap, has resulted in a trap of a different kind- people in advanced countries don't want to have children because they are simply too costly. This directly impacts the labor market and the notion of steady state output and per capita growth- which is driven by population and technological growth (Solow, 1956). The negative rate of population growth in Japan in recent years stands to impact its overall output growth in the steady state. This article will try to analyze the institutional and policy related reasons as to why this is happening and why Western reforms and adjustments will not easily enable Japan to combat this crisis.

## **2. The disappearing babies of Japan- a result of rapid growth or an institutional inevitability?**

Japan hit its lowest fertility rate (TFR) in the year 2005 at an astounding 1.26. This decline is not a new phenomenon, but has been slowly coming to the forefront ever since 1974 (World Bank,

2021). Fertility is something that has been postponed in Japan- women who are unmarried and working, are called the “parasite singles” in the community. The Japanese aging phenomenon might not just be a result of technological growth but could also have diverse sociological factors such as delaying the marriage age, educational and labor market provision for women, high divorce rates and social stigma attached to cohabitation. These factors, combined with the rapid increase in income and standards of living, could have contributed to the drastic demographic changes facing the country.

It would make it easier to understand the unique problem faced by Japan if we compare it to the case of dropping fertility rate in one of the Western countries. The United States, for example, is the largest economy in the world that has long since reached advanced status. However, it maintains a close to average TFR of 1.64 as of 2020 and has a constant population growth of 1%. The drop below the average rate of 2 indicates that women in the US are also postponing having children, but this effect is not really seen in the birth rate of the country, which is pretty high (Fehr, 2008). The steady flow of immigrants adding on to the population and the varied schooling and childcare benefits provided incentivizes having children, which is not as costly as in Japan.

Japan not only has different institutional provisions unlike the US, it also boasts an entirely different culture. Marriage and childbearing are synonymous in the country, with children born outside of wedlock being socially and legally stigmatized. Hence, if a woman wants to have a child, she has to get married. Additionally, there are strictly divided gender roles that come within the marriage package- the men would go to work and the woman was responsible for the upbringing, education and skill training of the child. The Japanese cultural context is one in which domestic tasks have been strongly regarded as unsuitable for men. Japanese wives spend an average of almost 30 hours per week on housework, whereas husbands spend between two and three hours (Tsuya, 2005).

The dramatic increase in the labor force participation by women has also contributed to delayed or negated pregnancies. The Japanese workforce is a highly competitive and skill heavy sector, which requires the brightest minds and the best education. This competitive nature is not lenient towards women temporarily quitting the workforce to give birth and rejoining at the same



position as they were in before. The cut-throat competition provides a lack of job security for the Japanese youth, which is magnified and near impossible for young and married women (Tsuya, 2009). Adding to these, Japan experienced a surge in divorce rates, which contributes to delayed childbearing plans and an aging population.

The consequences of continued low fertility are well known and a source of great concern in Japan. Some have argued that policies aimed at work–life balance, such as having more family-friendly work arrangements and increasing the availability of affordable childcare, will lead to fertility levels closer to replacement level (McDonald, 2006). Some of these policies are being attempted in Japan but it is unclear how successfully they will be implemented and how effective they will be. This goes on to show that the increase in expenses is the surface explanation of why a demographic transition is happening in Japan. The institutional and cultural reasons could have a greater bearing on long term demographic implications and these points need to be considered while developing a long-term contingency plan for an adjustment to development schemes.

### **3. Can Japan regain its TFR- better immigration or vigorous pro-natal propaganda?**

Policymaking with the intention of raising the fertility rate of a country is intrinsically problematic because the burden of the task, in the end, falls upon the women in the population. Increased education and better access to job opportunities is one the factors of delayed childbirths in advanced nations and all of this starts with giving women rights. One of the most notorious examples of birth control and fertility related policies is China. It implemented the stringent One-Child Policy in order to curb its population growth which resulted in a demographic transition with the fertility rate falling from 2.54 to 1.18 (Jiang, 2016). Post this, it implemented a policy that incentivized having a second child by promising the mothers giving a second birth up to 100,000 dollars as monetary benefit. This not only results in wildly fluctuating changes and disregard of public sentiment, it also shows the country's view of women as breeding stock, which is reflected upon its policies.

These methods cannot be adapted in Japan because 1) the women would not easily agree to vigorous pro-natal policies and 2) Japan would not be able to escape diplomatic reprimanding by



the global community if it did force its women into childbearing. Pro-natal policies would place an additional burden on the working women who are already struggling to maintain a work-life balance in the Japanese social norms. The steep trade-off between motherhood and work is controversial in Japan, with the added incentives of childcare centers, educational and monetary incentives not doing much to increase the TFR. So the question remains- are there any other route that is not centric on the women being “incentivized” to marry and procreate?

Open immigration could be one such solution. The Japanese cultural system as of now is quite averse to foreign immigrants. There have been cases of widespread discrimination, social fetishization and a hostile workplace environment for people who migrate from countries like South Korea, Africa, USA and India. However, one could assume that a shift in policy that allows for a friendlier environment for immigrants could boost migration into Japan and shift the Old Age Dependency Ratio (OADR) towards the younger generation that is more apt to be in the workforce. However, data and predictive research suggests otherwise. Migration policies could be efficient in reducing the high OADR to 2014 levels, but only if there is a steady stream of 300,000 or more foreign migrants every year till 2050 (Parsons, 2018).

Based on a purely migration-focused policy, Japan would have to achieve a population composed of 30% foreign-born migrants to retain its 2015 OADR of 0.43 (Parsons, 2018). Not only is this policy unfeasible with the current socio-political climate of Japan, it is also improbable to assume that such a large stream of skilled foreign migrants would be willing to go to Japan with such high demands for them all over the world. A sudden increase in the population would also place a burden on social security and public services, which cannot be adapted suddenly.

#### **4. Conclusion- what can be done?**

If we compare the relative situations of countries like Japan, South Korea and Taiwan to other developed countries in the world, there is a recurring pattern of East Asian countries being more prone to a low TFR post-development. East Asian countries are the global regions with the lowest TFR, and in order to understand why this is the case, we need to look at policymaking

from a cultural perspective. Countries like Japan have regressed from having high fertility rates that gradually drop as the country gets more advanced. As seen before from existing literature reviews, this is because gender roles are strictly segregated in the country's culture. Family-building is seen as a societal role rather than personal in order to keep in line with the country's gender expectations. This is different from countries in the West that revised and changed their gender expectations as they developed economically. This doesn't necessarily mean that Asian countries oppress their women more, it's just that once women get certain economic power in society they are less likely to continue with their biological expectations as the two don't go hand in hand easily in East Asia. This immediately puts a block on policies like maternity leave and childcare support at work, because Asian culture at its root is not in line with these very western policies.

This can better be understood with an example. There has been an empirical change in childcare spending in the US between 1970 and 2010 which has resulted in increasing fertility (O'Neill, 2022). Childcare almost acted like additional wages for a mother's unpaid labor, which made having children worthwhile. However, in addition to the unpaid labor of a mother in the workplace, Japanese women also have to suffer the consequence of highly divided household work, for which they are not being compensated. In addition to the biological difficulty of having children, they face the societal pressure of doing household chores which takes a toll on their work-life balance.

East Asian cultures find it harder to adapt their culture to a developing economy at global standards, resulting in them getting stuck in the anti-Malthusian Trap. This is one of the main reasons why western policies like childcare support are not having as much of an impact as their precedent. Therefore instead of pushing for policies that imitate the west, they need to design policies that are in line with their own pace of cultural change.

If we go back to the first and foremost lesson taught in the Solow Growth Model class for macroeconomics, we will end up with this equation,

$$\frac{\dot{Y}}{Y} = g + n$$

which basically means that in the long run, growth of output (Y) (given by the left hand side of the above equation) in the country is driven by growth of technology (g) and growth of population (n). In the specific case of Japan, the growth of population is negative, but at a small level. Japan can offset this by following rigorous policies that are focused on adaptation to the situation and betterment of existing resources. It is blessed with a highly skilled and educated workforce and it needs to invest at a faster rate on technological development (which will boost its g) that can offset the negative effects of depopulation. Along with a moderate policy approach to open immigration and pro-natal policies, it needs to work on adapting its current labor market to the older population. Instead of trying to incentivize women by blatantly improving childcare facilities, work incentives and promoting the “family agenda”, Japan needs to find the correct mixture of adapting and correcting policies to this depopulation phenomenon that does not pressurize almost half of their population. For instance, South Korea, which faces a lower TFR than Japan, has tried to make its economy increasingly globalized in terms of technological development. The Hallyu Wave, a global Korean phenomenon, has forced the country’s culture to adapt according to western standards, which has reduced the rigidity of gender roles. Although this may not immediately reflect via an increased TFR, globalization and opening up boundaries makes a country less dependent on its demographic changes in terms of growth.

Policymaking should also focus on pension plans for the elderly, who are becoming a larger share of the population. They must be incentivized to earn, consume and save at faster rates and be provided with better social security. The focus must be on improving the existing labor productivity in such a manner that it can be adapted to demographic transitions that seem like inevitable additions to the human evolution process.

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**Book Review - The Deficit Myth: Modern Monetary Theory and the Birth of the  
People's Economy**

**Author: Stephanie Kelton**

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**Abstract**

Conventionally, deficit is understood to be disastrous to a currency and the country itself. However, Professor Stephanie Kelton has tried to shatter the myth surrounding deficit through her book titled "THE DEFICIT MYTH: Modern Monetary Theory and the Birth of the People's Economy." She demonstrates that public deficits can be very healthy for an economy provided government spending is properly targeted, leading to faster growth in economy. Through this book review, an attempt has been made to understand the principles underlying the mechanism of using deficit as a growth engine, preconditions for its success and relevant challenges in its implementation.

**Key Words: Deficit, Economic Growth, Modern Monetary Theory, People's Economy**

**JEL Classification: H6**

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**“We can’t use deficits to solve the problem if we think of the deficit itself as a problem.” Stephanie Kelton**

The effects of COVID-19 have been devastating for the world economy. Most of the economies were shut down and frozen to combat COVID-19. After opening of the economies, the governments came up with a series of efforts ranging from direct monetary benefits, tax cuts to stimulus packages to boost the economy. The massive increase in government spending has certainly offered relief to households and businesses. However, it has put a lot of burden on the budgets of the countries resulting in huge government debt. Public debts levels are likely to cross 100% of the gross domestic product (GDP) for the most advanced countries like United States and United Kingdom. Japan’s public debt to GDP ratio is expected to grow above 250 per cent. The IMF anticipates that the average debt-to-GDP ratios in advanced economies will rise above 120 per cent.

In the opinion of many mainstream economists, such high debt to GDP ratios will reinforce an increase in taxes and reduction in public spending in future. The increase in taxes will cause decline in consumption spending of households and investment spending by businesses. The overall result will be slower GDP growth and stagnation in worker’s wages and salaries. Thus, the measures which are being taken to stimulate the economy and take them to the path of recovery, growth and development are likely to boomerang/backfire resulting in economic slump. However, even after decades of policy debate over deficit, public debt and economic slowdown, fiscal policy measures seem to be the only answer to boost the economies.

In this backdrop, Stephanie Kelton’s *The Deficit Myth*, offers an altogether different approach to looking at the deficit, a complete 180 degree turn from how we see it. Stephanie Kelton is a professor of economics and public policy at the State University of New York at Stony Brook. She is one of the key propagators of progressive economics. She is a leading expert on Modern Monetary Theory (MMT) and a former Chief Economist on the U.S. Senate Budget Committee (Democratic staff). She was named by POLITICO as one of the 50 most influencing peoples in the policy debate in America. Professor Kelton advises policymakers and consults with investment banks and portfolio managers across the globe. She is a regular commentator on national radio and broadcast television.

Herein, Stephanie Kelton, has tried to dispel myths surrounding conventional understanding of Deficit as a problem, thereby making a strong case for using deficit as an engine to strengthen economies leading to faster growth. She has tried to explain how government financing really works, and how it interplays with economic policy in a simple, easy to understand language.

Conventionally deficit is understood as disastrous to a currency and the country itself. Kelton shatters the conventional wisdom regarding the deficit that it impedes economic growth and weakens the economy. With a sound theoretical base of MMT, she demonstrates that concerns about deficit are ill-founded and in fact public deficits can be very healthy for an economy provided government spending is properly targeted, leading to faster economic growth. “The Deficit Myth” states that the US Government can create unlimited amounts of money, therefore debt and deficits do not matter.

The subtitle of the book includes “the Birth of the People’s Economy”. People’s Economy refers to “a just and more prosperous world—one that combines ecological sustainability with full employment, well-being, lower degree of inequality, and excellent public services that meet the needs of all”. To achieve the People’s Economy, in the words of Kelton, “we do not need hard choices, technological advances, or arms treaties; we just need to print more money”. It is all within reach if principles of MMT are put into practice properly.

The book is divided into eight chapters. The first six chapters shatter the six primary myths around conventional monetary theory that regard deficits as a devil playing havoc with a country’s growth, putting it in an inflationary wage-price spiral ultimately resulting in slump in the economy. Conventionally, deficit is understood as a sign of profligacy/reckless spending putting burden on future generations, crowding out private investment and making economies like the US increasingly dependent on foreign countries. In addition, increased spending on Social Security and public health programs lead to a fiscal crisis. So, Kelton strategically starts busting our beliefs/myths regarding fiscal deficits one by one. Through this, Kelton lays down the foundation of Modern Monetary Theory. In last two chapters, the deficit has been explained in the right perspective, which according to her is a growth engine. Kelton goes on to explain how deficits can be used for expanding growth in difficult times,



resulting in a stronger and more balanced economy with reduced inequality and other social ills and prosperity for all, suggesting descriptive and prescriptive policy changes to achieve all this.

Subsequently, Kelton presents the idea of a just society and smashes the ‘misguided’ goal of a balanced budget. She asserts how the US federal government should freely print money to boost public spending with no concern about deficits.

According to Kelton, in monetary sovereign countries (i.e., countries which issue and control the supply of their currency) like USA, UK, Japan, the Government is self-financing, which reduces the need to focus on deficit and public debt. They can never run out of currency. They can print money as much as they like. In the present COVID times, the main threat to an economy is reduced consumption demand from households and investment demand from businesses making a case for deflation and slump in the economy. Inflation is no threat whatsoever. Therefore, they should help the people by way of monetary allowances and tax cuts, to boost demand for consumer goods. Governments need not worry about deficit. Kelton suggests that the jobs guarantee funded by new money would act as an automatic stabilizer. This will lead to growth in economic activities and create investment demand from businesses. Real concern at this stage will be availability of real resources which can be employed to work, conscious and targeted use of the money so financed through debt for the benefit of general public and not for funding wars etc., and removing bottlenecks in the process. Once the economy begins to recover, policymakers will have to keep their eye on inflation. Kelton argues that taxes enable the governments to provision themselves, to remove inflationary pressures, to alter the distribution of income and wealth, to encourage and discourage certain behaviors. If policy makers can fine tune tax and spending, inflation can be controlled.

With no inflation and no bottlenecks, the governments can work towards building an economy keeping public welfare at the center. They can undertake investments in infrastructure, healthcare, education, green climate, and programs for public welfare without bothering about how it is paid for.

The book is remarkable in its understanding of MMT. It draws our attention towards some of the important aspects working beneath the conventional monetary theory and is successful in enabling us to see the deficit differently. It shatters two main myths about deficit financing:

- First, Kelton shatters the Household view of making of Government budgets. The conventional story contends that governments work on household model (TAB)S, wherein taxes and borrowing precede spending by the federal government. If government wants to spend more money than what it collects by taxes, it needs to raise additional funds by borrowing from savers. However, unlike households, governments are currency issuers, not currency users. Kelton states that monetary sovereign countries like UK, USA need not to worry about deficit as they can never go out of money as they are issuers of currency. Therefore, currency issuer's spending is self-financing. Thus, government's ability to spend does not revolve around the taxpayer's dollar rather the government spends first and then taxes or borrows i.e., issuer model S(TAB) spending before taxes and borrowing. Kelton argues that a tax regime is a tool in the hands of the government that enables it to provision themselves, to remove inflationary pressures, to alter the distribution of income and wealth, to encourage and discourage certain behaviors. The problem of inflation arises not due to increased deficit but due to non-availability of real resources of the economy — workers, materials and so on. When the economy employs too many of these resources, their prices increase. Further, with the fine tuning of taxes and spending, inflation can be controlled. In addition, Kelton suggests a jobs guarantee scheme funded by new money that would act as an automatic stabilizer.
- Secondly, Kelton shatters both the deficit hawk and deficit dove views of public debt. Deficit hawks assert that deficit represents irresponsible spending by the government, and therefore it needs to balance its budget at any cost. Deficit hawks argue that public debt is harmful to a currency and the country. Deficit doves too agree on the same but allow the deficit as a short-term measure to be used for emergencies and overcoming economic crises. Kelton contends that the whole debate is based on the faulty idea that deficits are evil. According to Kelton, we need to change our

perspective and be wiser regarding deficits. Kelton calls herself a ‘deficit owl’ because owls can rotate their heads nearly 360 degrees for better perspectives and are associated with wisdom. However, deficit is like a double-edged sword. Deficits can be both good and evil. They can enrich a small segment of the population, driving income and wealth inequality to new heights, while leaving millions behind or these can help build an economy provided the expenditures financed by such deficits are properly used for constructive purposes. Kelton asserts that they can be used to sustain life and build a more just economy that works for the many and not just the few provided the spending is rightfully targeted towards creating businesses and job opportunities for the public at large.

Conceptually, MMT and the suggested policy measures do make sense and they seem to take economies to the path of growth and welfare but the application of the same lacks on two grounds

- By itself, MMT does not guarantee prosperity and a better economy. MMT prescribes expanding money-financed deficits till achieving full employment and imposing taxes to drain out excess demand in order to prevent inflation. Rather its success is dependent on various presumptions such as availability of balance of real resources which can be used, proper and judicious use of government spending like use of new money to provide job guarantee, and fine tuning of tax and spending just at the onset of inflation. Expecting lawmakers to be able to fine tune tax and spending to control inflation at the right time seems a tall order.
- The suggested solutions might work for the US — and other “monetary sovereigns” like the UK, Japan, Australia, and Canada — act like currency issuers rather than currency users. But there is no solution for majority of the countries of the world which are currency users who must gather money before they spend it. For such developing and underdeveloped countries with no monetary sovereignty and risk of hyperinflation, Kelton’s idea of increased public spending, seems to be a far-fetched move. In addition, the effect of such policies followed by “monetary sovereigns” on the currency user countries is not discussed.

In all, it can be stated that the descriptive part of MMT is more appealing: that monetary sovereigns really are currency issuers not users. But the success of prescribed policy measures has a lot of ifs and buts. Therefore, a more rigorous and vigilant study regarding the complexities of present economies and complex maze of constraints upon fiscal deficit and public debt expansion imposed by the financial markets, current account imbalances and exchange rates needs to be done.





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