

UNMASKING THE INFLUENCE OF COVID-19: DECLINE IN MARITAL UNION FORMATION AND PROSPECTS FOR POST-PANDEMIC MARRIAGES IN SRI LANKA

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Introduction

The COVID-19 pandemic has raised concerns about its impact on marriage rates worldwide. Changes in partnership behaviours and fertility have significant implications for mental health, well-being, and population demographics (UNFPA (APRO), 2021). By December 2022, Sri Lanka had recorded approximately 671,000 infections and 16,808 COVID-19 deaths, affecting various aspects of social life. Notably, the pandemic's influence on marriage formation remains uncertain. In 2020, a substantial drop in registered marriages was observed, with 20,317 fewer marriages than the previous year, marking a 12.44 percent decline.

Previous studies exploring disasters' impact on marriage yielded inconclusive results, with some showing increased marriages following disasters and others indicating the opposite trend (Ghaznavi et al., 2021; Manning & Payne, 2021; Hoehn-Velasco et al., 2022). However, studies focusing on COVID-19's impact have indicated declining marriage rates, especially during state of emergency declarations. The pandemic's disruptions to daily life and economic stresses pose challenges to marital formation. While external stressors can strain intimate relationships, the pandemic-induced insecurity in income and employment may hinder the economic prerequisites for marriage. Moreover, governmental policies, including restrictions on weddings and office closures, can limit marriage registration. However, COVID-19-induced changes might increase the motivation for single individuals to transition into marriage.

Amidst the social disruptions caused by the pandemic, this paper utilizes data from the Registrar General's Department to examine the impact of COVID-19 on marital union formation in Sri Lanka. While marriage declined during the initial COVID-19 outbreak, it is expected to exhibit a different trajectory in the latter half of 2021 due to reduced COVID-19 impact. This analysis combines survey data with case studies and focus group discussions to shed light on these dynamics.

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Data and methods

The study investigated the impact of the COVID-19 pandemic on marriage trends in Sri Lanka by examining marriage registration data from 2000 to 2021 and monitoring monthly registrations from 2019 to 2022. These data were sourced from the Registrar General's Department. Demographic changes in family formation worldwide, including Sri Lanka, have been well-documented (Dissanayake, 2000; Romero et al., 2019), with delayed marriages and variations across different demographic factors. While large-scale datasets have shed light on marriage trends, they provide only a partial understanding of family formation decisions, particularly across various socio-economic categories. To address this gap, this study employed a 'qualitatively-informed' purposive sampling approach, selecting 90 women from urban, rural, and estate sectors, representing diverse ethnic groups. This sample, derived through qualitative methods, facilitated a deeper exploration of marriage trends, allowing for a comprehensive analysis of the influences of the COVID-19 pandemic on family formation. In addition to interviews, the study conducted 11 case studies, 6 focus group discussions, and key informant interviews with Public Health Midwives to enhance the richness and depth of the collected data.

Building on the previous discussion, this study embarked on a comprehensive forecasting endeavour to project the number of marriages expected to occur over the next three years. Our approach involved the implementation of a Seasonal Autoregressive Integrated Moving Average (SARIMA) model, specifically designed for forecasting the volume of marriages from January 2022 to December 2024.

The utilization of SARIMA is paramount when dealing with time series data exhibiting seasonal patterns. This advanced modelling technique encompasses both nonseasonal and seasonal components within a multiplicative framework. SARIMA models can be succinctly described using the notation ARIMA (p, d, q) x (P, D, Q)_s, where:

- 'p' represents the number of non-seasonal autoregressive (AR) terms
- 'd' signifies nonseasonal differencing
- 'q' denotes the count of non-seasonal moving average (MA) terms
- 'P' corresponds to the seasonal autoregressive (AR) terms
- 'D' reflects the seasonal differencing
- 'Q' designates the seasonal moving average (MA) terms
- 's' indicates the time span that defines the repetitive seasonal pattern

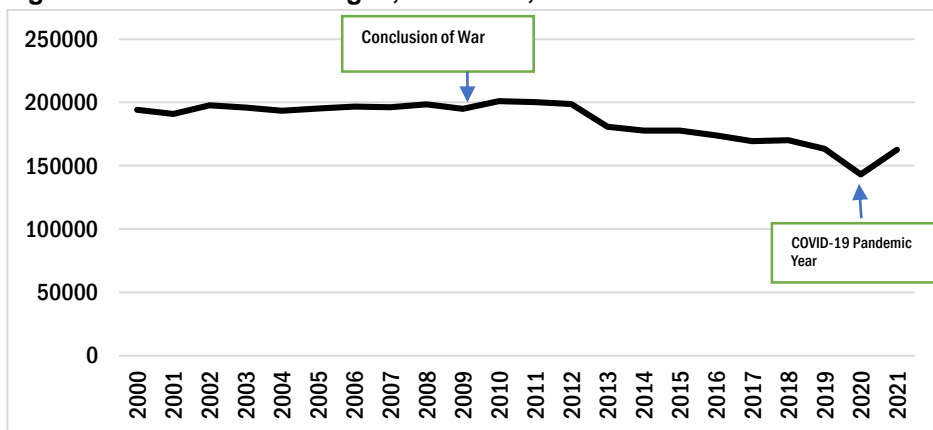
In essence, this SARIMA model enables us to account for and forecast both the overarching trends and the seasonal fluctuations in the number of marriages, thus providing a robust analytical framework for projecting future marriage trends.

Results and discussion

Trends in marital union formation

Analysing the number of marriages registered in Sri Lanka from 2000 to 2021 reveals noteworthy patterns (Figure 1). Until 2009, there was stability in the number of marriages, but a slight upsurge occurred from 2009 to 2012. This upturn was primarily attributed to individuals postponing their marriages due to the 30-year-long war in the Northern and Eastern regions of Sri Lanka, with many choosing to marry after the war's conclusion in 2009. However, after 2012, the number of marriages stabilized at a lower level compared to the pre-2009 era, with a sharp drop observed in 2020, coinciding with the onset of the COVID-19 pandemic. This decline underscores the pandemic's impact on the postponement of marriages in Sri Lanka.

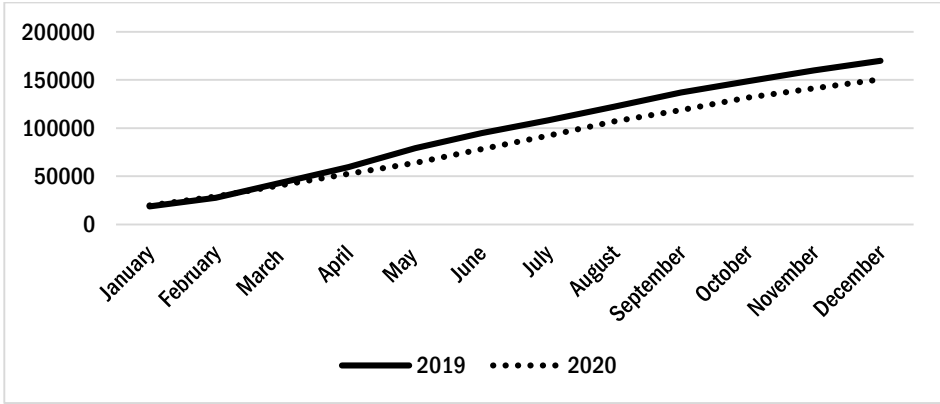
Figure 1: Number of marriages, Sri Lanka, 2000-2021



Source: Registrar General's Department, Sri Lanka, various years

Further analysis involved comparing marriage registration data from 2019 to 2021 to 2020. This assessment aimed to uncover any significant deviations from the preceding years and gain insights into the seasonal variations in marriage during the COVID-19 pandemic and post-pandemic periods in Sri Lanka.

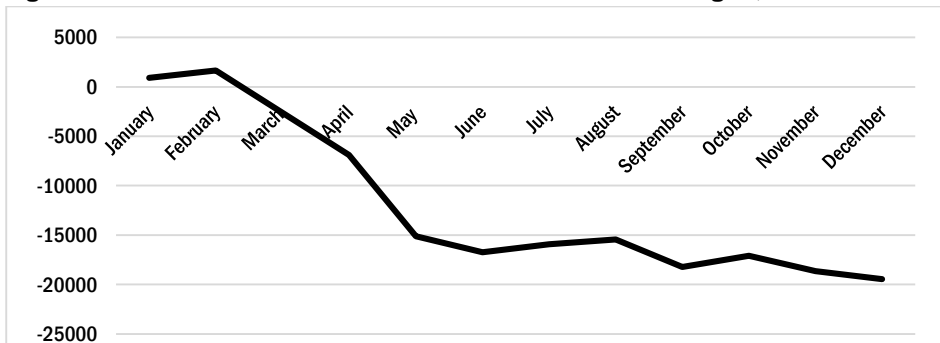
Figure 2: Cumulative number of marriages by months of registration, Sri Lanka, 2019 and 2020



Source: Author’s calculations using data from the Registrar General’s Department

Figure 2 illustrates the cumulative number of marriages for each month in 2019 and 2020. Notably, the cumulative number of marriages in 2020 began decreasing from April, coinciding with the spread of COVID-19. Throughout the year, the number of marriages in 2020 declined continuously at a faster rate than in 2019. Figure 3 showcases monthly differences in cumulative marriage numbers between 2019 and 2020. The decline is evident from February (the start of the COVID-19 spread) to June, aligning with government travel restrictions. In total, 2020 recorded 19,441 fewer marriages than 2019, representing an approximately 11 percent decrease relative to the previous year. This trend persisted, though at a slower pace, until the year’s end.

Figure 3: Differences in the cumulative number of marriages, 2019 and 2020

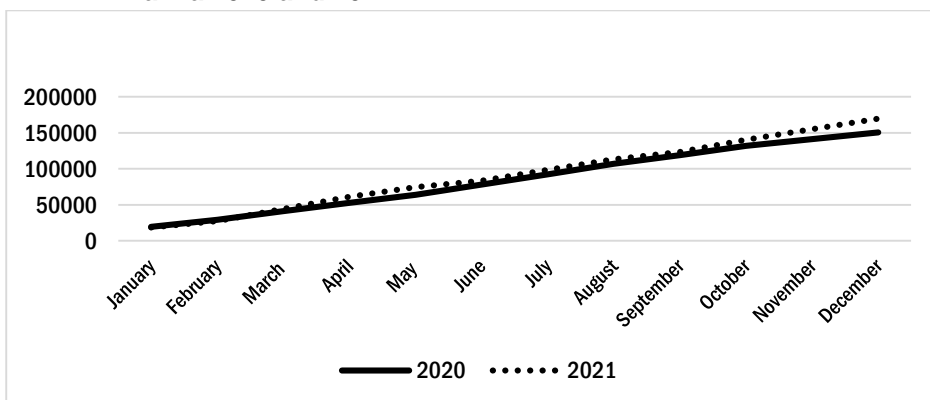


Source: Author’s calculations using data from the Registrar General’s Department

Further analysis focused on marriage trends in 2020 and 2021, mirroring the previous examination. Figure 4 demonstrates that marriages postponed in 2020

began a gradual recovery, particularly after March 2021. The recovery accelerated between October and December 2021.

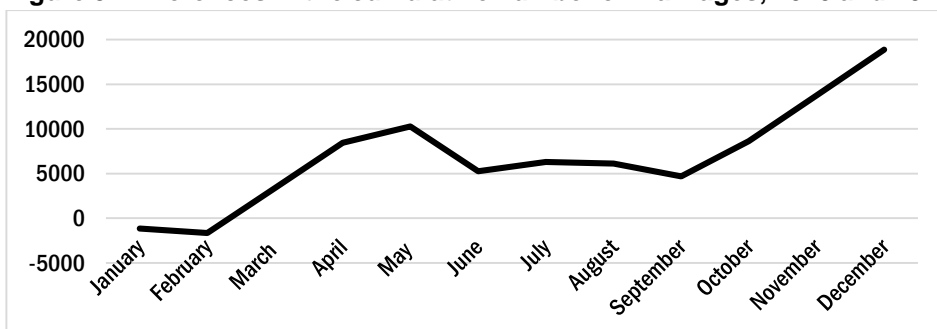
Figure 4: Cumulative number of marriages by months of registration, Sri Lanka 2020 and 2021



Source: Author’s calculations using data from the Registrar General’s Department

Figure 5, akin to Figure 3, illustrates differences in cumulative marriages between 2020 and 2021. A noticeable recovery in marriage registration is evident between February and April, as well as between September and December 2021. These two recovery periods exhibit parallel trends, as depicted in Figure 5. In total, 2021 saw 18,881 more marriages registered in Sri Lanka compared to 2020, representing a 12.5 percent increase relative to the previous year. Therefore, 2021 can be regarded as the year of ‘marriage recovery’.

Figure 5: Differences in the cumulative number of marriages, 2020 and 2021



Source: Author’s calculations using data from the Registrar General’s Department

In conclusion, the analysis of marriage registration trends unveils the profound impact of the COVID-19 pandemic and associated policies on the postponement of marriages in Sri Lanka. Fewer individuals chose to marry in 2020 compared to 2019. However, this decline reversed from February 2021, eventually reaching

pre-pandemic levels. The fluctuations in cumulative marriages between April and September could be attributed to cyclic changes often observed in marriage ceremonies within Sri Lanka during this period.

Factors delaying marriages

The COVID-19 pandemic significantly impacted marital union formation, prompting women to postpone their weddings. Key influences leading to the delay of marriages, as evident from Focus Group Discussions, are summarized as follows:

1. **Restrictions on Gatherings:** Government-imposed limitations on gathering sizes made planning and conducting large weddings difficult, with some wedding ceremonies banned.
2. **Venue Closures:** Closure of venues like hotels and wedding reception halls created challenges in finding suitable locations for weddings.
3. **Vendor Availability:** Many service providers, such as photographers, caterers, and florists, reduced services, hampering couples' ability to secure vendors.
4. **Economic Uncertainty:** Economic impacts of the pandemic led couples to delay marriages, either to save money or due to job loss.
5. **Travel Restrictions:** Travel limitations made it hard for guests to attend weddings.
6. **Health Concerns:** Concerns about pandemic-related health risks led couples to postpone weddings to safeguard themselves and their guests.

In this study, 73.3 percent of women of marriageable age expressed a desire to marry in 2020, during the pandemic's peak. However, 62.1 percent of them delayed their marriages. The primary reasons for this delay are detailed in Table 1.

Table 1 displays the reasons for delaying marriage during the COVID-19 period, presenting both the number and percentage of respondents who reported each specific reason. Among the surveyed women, stress arising from the pandemic and conflicts with their fiancé accounted for 11.3 percent of the reasons, with 9 individuals identifying this factor. A more significant proportion of respondents, constituting 51.2 percent, reported that the uncertainty introduced by COVID-19 regarding income, employment, and housing stability had threatened their ability to meet the economic needs for marriage, leading to delays in transitioning into marital life. Another substantial factor, noted by 30 respondents (37.5%), was the impact of government actions, including restrictions on weddings and the closure

of offices, which led to the postponement of weddings during the COVID-19 period.

Table 1: Reasons for delaying marriage during the COVID-19 period

Reasons	Number	Percentage
Stress faced during the COVID-19 pandemic and conflicts with fiancé	9	11.3
COVID-19 causing uncertainty in income, employment, or housing stability that has threatened ability to meet the economic needs for marriage and to delay the transition to marriage	41	51.2
Government actions (such as wedding restrictions and office closures) have delayed weddings during the COVID-19 period	30	37.5
Total	80	100.0

Source: Field Survey

The table provides valuable insights into the factors contributing to the delay in marriages during the pandemic. It shows that economic concerns resulting from the pandemic had the most substantial influence, affecting over half of the respondents. Additionally, the role of government actions in restricting wedding ceremonies is notable, indicating that external factors played a significant part in influencing marriage decisions during this period. Overall, this data underscores the complex interplay of economic, personal, and governmental factors in shaping individuals' choices related to marriage during the COVID-19 pandemic.

Two case studies underscore the primary reasons behind the postponement of marriages, which extend beyond government-imposed social distancing regulations.

Case 1: Champa's² Predicament Champa, a Sinhala Buddhist woman from Gampaha District, initially planned her wedding for 2020 but had to delay it due to COVID-19 restrictions. Champa's family faced a unique situation where three households coexisted in the same residence, with Champa's two elder brothers, who previously lived in rented homes, returning due to the pandemic's economic consequences. Their presence made it challenging to proceed with the marriage. Even after the pandemic's end, a family dispute over Champa's brothers' departure from the house continued to hinder her wedding plans, leaving the situation unresolved.

² All names are pseudonyms.

Case 2: Rani's Dilemma Rani, an Indian Tamil Hindu woman living in Nivithigala Tea Estate, Ratnapura district, faced a similar dilemma. Her parents had arranged her marriage for 2020, but the COVID-19 economic crisis compelled them to delay the wedding further. Rani's partner's family, unaware of her family's financial difficulties, pressured for a swift marriage. When Rani's family couldn't meet the customary expenses, her partner's family decided to call off the marriage.

These cases highlight the dominant role of the COVID-19 pandemic and its associated economic uncertainties in driving marriage postponements. Additionally, societal customs and parental influences continue to play a crucial part in marriage decisions, irrespective of socio-cultural backgrounds. Women often opt to delay their weddings until they achieve financial stability and clarity about their future prospects.

Absence of socio-economic disparities in the decision to delay marriage due to COVID-19

In traditional circumstances, the decision to enter into a legally recognized marriage is typically influenced by a myriad of factors, including age, educational attainment, employment status, income level, and place of residence (Cherlin, 1980; Wong, 2003; Mills et al., 2011; Jones & Gubhaju, 2009). Additionally, specific studies have explored the impact of various events and disasters on the postponement of marriages (Hamamatsu, 2011; Chandra & Yu, 2015). In the context of Sri Lanka, our study sought to determine whether the COVID-19 pandemic influenced the delay of marriages, taking into account factors such as education, employment status, income level, and place of residence, which are often associated with disparities in decisions regarding marriage postponement.

Table 2 presents the results of Chi-Square tests conducted to assess the relationship between the postponement of marriages due to the COVID-19 pandemic and various socio-economic variables. Strikingly, the Chi-Square tests reveal that these variables exhibited non-significant relationships, indicating no statistically significant association. This suggests that the impact of the COVID-19 pandemic on marriage postponement in Sri Lanka has been consistent across different socio-economic groups, irrespective of educational levels, employment status, income levels, and place of residence. In essence, women from diverse socio-economic backgrounds have experienced the postponement of their marriages in a similar manner due to the pandemic.

Table 2: Chi-Square test for delaying marriage due to COVID-19 for various socio-economic variables

Socio-economic Variables	Chi-Square Value	Asymptotic Significance (2-sided)
Educational Level	.045	.832
Employment Status	1.295	.255
Income Level	1.253	.740
Place of Residence	4.390	.111
Ethnicity	3.885	.487
N of Valid Cases		90

Source: Author's calculations

This finding highlights the pandemic's universal impact on decisions related to marriage postponement, demonstrating a remarkable absence of socio-economic differentials in the face of this unprecedented global event. It underscores the resilience of Sri Lankan women in adapting to the challenges posed by the COVID-19 pandemic, regardless of their socio-economic backgrounds.

Investigating factors affecting marriage postponement due to COVID-19: Binary logistic regression analysis

In addition to conducting the Chi-Squared test, a binary logistic regression analysis (Table 3) was undertaken to delve deeper into the factors that influence the decision to postpone marriage among unmarried women in the sample. This analysis aimed to explore the role of various variables, including educational level, urban, rural or estate sector, employment status, ethnicity, and income status, in determining whether women opted to postpone their marriage in response to the COVID-19 pandemic.

The dependent variable for this analysis is a binary variable, which signifies whether the women in the study decided to delay their marriage due to COVID-19. The responses are categorized as "yes" or "no." This logistic regression will provide valuable insights into the relationships between these variables and the likelihood of postponing marriage, offering a more comprehensive understanding of the factors driving this decision among unmarried women.

Table 3: Binary Logistic Regression analysis of marriage postponement during the COVID-19 pandemic

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Sector			2.490	2	.288	
Ref: Estate						
Urban	-1.028	1.303	.623	1	.430	.358
Rural	-.040	1.176	.001	1	.973	.961
Less educated	-1.576	.751	4.397	1	.056	.207
Ref: Better Educated						
Unemployed	-.727	.572	1.618	1	.203	.483
Ref: Employed						
Income			2.127	3	.547	
Ref: >LKR 40000						
< LKR 1000	-1.897	1.353	1.966	1	.161	.150
LKR 10000-19999	-.584	.897	.424	1	.515	.558
LKR 20000-39999	-.529	.612	.749	1	.387	.589
Ethnicity			3.411	4	.491	
Ref: others						
Sinhala	-.755	1.684	.201	1	.654	.470
SL Tamil	1.351	2.049	.435	1	.510	3.861
Indian Tamil	.400	2.155	.035	1	.853	1.492
Muslim	-.649	2.115	.094	1	.759	.523
Constant	2.345	2.167	1.171	1	.279	10.438

Source: Author's calculation

The binary logistic regression analysis reveals important insights into the factors affecting the postponement of marriage due to the COVID-19 pandemic among unmarried women (Table 3). Notably, the variable "educational level" emerges as a potentially significant predictor, with a coefficient of -1.576 and a p-value of 0.056, suggesting that it may have a borderline statistically significant effect. The odds ratio (Exp(B)) of 0.207 indicates that higher educational attainment is associated with a reduced likelihood of postponing marriage. This suggests that women with higher education levels may be more equipped to navigate the challenges posed by the pandemic and, consequently, are less inclined to delay their marriage plans. Conversely, other variables such as "sector", "employment status", "income," and "ethnic group" do not exhibit statistically significant impacts on marriage postponement. These results underscore the potential influence of educational attainment on decision-making during times of crisis, but they also highlight the complex interplay of various factors in shaping individual choices regarding marriage postponement. In conclusion, while the analysis suggests that educational level may play a role in the decision to postpone marriage due to the pandemic, it is important to consider that this effect is borderline significant, and the decision-making process is multifaceted. Factors like economic stability, risk

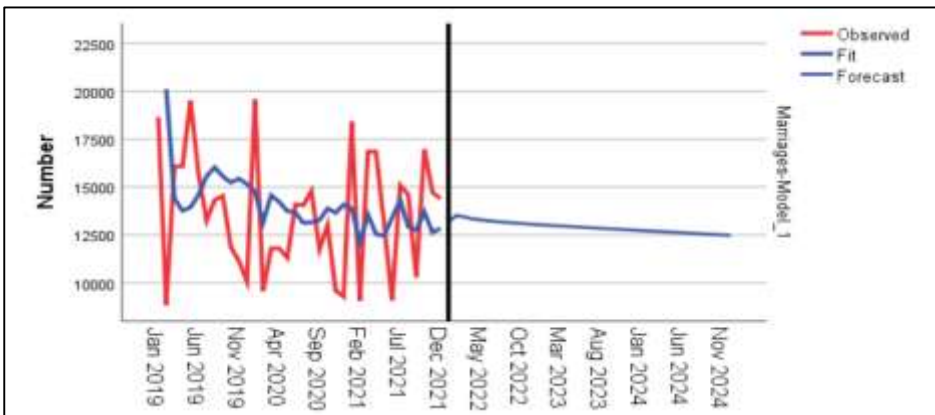
perception, adaptability, and support networks also contribute to these decisions. Therefore, the overall decision to postpone marriage is likely influenced by a combination of personal, cultural, and socioeconomic factors.

Predicting marital trends: A forecast of marriages through December 2024

Upon examining the correlogram of the number of marriages, it became evident that the time series exhibited seasonality and was non-stationary. To meet the assumptions of time series analysis, which require stationary data, we employed regular differencing. The formulated model was expressed in the form of SARIMA (3, 1, 2) x (0, 1, 1)₄. This model includes three non-seasonal Autoregressive (AR) terms, two non-seasonal Moving Average (MA) terms with one regular differencing, one seasonal MA term with one seasonal differencing, and a time span of repeating seasonal patterns of four. Furthermore, our model explains about 49.5% of the variation in the stationary component of the data. The Ljung-Box test indicates that there is no significant autocorrelation in the model residuals at a lag of 18, and there are no outliers in the data. The significance level associated with the Ljung-Box Q (18) statistic 0.259 indicates that the autocorrelations in the residuals are not statistically significant at a lag of 18. This suggests that the model adequately captures the temporal structure in the data.

Using this model, we were able to forecast the number of marriages from January 2022 to December 2024. As depicted in Figure 6, the number of marriages begins to increase in the 2023 period but subsequently declines. This decline can be attributed to delayed marriages that predominantly occurred during 2023, after which the trend stabilizes.

Figure 6: Actual and forecasted values of number of marriages, 2019 to 2024



Source: Author's calculations

The paired t-test results show a t-statistic of approximately -1.7569 with 35 degrees of freedom. The p-value is 0.08768, which is greater than the commonly used significance level of 0.05. This suggests that there is insufficient evidence to reject the null hypothesis, indicating that the true mean difference between the observed data and the predicted values is not significantly different from 0. In simpler terms, the test does not provide strong statistical evidence to conclude that the SARIMA model's predictions significantly differ from the observed data. Furthermore, the Multiple R Squared value is 0.9575, which is very close to 1. This indicates that our predicted values explain approximately 95.75% of the variance in the observed data. This is a high R-squared value, suggesting that our model provides a strong fit to the observed data.

Conclusion

COVID-19 created significant barriers to marriage, leading many women of marriageable age to postpone their weddings. These barriers included lockdowns, restrictions on public services, social distancing measures, and travel constraints. An analysis of marriage trends revealed a notable decline in marriages during 2020, with a recovery in 2021, particularly in the latter part of the year. This indicates that Sri Lankan society embraced marital unions more enthusiastically as the COVID-19 threat waned.

The field survey uncovered the challenges and uncertainties that couples faced due to the pandemic, compelling them to make tough decisions to delay their weddings. The primary reasons for postponement, as identified through surveys and case studies, were:

1. Economic uncertainty caused by COVID-19, affecting income, employment, and housing stability, thus delaying the transition to marriage.
2. Government actions, including wedding restrictions and office closures, leading to stress and conflicts with fiancés during the pandemic.

The in-depth investigations revealed that the decision to delay marriage was further compounded by the economic crisis and societal customs, regardless of a woman's socio-cultural status. Women generally opted to postpone rather than reject marriage until their prospects were brighter or their financial stability was more assured.

Importantly, the statistical analysis demonstrated that the impact of the COVID-19 pandemic on marriage postponement cut across all socio-economic groups, irrespective of factors like education, employment, income, ethnicity, or place of residence. Furthermore, the number of marriages was forecasted from January

2022 to December 2024 and an initial increase in marriages in 2023 was observed, followed by a subsequent decline, primarily attributed to the delayed marriages that took place during that year, after which the trend stabilizes.

While the decline in marriage represents a temporary delay in marriage timing, it has been significantly influenced by the COVID-19 pandemic, similar to other aspects of our social life. Understanding how the pandemic affected marriage formation also sheds light on potential effects on subsequent fertility behaviour. Given that marriage is nearly universal in Sri Lanka and childbearing predominantly occurs within marriage, it is crucial to anticipate a surge in fertility from the last quarter of 2022 through 2024. Reproductive health programs should be tailored to address the specific needs of these women who plan to have their first child sooner due to the delays caused by the pandemic.

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