

The Impact of Covid-19 Measurements on Households Status in Myanmar

By

Aung Pyae Paing

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

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ABSTRACT

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The pandemic has significantly impacted various aspects of life, including job activities, income, income changes, vulnerability, and healthcare utilization due to the pandemic restrictions. The paper explores the impact of the COVID-19 pandemic measurements on households' status in Myanmar. The study analyzes the effect on the household loss of employment, experience of reduced income, and health access of household members while the pandemic was spread out. The study conducted quantitative methods by using survey data from related websites including the WB's Phone Survey and Myanmar Household Welfare Survey. The study found that different people have different levels of impact on the stringency of measures. These unequal impacts of the pandemic caused a high risk of vulnerability and pushed many people into poverty living below and less health care access. This research aims to utilize the outcomes to inform the government on implementing mitigation stringency measures to address preexisting social and economic inequalities. The research also intends to leverage novel solutions in the future, as there is a possibility of facing other types of diseases, not necessarily COVID-19.

KEYWORDS: COVID-19, Myanmar, Employment, Income Changes, Health care Accessing

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Table of Contents

1.	Introduction	1
1.1	Study background	1
1.2	Problem Statement.....	2
1.3	Study’s objectives	3
1.4	Research questions	4
1.5	Research significance	4
1.6	Scope and limitations.....	4
1.7	Organization of the study.....	5
2.	Literature Review	6
2.1	Pandemic effect by global context.....	6
2.2	Pandemic effect on households’ socio-economy	7
2.3	COVID-19 restrictions in Myanmar	10
2.4	Empirical review.....	12
2.4.1	Pandemic crisis impact on households.....	12
2.4.2	The Pandemic restrictions’ effect	15
2.4.3	Hypothesis development	16
3.	Methodology	17
3.1	Data source and variables description	17
3.2	Probit model regression	19
3.3	Models specification.....	21
4.	Data Description, Findings and Discussion.....	22
4.1	Data description.....	22
4.2	Method.....	22
4.3	Descriptive analysis.....	23
4.3.1	Status of employment.....	23
4.3.2	Main activities of last 7 days working	23
4.3.3	COVID-19 measurement	24
4.3.4	Healthcare access	25
4.3.5	Income changed	26
4.4	Summary statistics.....	26
4.5	Multiple regression analysis	27
4.5.1	Analysis of the relationship between saving status and COVID-19 measurement	27

4.5.2	Analysis on the relationship between employment and COVID-19 measurement	29
4.5.3	Analysis of the relationship between healthcare access and COVID-19 measurement	31
4.5.4	Analysis of the relationship between income change and COVID-19 measurement.....	32
4.6	Summary of empirical findings	33
5.	Conclusion and Policy Recommendation	34
5.1	Conclusion	34
5.2	Policy recommendation	35
5.2	Limitations.....	36
6.	References	37
	Appendix 1.....	51
	Appendix 2.....	52
	Appendix 3.....	53
	Appendix 4.....	54
	Appendix 5.....	55

Lists of Table

(1)	Table (3.1) List of Variables	17
(2)	Table (4.1) Summary Statistics	26
(3)	Table (4.2) Analysis of saving status and COVID-19 measurement	27
(4)	Table (4.3) Analysis of employment and COVID-19 measurement	29
(5)	Table (4.4) Analysis of healthcare access and COVID-19 measurement	31
(6)	Table (4.5) Analysis of income change and COVID-19 measurement	32

Lists of Figures

(1)	Figure (2.1) Job time around the world	7
(2)	Figure (2.2) Labor sharing in 1st quarter of 2020 in the world	8
(3)	Figure (4.1) Status of Employment	23
(4)	Figure (4.2) Main Activities of job	24
(5)	Figure (4.3) COVID-19 Measurement	25
(6)	Figure (4.4) Healthcare	25
(7)	Figure (4.5) Income changed	26

Acronyms

COVID-19	Coronavirus Disease 2019
FY	Fiscal Year
WHO	World Health Organization
GDP	Gross Domestic Product
UN	United Nations
IFPRI	International Food Policy Research Institute
PPE	Personal Protective Equipment
PCR	Polymerase Chain Reaction
SMEs	Small and Medium-sized Enterprises
IMF	International Monetary Fund
MFI	Microfinance Institution
NGO	Non-governmental Organization
ASEAN	Association of Southeast Asian Nations
MLCS	Myanmar Living Conditional Survey
IHR	International Health Regulations
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
GoM	Government of Myanmar
MOHS	Ministry of Health and Sport
ILO	International Labor Organization
ADB	Asian Development Bank
NLD	National League for Democracy
WFP	World Food Program
ERF	Emergency Response Fund
EU	European Union
CMP	Cut-Make-Pack
GSP	Generalized System of Preferences
FDI	Foreign Direct Investment
FAO	Food and Agriculture Organization

TVET	Technical and Vocational Education and Training
HE	Higher Education
ICU	Intensive Care Unit
CERP	COVID-19 Economic Relief Plan (CERP)
UNDP	United Nations Development Programme

1. Introduction

1.1 Study background

The unexpected pandemic outbreak affected on all countries, including Myanmar, resulting in a global economic downturn. This recession has significantly affected households' well-being. The pandemic has caused a decrease in market consumption, supply, and production, disrupting the usual business cycle and some economic investments. The negative effects of these various channels include job losses or reduced working hours, business closures, and the shutdown of smaller businesses. Furthermore, the temporary halt of logistics and transportation for trade and commerce has made it difficult for individuals to commute to work and stay at home for extended periods. In addition, household consumer expenditure increased due to the prolonged school closing, and income decreased as the lockdown measurement and restricted travelling and closing business.

In April 2020, during the Water Festival in Yangon, Myanmar's former capital city, there were partial lockdowns and factory closures, along with movement restrictions. By late August, the number of reported cases had risen to 11,631, according to WHO's report on September 26, 2020. The Asia Foundation's 2020 survey revealed that the COVID-19 pandemic resulted in 16% job loss and 29% closure of businesses in Myanmar (Vile Peltovuori, 2020).

The GDP growth rate of Myanmar has slowed down drastically from 6.8% in FY 2018/2019 to 0.5% in FY 2019/20 FY 2018/19 during pandemic. The number of economies experiencing a recession is expected to exceed 90%, which is the highest since 1870. WB predicted the Myanmar economy as it will impact certain sectors, particularly urban areas, leading to increased poverty levels in Myanmar. This is due to the pandemic's interruption in the country's economic expansion, exacerbated by the country's existing poverty (WB, 2020).

The lower growth rate has led to an increase in poverty, pushing down households and making them poorer. The World Bank predicts a downward trend in the Myanmar economy, with poverty rates expected to remain low. The report highlights the impact of economic conditions on household well-being, including decreasing income and lack of job opportunities (WB, 2023). According to a survey conducted by IFPRI in July and August 2022, 46% of households have experienced a loss of income compared to before the pandemic. It has caused disruptions in both the internal and external economy, thus requiring urgent plans for economic recovery. The pandemic's effects are expected to have long-lasting economic consequences, causing economic scarring through recession. These effects may potentially undo Myanmar's significant progress in reducing poverty. The UN estimates that nearly half of Myanmar's population (48.2%) may fall into poverty due to the pandemic. The pandemic's impacts are directly linked to households' livelihoods, and it is essential to understand the problems facing these people.

This paper examines three indicators of household well-being during the pandemic: saving, employment, income and access to healthcare. The study measured the restriction's impact on households' status during the pandemic crisis. The study aims to understand the pandemic's impact on time-stable socio-economic characteristics and the severity of the measures' effect.

1.2 Problem Statement

Myanmar has grown since the 2000s with GDP growth among the highest in ASEAN and the poverty rate decreased. However, the growth and development were reluctant as the pandemic has spread in the world since 2020. It has significantly impacted Myanmar's economy, delayed economic progress and investment and potentially reversed its progress in poverty reduction. The decline in employment and earnings has been significant, and the

limited testing capacity in Myanmar may delay the resumption of economic activity compared to other countries. The pandemic disrupted economies and lives globally, necessitating extensive research in various fields. The pandemic presents an opportunity for informative research, as it has significantly impacted people's work, living, and adaptation in all regions. Myanmar's economy also has suffered due to the decreasing trade, financial flow, investment and the tourism sector. Some business and industries, particularly agriculture, have been impacted. Nearly half of the workers from the informal sector were leaving significant uncertainty about short-term growth due to containment measures and external conditions. The government's containment measures in Myanmar have led to financial difficulties for households with unemployed members and fewer working hours, resulting in food insecurity and a lack of formal education for school-aged children. The paper aimed to explore the COVID-19 measurements' impact on employment and health status in Myanmar. The study examines household well-being indicators during the pandemic, including saving, employment, income, and healthcare access, and assesses the crisis's distributional impact, severity of measures, and the impact on time-stable socio-economic characteristics.

1.3 Study's objectives

The objectives of this study are described as:

- (i) To assess the COVID-19 restriction's effect on Saving and Income among households in Myanmar,
- (ii) To assess the COVID-19 restriction's effect on employment among households in Myanmar,
- (iii) To evaluate the COVID-19 restriction's effect on healthcare access among households in Myanmar, and
- (iv) To provide insightful assessments for recovery from the pandemic

consequences in Myanmar.

The objectives explored in the literature results and recommended the policy regarding with COVID-19 recovery plan in Myanmar.

1.4 Research questions

The main question of my research is “How do COVID-19’s restrictions affect household savings, employment, income and health status in Myanmar?” The policy question is whether “the pandemic crisis contributes to or hurts households”.

The sub-questions are:

- (1) How do COVID-19’s restrictions affect household saving, employment and income among households?
- (2) Are the COVID-19 restrictions related to household health status and essential healthcare services?

1.5 Research significance

The study is crucial as it will provide valuable data on the impact of the pandemic on households in Myanmar, focusing on socio-economic status and long-term well-being. It will help understand the government's measures and the impact on employment and health. The research will help the government make informed decisions to provide financial support and aid to affected households, as well as consider policies to stimulate economic growth and create job opportunities.

1.6 Scope and limitations

The Myanmar Living Conditional Survey (MLCS) identifies 10.8 million households as poor (25.79%), vulnerable (33.13%), and secure (41.17%). So, the paper selected the

survey data from WB and related surveys which interviewed 1500 households from Myanmar. However, it doesn't represent the entire population, covers all opportunities and threats, and focuses on the impact of severe government measures during the pandemic.

1.7 Organization of the study

In the study, there were five chapters. The first chapter provides the study background and investigates the problem, objectives, questions, scope and limitations. Chapter two describes empirical and theoretical reviews based on the related articles. Additionally, chapter three will present research methodology and background information on the socioeconomic condition in Myanmar. Chapter four studies how the pandemic affected households on the factors of household saving, employment, household member income, and health status. Chapter Five captures the findings, discussions and suggestions to meet the research objectives.

2. Literature Review

This section presents the restrictions' impact on household saving, employment, income and access to healthcare during the pandemic.

2.1 Pandemic effect by global context

The pandemic has impacted social, economy, and financial aspects, including income inequality, international commerce collapse, healthcare, job losses, foreign direct investment, and travel patterns. Research has primarily focused on work, income, and job loss, with different groups at varying risk levels, mainly examining the relationship between income losses and unemployment (ILO, 2020). The pandemic has worsened income disparities, especially for low-income individuals and developing nations, increasing exposure and healthcare access risks, necessitating targeted interventions to mitigate their disproportionate effects (Priya Joi, 2020). The COVID-19 pandemic significantly affected household incomes in certain regions, particularly those reliant on farming and skilled labour. Between January and June 2020, these households experienced a 50% decrease in income, while firm-based incomes dropped to just one-quarter. Salary-based households experienced a 40% drop, while trade-based households experienced a 30% drop (Headey, 2020).

This policy restriction on trade may have led to higher food prices in the global market (Laborde D et al., 2020), and elevated risk of food poverty or hunger in numerous developing countries (It is possible that the policy restriction on trade may have caused an increase in food prices in the global market, as suggested by Laborde D et al. in 2020. This rise in prices could lead to an elevated risk of food poverty or hunger in many developing countries, as confirmed by Falkendal T et al. in 2021. Some governments' initiatives caused price highs and inflation in the market, and some investments were delayed in production

sectors. The negative effect on food emporiums, causing higher prices, has led to hunger and poverty in many regions, as noted by Falkendal T et al. (2021).

2.2 Pandemic effect on households' socio-economy

Workers and employers in the ASEAN region have faced hardships and disruptions due to the pandemic. Strict restrictions that have been imposed globally, impacting workers everywhere, include lockdowns and workplace closures. Many have experienced income loss due to fewer working hours or unemployment. The pandemic has caused the loss of working hours for some employees, as well as job loss and unemployment for others (ILO, Policy Brief, August 2021). These working hour losses have hurt the labour market. The International Labour Organization (ILO) has revised its estimate of the global working hours drop-in Q2 2020 to 5.6%, resulting in a loss of 160 million full-time jobs. It represented the declining hours in work as much 17.3 % which is equivalent the over three hundred jobs, from previous estimation. This is a significant increase from the previous estimate of 15.4% (ILO, 2021).

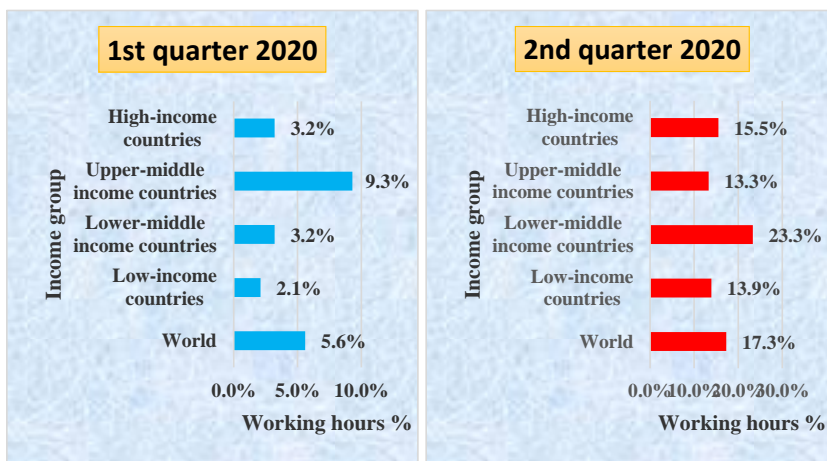


Figure 2.1 – Job time around the world (ILO,2021)

The pandemic caused the loss of working hours and jobs, resulting to a decline in labour income. The ILO predicts that the ASEAN region will have approximately 9.3 million

fewer workers in 2021 compared to 2020, slightly down from 10.6 million. The pandemic has disproportionately affected women and young workers, leading to a reduction in labor income. The ILO Monitor reports a 10.7% decrease in labour income losses due to working hours losses compared to 2019.

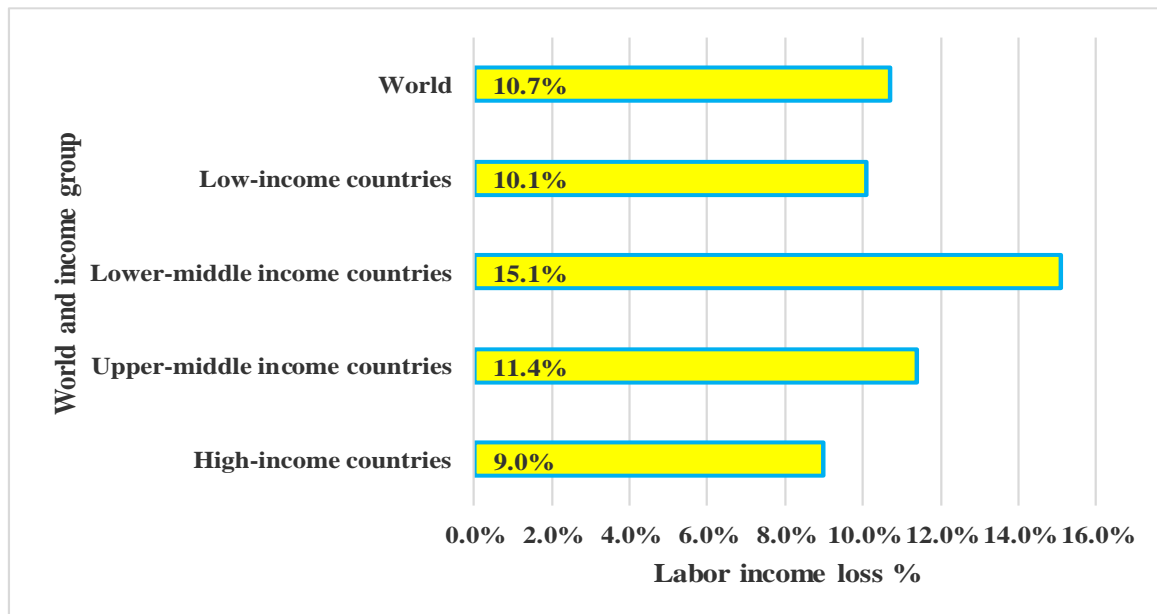


Figure 2.2 – Labor sharing in 1st quarter of 2020 in the world (ILO, 2021)

The losses are highest in upper-middle-income countries (11.4%), followed by lower-middle and low-income countries (15.1% and 10.1% respectively). The pandemic is affecting various regions, worsening the labour market, particularly in tourism industries. Countries heavily reliant on tourism have experienced long-lasting negative impacts due to travel restrictions, stay-at-home measures, border closures, and quarantine measures. This has led to a decline in tourism revenue, impacting transportation, accommodation, and food sectors, and reducing income and unemployment for employers like tour guides, guest house staff, and restaurant workers (ILO, 2021).

The Employment and Poverty Impact Assessment Report shows that in 2018, Myanmar's travel and tourism industry contributed 6.8% of the GDP, while the labour-

intensive manufacturing sector contributed 22.8%. However, global demand and supply disruptions affected both industries. The COVID-19 pandemic had better employment resilience for MSME owners, with male non-owners seeking work at 10% higher rates than average respondents. Many households were forced into poverty due to unemployment and job loss, leaving 1.3 million people in poverty.

Stable food and medicine prices are influenced by various factors such as government policies, trade restrictions, weather, global supply, energy prices, and retailer market power. The pandemic has made poor households vulnerable to rising food prices, leading to higher unemployment, lower economic growth, deficits, and decreased exports. Movement restrictions are worsening the situation, causing commodity prices to rise across the country. This has put pressure on manufacturers' margins, as they may already have reduced margins due to the pandemic and are struggling to absorb additional costs.

Before the pandemic, poverty and malnutrition reduced during the previous decade. As the pandemic spreads out globally, these problems are more persisted serious. The disruptions occurred by the pandemic in agricultural production systems had significant consequences on the availability of food, food consumption, and nutrition outcomes (Boughton et al., 2021). In general, there has been limited abnormal price volatility, with only a few exceptions. In the first wave of the pandemic, poultry prices saw a sharp rise due to disruptions in input supply. The crisis caused trade, and marketing disruptions, leading to increased food prices in urban areas. In 2021, the number of employed people was 1.6 million, resulting in higher food prices and increased hunger and food poverty in developing countries. Government stimulus initiatives may have resulted in inflationary pressures, reducing investment in productive sectors (Duncan Boughton, J. G., 2021).

2.3 COVID-19 restrictions in Myanmar

In Myanmar, the government established a committee at the national level for prevention, control and treatment to coordinate authorities' response. In March 2020, a Control and Emergency Reaction Committee was formed to assist with administrative actions like quarantining migrant workers and address economic issues related to the virus, focusing on reducing its effects. The World Health Organization's Emergency Committee announced the new coronavirus and plans to control its spread by January 23, 2020. Countries must promptly detect, isolate, treat, and trace contact persons, and inform the WHO of all related cases. WHO announced the novel coronavirus outbreak as a “public health emergency of international concern”.¹ According to Myanmar’s policy response to COVID-19 Report, October 2020, “the first two patients were on March 23 in Myanmar” (MOHS, 2020). Myanmar government implemented a semi-lockdown in August 2020 due to increasing COVID-19 cases in Rakhine State and Yangon Region. The lockdown was lifted in April 2021, but the pandemic severely impacted Myanmar's economy, leading to significant job losses and factory closures. The garment industry faced supply chain issues and SMEs suffered losses, affecting the entire region.² The government has implemented some counter ways for controlling of virus, such as closing border areas, bans on gatherings over five, closures of schools, universities, movie theatres, national parks, and churches, travel restrictions, and shutting down transportation services within regions (Myanmar’s policy response to COVID-19 Report, October 2020, pg.7).

A night curfew was imposed in some cities, especially Yangon was effectively under a curfew from 10:00 pm to 4:00 am while MOH announced to stay at home orders in 28 of 33

¹ www.Center for Policy Impact in Global Health, 2021.

² International Monetary Fund, Policy tracker’s summarization on the key economic responses by government of each country, last updated on July 2, 2021 [Internet].

townships in the Yangon Region. And existing orders were increased to all of the Yangon Region. The orders of the U.S. Embassy in Burma states;

- a) The government of employees followed the prior schedule of two weeks at the workplace and two weeks at home which was announced on September 14th.
- b) Private companies and organizations permitted remote work for their staff.
- c) Employees of cut-make-pack factories were prohibited from reporting to work from September 24 to October 7.
- d) Each household had only one member who was permitted to leave the house to get groceries or other necessities.
- e) Each household had only two people who were permitted to go outside to get medical care.
- f) Face masks must always be worn before leaving the house.
- g) Only vehicles carrying passengers from the workplace were allowed to pass through the other townships.
- h) When travelling outside to receive medical care, a vehicle has only two passengers besides the driver were allowed, however, it has allowed only one passenger when shopping inside the ward.
- i) If more people than the maximum number listed above need to leave for any emergency case, they must obtain permission from the management of the relevant ward. Only individuals who are travelling to and from work were allowed to enter or exit the ward by the permission of the ward administrator.
- j) If this directive is not followed, action will be taken by authority if this directive is not followed (Orders of U.S. Embassy in Burma, September 21, 2020).

2.4 Empirical review

2.4.1 Pandemic crisis impact on households

The pandemic has significantly impacted people's livelihoods due to their job circumstances. The Indian government's lockdown has resulted in many individuals losing their jobs and means of subsistence. Despite the different effects of pandemics, such as the Spanish Flu and Black Death, they all resulted in a decline in earnings or job loss, leaving many jobless (Nayyar D. Lives,2020). The Indian Society of Surveying conducted an online survey for the ISLE to understand people's situation during the COVID-19 crisis in May 2020. The survey involved 520 participants, and the initial findings approved the pandemic had the greatest losses in the employment sector, directly affecting individuals' means of subsistence, and the long-term and short-term implications on the economy that was unstable possibly (Rodgers G, 2020). Workers in the agricultural sector may be more resilient to economic crises due to their ability to produce more food than they consume and not rely on other food sellers or absorb unemployed workers in other sectors, especially in countries with equitable land distribution (FAO, 2021). The pandemic and lockdown's effects are not temporary; high unemployment rates are expected post-lockdown, impacting both developed and developing nations, with 10 million American workers filing jobless claims in March and April (ILO,2020).

In the first quarter of 2020, employment declined by 22.4 million and unemployment increased to 15 million in the US while other countries experienced a more muted rise due to a decline in participation. This difference is partly due to differences in temporary layoff treatment and policy mix to mitigate some suffering in the economy (ILO, 2020).

The pandemic has exposed previously hidden inequalities, with the least competent individuals often having the fewest resources. The health and employment crises have

disproportionately affected low-paid workers, particularly those with low incomes and limited expertise. Frontline workers, including doctors, cashiers, production workers, janitors, and maintenance personnel, are employed in industries with poor pay, risking their health to maintain vital services during lockdowns (Si Ying Tan et al, 2023).

Meena and Sharma's (2022) study on the COVID-19 effect in India, found a significant correlation between employment growth and job status, with a strong correlation between gender, perks, allowances, salary level, and work type. However, regression analysis showed a favourable correlation between COVID-19's effect on employees' income and expenditures and their job status, with little correlation between income and spending and work status. The pandemic has significantly affected Asian economies, becoming lower incomes, reduced work hours, reduced sales, increased homelessness, higher costs, and limited access to education. Factors such as income class, demographics, and COVID-19-induced factors influence the likelihood of income decline, with at least one job loss or shorter working hours increasing financial risk (www.alphabeticalorder.org, 2021).

The increase in joblessness was largely due to unemployed individuals temporarily ceasing their job search or availability during lockdowns, which are not considered part of the labor force. This led to a significant decrease in participation rates in every G20 nation, except the UK. Many felt it was pointless to seek jobs during lockdowns or could not accept paid employment due to additional responsibilities. Cross-border trade has ceased, schools have shuttered, and economies have been slowed by the pandemic. The outbreak had a significant harm to tourism industries (ILO, 2020).

It has significantly impacted healthcare systems, causing challenges for medical professionals. High rates of psychological stress, burnout, and suicide among healthcare workers have been observed. Financial difficulties, uncertainty about the impact's persistence,

and uncertainty about the potential for future impacts have contributed to these negative outcomes. Studies have shown that increased stress and anxiety negatively impact sleep and self-efficacy among healthcare workers (Gupta,2021).

The Pennsylvania Supreme Court classified COVID-19 as a natural disaster. Statistics show that natural disasters have a negative short-term effect on the macroeconomy and that costlier events cause more severe output slowdowns. After a disaster of comparable size, poorer countries and smaller economies frequently suffer significantly bigger output losses than industrialized countries and larger economies. The healthcare gap among households is large and depends on the income level (Yei N H, 2020). He studied the impact of a pandemic on diabetes and healthcare access in India, China, Hong Kong, Korea, and Vietnam, focusing on rural regions and minorities. They used multivariable logistic regression analysis with the survey to evaluate the lockdowns' effect on age, sex, and socioeconomic status (Singh et al. 2022).

The crisis caused serious healthcare services, causing significant morbidity and death, psychological impacts, and economic ramifications. The Indian government implemented measures like lockdowns, social distancing, self-isolation, and protecting vulnerable individuals. Medical professionals are working to protect people, families, and communities from adverse situations due to a global health emergency (Gupta,2021). The COVID-19 pandemic has disproportionately affected disadvantaged communities, reversing decades of progress towards healthier populations and poverty reduction. The research argued government programs and policy approaches to help vulnerable citizens, revealing various mitigation techniques across 15 countries, including migrant labourers, sex workers, convicts, and the elderly (Si et al, 2023).

2.4.2 The Pandemic restrictions' effect

According to research by Sher 2023, Young people are vulnerable to economic downturns due to recent hires, unemployment, and lack of financial resources, working in less protected jobs due to COVID-19. He explored the impact of COVID-19 on adolescent employment patterns and the effects on youth in developed and developing nations. Young people, who lack financial means, are more vulnerable to lockdowns and containment measures, leading to a three-fold higher unemployment rate than older individuals. The International Labor Organization predicts a 14.0% global young unemployment rate in 2023, while adult unemployment remains at 4.4% (Sher, 2023).

The introduction of such stringent regulations might eventually affect people's living standards as well as the economy. The region would reportedly face several changes, including a potential human capital accumulation of children decreasing as well as job and income losses (ILO 2020). Myanmar's garment factories have closed due to severe pandemic measures, including delays in construction projects and material shortages (ADB, 2020).

The pandemic led to migrant workers returning home before lockdown, experiencing job scarcity and low pay. This resulted in a decrease in families' income due to the loss of remittance income, with households relying on remittance income being more affected. The global pandemic has significantly impacted Myanmar's economy and job market, leading to increased job scarcity and decreased job opportunities. Restrictions have forced businesses and factories to close, particularly in the tourism and hospitality sectors. The ILO Report reports that around 1.2 million people were uncertain of jobs in Myanmar during the crisis (ILO,2020). The pandemic has led to increased food prices, unemployment, and economic growth, particularly for low-income households. This has resulted in higher deficits, decreased exports, and increased unemployment. Movement restrictions are exacerbated by

rising commodity prices, further putting pressure on manufacturers' margins. As manufacturers already face reduced margins due to the pandemic, they face challenges in absorbing additional costs.

The COVID-19 stimulus programs may have increased inflation and decreased investment in profitable industries, leading to increased food costs and increased hunger and poverty. Recent studies have documented significant shifts in food costs, such as increased vegetable costs in Ethiopia and variations in fresh vegetable prices in China and India (Bairagi S, 2022).

2.4.3 Hypothesis development

This research would like to explore the COVID-19 restrictions' effect on Savings, employment, income change and healthcare access among households in Myanmar. The study included four hypotheses such as;

- **H₁**: COVID-19 restrictions (Stay-at-home, Curfew, closure of Business, Restricted travel) have a significant effect on a household's savings.
- **H₂**: COVID-19 restrictions (Stay-at-home, Curfew, closure of Business, Restricted travel) have a significant effect on a household's employment.
- **H₃**: COVID-19 restrictions (Stay-at-home, Curfew, closure of Business, Restricted travel) have a significant effect on a household's income.
- **H₄**: COVID-19 restrictions (Stay-at-home, Curfew, closure of Business, Restricted travel) have a significant effect on a household's healthcare access.

3. Methodology

This section presents the restrictions' impact on household employment, savings, income and healthcare access during a pandemic.

3.1 Data source and variables description

Below Table 3.1 shows the list of variables including variable name, type, description and definition. The data are collected by the following survey third round period.

1. COVID-19 High Frequency Phone Survey 2020-2021
(<https://microdata.worldbank.org/index.php/catalog/4035/related-materials>)
2. Myanmar Household Welfare Survey
(<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/1R3F3U&version=1.0>)

Variable name	Variable Type	Measurement description	Definition
State/Region	Discrete	1 = State, 0 = Region	Administrative area for the respondents
Mode of living	Continuous	1 = Urban, 2 = Rural	Place of residence for the respondents
Age of respondents	Continuous	1 = Less than 20 years old, 2 = Between 21 to 30 years old, 3 = Between 31 to 40 years old, 4 = Age over 41	The age range of respondents in years
Gender of respondents	Binary	1 = Male, 2 if otherwise	Proportion of gender-specific counts

Relationship of household head	Categorical	1 = Household head, 2 = Spouse, 3 = Children, 4 = Children in law, 5 = Parents, 6 = Parent-in-law, 7 = Grandchildren, 8 = Grandparent, 9 = Brother/Sister, 10 = Nice/Nephew, 11 = Brother-in-law/Sister-in-law, 12 = Other relatives, 13 = Non-relatives	The relationship between respondents and household head
Adult's age 15 and above	Continuous	Number	Member of households aged 15 and above
Age 0 to 15	Continuous	Number	Members of households age 0 to 15
Govt. Measure: Advised citizens to stay at home	Binary	1 = Yes, 0 = No	Whether have any information that respondents received on staying at home as the government's preventive measure against the Coronavirus
COVID Measure: Avoid people gathering events	Binary	1 = Yes, 0 = No	Whether have any information that respondents received on self-isolation as a preventive measure against the Coronavirus
Govt. Measure: Restricted travel within the country	Binary	1 = Yes, 0 = No	Whether have any information that respondents received on restricted travel within the country as the government's preventive measure against the Coronavirus
Govt. Measure: Closure of non-essential businesses	Binary	1 = Yes, 0 = No	Whether have any information that respondents received on the closure of non-essential businesses as government's preventive measure against the

			Coronavirus
Govt. Measure: Closure of schools and universities	Binary	1 = Yes, 0 = No	Whether have any information that respondents received closure of school as the government's preventive measure against the Coronavirus
Household income status	Categorical	0 = Stay the same, 1 = Gone down, 2 = Gone up	Household income status from the beginning of the pandemic to now
Household member savings currently	Binary	1 = Yes, 0 = No	Whether household members increase their savings during the Coronavirus crisis.
Household's member's employment	Binary	1 = Yes, 0 = No	Whether household members have employment status during the Coronavirus crisis.
Accessing Healthcare Access	Binary	1 = Yes, 0 = No	Whether household members access health care services during the Coronavirus crisis

Table 3.1 – List of Variables

3.2 Probit model regression

The Probit Model is used for binary outcome variables (dependent variables) with two possible outcomes, affected or not affected. In this study, Probit Model Regression Analysis was used to analyse the relationship between government restrictions and household status. The paper utilizes the following probit regression:³

$$P(Y=1) = \Phi(\beta_i X_j)$$

³ Bliss, C.I. The method of Probits. Science 1934, 79, 38-39.

In this research, the dependent variable is the dummy or binary response nominal variable: which indicates the household saving status during the pandemic (Y). It only takes on values 0 and 1, making it a binary response nominal variable. Y=0 if there are no significantly affected COVID-19 restrictions on household Saving status, Employment situation, Income change and Healthcare access and Y=1 if there are significantly affected COVID-19 restrictions on household Saving, Employment and Healthcare access status. The independent variables or explanatory variables are used to describe how COVID-19 restrictions on households. Vector Xj in explanatory variables include the factors affecting the COVID-19 restrictions on households such as Savings, Employment situation, perceptions of Income changes, and accessing Health care services.

Results for each model are presented with an explanation;

- i. For the explanatory variable, “Saving of household’s member” the probability of being affected by household status during COVID-19 is calculated as follows:

$$P (Y=1\SA) = \Phi (\beta_0 + \beta_1SA) \dots\dots\dots (1)$$

where Φ = the cumulative distribution function of a standard normal variable

- ii. For the explanatory variable, “employment situation of household’s member” the probability of being affected by household status during COVID-19 is calculated as follows:

$$P (Y=1\UNEMP) = \Phi (\beta_0 + \beta_1UNEMP) \dots\dots\dots (2)$$

where Φ = the cumulative distribution function of a standard normal variable

- iii. For the explanatory variable, “perceptions of household’s member on income” on the probability of affected on household status during COVID-19 is calculated as follows:

$$P (Y=1\IN) = \Phi (\beta_0 + \beta_1 IN11) \dots\dots (3)$$

where Φ = the cumulative distribution function of a standard normal variable

- iv. For the explanatory variable, “perceptions of household’s member on healthcare access” on the probability of affected on household status during COVID-19 is calculated as follows:

$$P (Y=1|HA1, HA2) = \Phi (\beta_0 + \beta_1 HA1 + \beta_2 HA2) \dots\dots (4)$$

where Φ = the cumulative distribution function of a standard normal variable

3.3 Models specification

The study aimed to examine the COVID-19 restrictions’ effect on households’ employment, income, savings and healthcare access. The functional relationship between the independent variables and the dependent variables is given as follows;

$$Y (\text{Saving}) = \beta_0 + \beta_1 ST (\text{Stay at Home}) + \beta_2 CF (\text{Avoid People}) + \beta_3 CB (\text{Restricted within country travel}) + \beta_4 RT (\text{Restricted non-essential business}) + \beta_5 RT (\text{Closure of Universities})$$

$$Y(\text{Employment}) = \beta_0 + \beta_1 ST (\text{Stay at Home}) + \beta_2 CF (\text{Avoid People}) + \beta_3 CB (\text{Restricted within country travel}) + \beta_4 RT (\text{Restricted non-essential business}) + \beta_5 RT (\text{Closure of Universities})$$

$$Y (\text{Health care access}) = \beta_0 + \beta_1 ST (\text{Stay at Home}) + \beta_2 CF (\text{Avoid People}) + \beta_3 CB (\text{Restricted within country travel}) + \beta_4 RT (\text{Restricted non-essential business}) + \beta_5 RT (\text{Closure of Universities})$$

$$Y (\text{Income changed}) = \beta_0 + \beta_1 ST (\text{Stay at Home}) + \beta_2 CF (\text{Avoid People}) + \beta_3 CB (\text{Restricted within country travel}) + \beta_4 RT (\text{Restricted non-essential business}) + \beta_5 RT (\text{Closure of Universities})$$

4. Data Description, Findings and Discussion

This chapter covers an analysis of data collected from the 2020–2021 COVID-19 High Frequency Phone Survey. The purpose aims to examine how the COVID-19 epidemic has affected employment, health status health care, and income quintiles among households in Myanmar by using secondary data. Regression analysis was applied to investigate the correlation between the measurement of COVID-19 and savings, employment, healthcare access, income changes among households in Myanmar.

4.1 Data description

The objective of this chapter is to explain in detail an investigation on how COVID-19 readings affect households' status within Myanmar by using binary variables. The dependent variables are savings, employment, healthcare access, and income change. The independent variables are control variables such as region, resident, gender, respondent's age, relationship of household head, aged between 1 and 2 years, aged between 15 and 16 years, over 65 years old and main variables such as avoiding people, stay at home, closure of school/universities, and closure of businesses. The analysis is presented in the form of graphs, tables, and charts.

4.2 Method

In this paper, a probit regression model will be employed (using Stata software) in order to examine the connection between the measurement of COVID-19 and household-related factors.

4.3 Descriptive analysis

4.3.1 Status of employment

Employment is also an essential objective for the income quintile. Income levels can have an impact on living standards, health status, and healthcare access among households. This study shows people who worked in the last 7 days in the job. The figure (1) shows unemployment is higher than employment amid COVID-19 pandemic. The effect of COVID-19 in Myanmar on employment varies based on the quintile of household income.

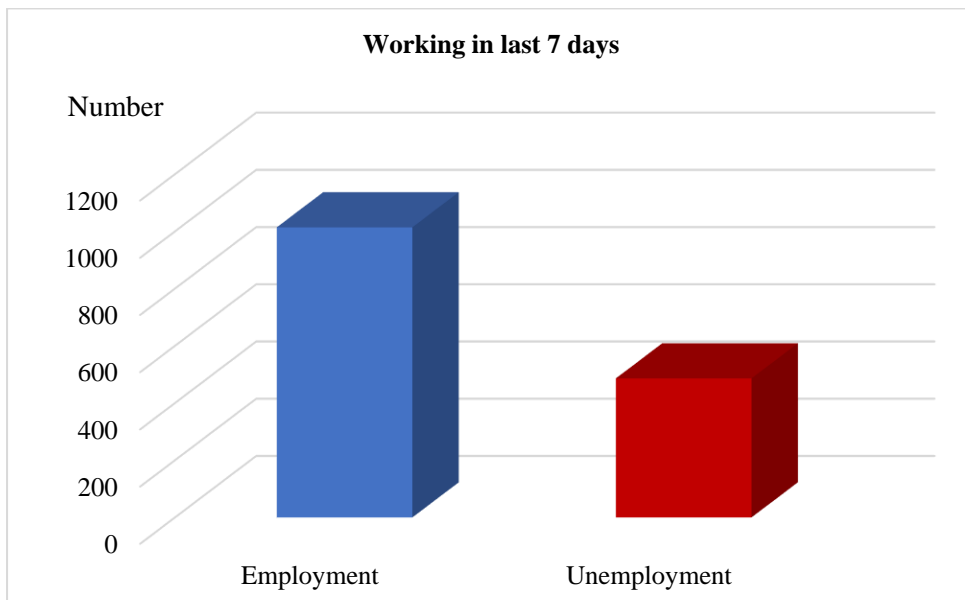


Figure 4.1 – Status of Employment

Source: 2020-2021 COVID-19 High-Frequency Phone Survey

4.3.2 Main activities of last 7 days working

Employment depends on the main activities such as wholesale and merchandizing trade, auto repair, water source, transportation and packing, property activities, public administration, skilled and practical activities, service, mining and dig up, industrial, data and correspondence, social well-being and social service, monetary and insurance, electrical, gas, supplies of steam and air conditioning, education, building, the arts, amusement, and leisure,

fisheries, forestry, and agriculture, household activities as employers, actions of organizations and bodies that are extraterritorial, activities related to lodging and food service the following figure(4.2) illustrations the distribution of career. The most substantial number of main activities is agriculture, forestry, and fishing, retail and wholesale trade is the second-largest sector, and auto repair and the third largest section is education. The improvement of main activities will be effective on income level.

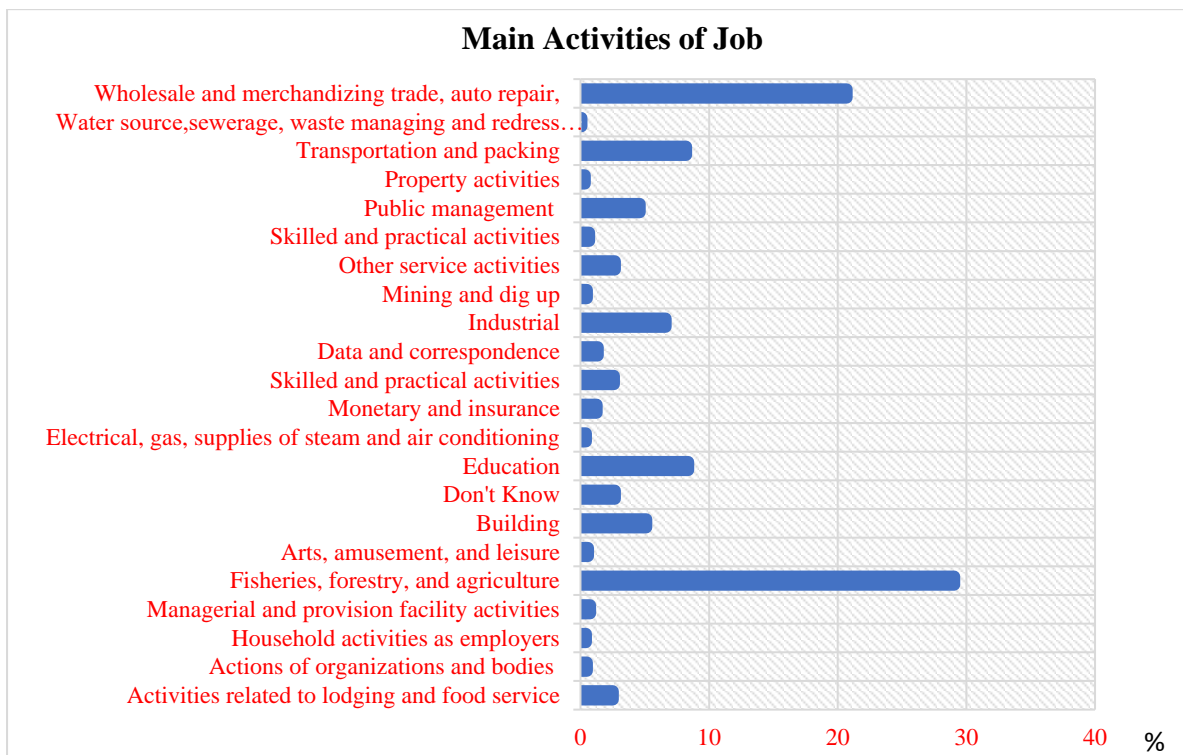


Figure 4.2 – Main activities of job

Source: 2020-2021 COVID-19 High-Frequency Phone Survey

4.3.3 COVID-19 measurement

During the COVID-19 pandemic, several experts have advised using restricted measurement. The figure (4.3) shows COVID-19 protective measures stay at home is 27.58%, avoiding people is 29.79%, travel within country area is 21.53%, closure of schools and universities is 6.49% and closure of business is 14.60%.

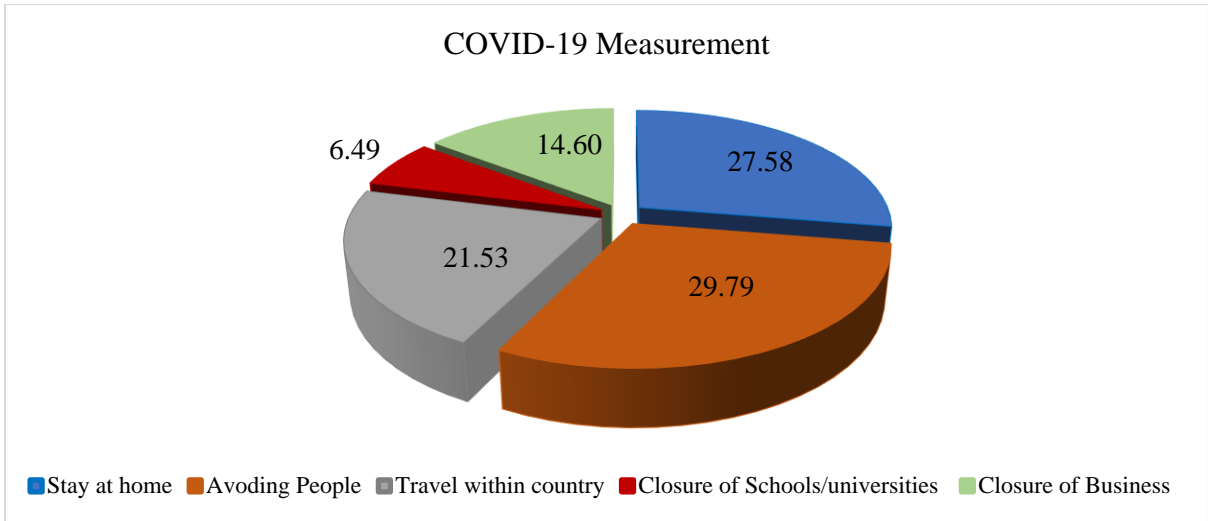


Figure 4.3 – COVID-19 Measurement

4.3.4 Healthcare access

Many people make use of the hours of healthcare access during the COVID-19 pandemic that is more likely than no access shown in Figure 4. 4.

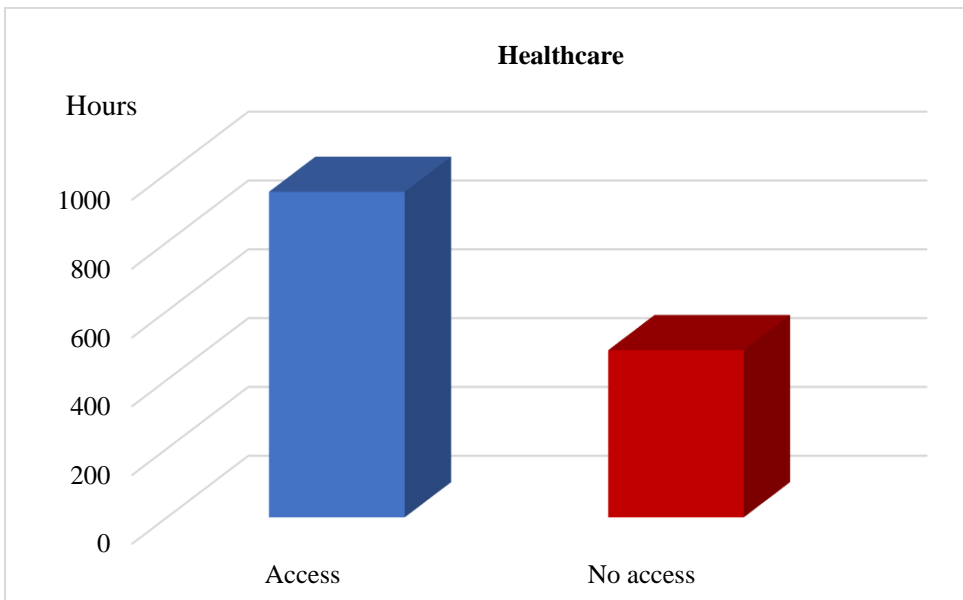


Figure 4.4 – Healthcare

4.3.5 Income changed

During the COVID-19 pandemic, several people face their income changed by the same payment, decrease, and increase in jobs. In Figure 4.5, the same income is the highest number; decreased payment is the second highest number; the last number is increased payment from jobs.

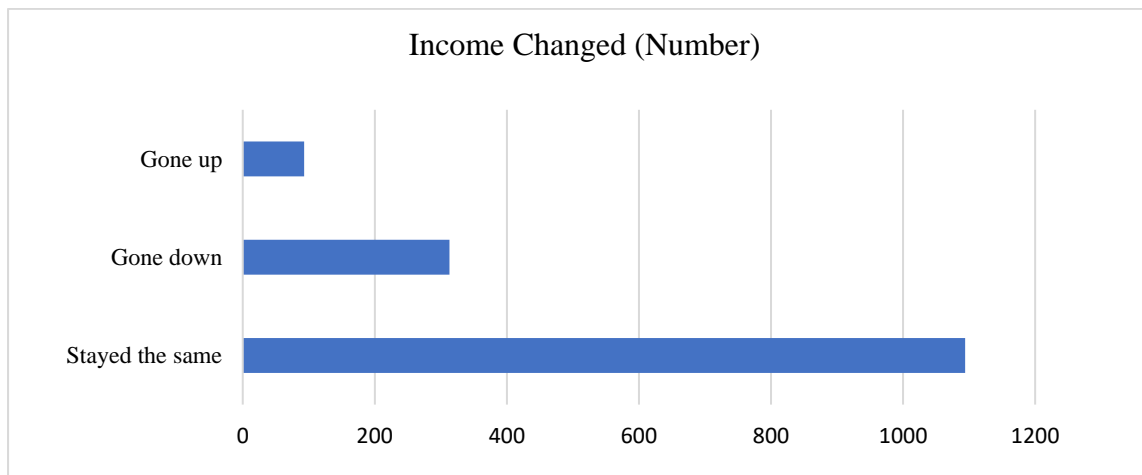


Figure 4.5 – Income changed

4.4 Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Region	1500	0.265	0.442	0	1
Resident	1500	1.689	0.463	1	2
Gender	1500	1.465	0.499	1	2
Respondents' age	1500	3.281	3.871	1	82
Relationship with HH head	1500	2.198	1.799	1	13
Aged between 01 and 02 yrs	1500	0.211	0.408	0	1
Aged between 15 and 64 yrs	1500	0.835	0.372	0	1
Above 65 years old	1500	0.291	0.455	0	1
Avoiding people	1500	0.141	0.348	0	1
Stay at home	1500	0.125	0.330	0	1
Travel within country area	1500	0.097	0.297	0	1

Closure of schools/universities	1500	0.029	0.169	0	1
Closure of business	1500	0.066	0.248	0	1
Employment work last 7days	1500	0.676	0.468	0	1
Hour healthcare access	1500	0.631	0.483	0	1
Saving	1500	0.632	0.482	0	1
Income changed	1500	0.333	0.588	0	2

Table 4.1 – Summary Statistics

4.5 Multiple regression analysis

The association between the COVID-19 measurement impact and household status using regression analysis. The factors were analyzed by the researcher to determine their statistical significance in connection to COVID-19's effects on the states. The probit model gives an approximation of the relationship between the dependent variable and independent factors by minimizing the sum of squares in the difference between the observed and predicted values of the straight-line-shaped dependent variable. Within the context of a bivariate model—that is, a model where a single independent variable (X) predicts a single dependent variable (Y)—we will discuss probit regression. Conversely, the probit regression methodology may be applied with a multivariate probit theory that includes two or more independent variables in ease.

The research applied a probit regression model.

4.5.1 Analysis of the relationship between saving status and COVID-19 measurement

Saving	Coef.	t.Err.	t-value	p-value	[95% Conf	Interval	Sig
Region	-0.187	0.077	-2.44	0.015	-.0337	-0.036	**
Resident	-0.034	0.073	-0.46	0.644	-0.178	0.110	
Gender	-0.062	0.068	-0.91	0.365	-0.195	0.072	
Respondents' age	0.001	0.009	0.11	0.913	-0.017	0.019	

Relationship with HH head	-0.001	0.019	-0.05	0.958	-0.038	0.036	
Aged between 01 and 02 yrs	0.001	0.083	0.02	0.987	-0.162	0.164	
Aged between 15 and 64 yrs	0.006	0.092	0.07	0.948	-0.175	0.187	
Above 65 years old	0.032	0.075	0.43	0.667	-0.115	0.180	
Avoiding people	0.024	0.101	0.23	0.814	-0.175	0.222	
Stay at home	0.006	0.112	0.05	0.961	-0.214	0.225	
Travel within country area	-0.193	0.124	-1.56	0.119	-0.435	0.050	
Closure of schools/universities	-0.85	0.214	-3.96	0.000	-1.270	-0.429	***
Closure of business	0.08	0.141	0.57	0.570	-0.196	0.356	
Constant	0.56	0.196	2.86	0.004	0.177	0.944	***
Mean dependent var	0.634		SD dependent var			0.482	
Pseudo r-squared	0.016		Number of obs			1466	
Chi-square	31.581		Prob > F			0.003	
Akaike crit. (AIC)	1922.621		Bayesian crit. (BIC)			1996.685	

Standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$

Table 4.2 – Analysis of saving status and COVID-19 measurement

The study uses a binary outcome variable, and it has a probit model in place. As a result, using our predictors, the model will forecast the chance of admission. The standard normal's cumulative distribution function is used by the probit model. This model estimates the the dependent variable and the independent variables' connection. The probit results indicate that determining maximum likelihood in logistic regression requires restatement. The probit regression coefficients reflect the change in the probit index for a one-unit change in the predictor.

The Adjusted R-squared value is usually somewhat less than the Multiple R-squared value because it accounts for how many variables are included in the model to the data. The interpretation among the size of the R2 is always between 0 and 100%. The result corresponds to those obtained multiple R2 is 0.9633. It shows showing all variables are fundamental drivers of COVID-19 measurement. Each term's P-Value test results It is useless

to assume that the coefficient equals zero, which is the null hypothesis. A p-value of 0.05 indicates that the null hypothesis cannot be rejected. Stated differently, predictors with low p-values are most likely going to be a useful addition to the model since variations in the predictor's value correspond to changes in the related variables. The result of the P- the value of household-related factors and COVID measurement variables all are significant because the effect of the p-value is 0.0000 and <0.001. The variable shows predictor variable has a relationship. Considering the fact that the p-value is statistically significant, the null hypothesis can be rejected.

The finding suggests a significant relationship between savings and the COVID-19 measurement of restricted school and university closure. The model indicates the coefficient of closure of schools and universities is 0.327, it shows a unit decrease in saving amidst the COVID-19 outbreak. Based on data from the 2020–2021 COVID-19 High-Frequency Phone Survey, the education sector is third highest among main activities of the last 7 days working for households. The study examines the closing of schools and universities which impacts household income by reducing savings among the COVID-19 epidemic. Nevertheless, the control variable's coefficient, main variables such as avoiding people, staying at home, travelling within the country area, and closure of business are not significant in the model. This paper indicates the COVID-19 measurement negative impacts on household status as saving according to probit regression result.

4.5.2 Analysis on the relationship between employment and COVID-19 measurement

Employment	Coef.	t.Err.	t-value	p-value	95% Conf	Interval	Sig
Region	-0.070	0.078	-0.90	0.369	-0.223	0.083	
Resident	0.084	0.074	1.13	0.256	-0.061	0.228	
Gender	0.071	0.069	1.03	0.304	-0.065	0.207	
Respondents' age	0.001	0.009	0.06	0.952	-0.017	0.018	

Relationship with HH head	0.020	0.019	1.05	0.296	-0.018	0.059	
Aged between 01 and 02 yrs	-0.005	0.084	-0.06	0.952	-0.170	0.160	
Aged between 15 and 64 yrs	0.070	0.094	0.75	0.452	-0.113	0.254	
Above 65 years old	-0.058	0.076	-0.76	0.446	-0.206	0.091	
Avoiding people	-0.156	0.101	-1.55	0.122	-0.353	0.041	
Stay at home	0.257	0.117	2.20	0.028	0.028	0.486	**
Travel within country area	-0.119	0.126	-0.95	0.344	-0.366	0.128	
Closure of schools/universities	-0.231	0.210	-1.10	0.273	-0.643	0.181	
Closure of business	-0.291	0.138	-2.11	0.035	-0.561	-0.021	**
Constant	0.164	0.196	0.83	0.404	-0.221	0.548	
Mean dependent var	0.673		SD dependent var		0.469		
Pseudo r-squared	0.010		Number of obs		1466		
Chi-square	18.402		Prob > F		0.143		
Akaike crit. (AIC)	1863.612		Bayesian crit. (BIC)		1937.676		

Standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$

Table 4.3 – Analysis of employment and COVID-19 measurement

The result implies a strong relationship between dummy variables are COVID measurement of restricted stay at home and closure of business with employment. The model indicates the coefficient of stay at home is 0.257, it shows one unit increase in employment. This study examines employees more worked from home by the COVID-19 measurement as stays in at home throughout the COVID-19 epidemic. Similarly, most businesses closed according to the COVID-19 measurement restrictions. Meanwhile, employees worked from home for their jobs. Thus, the model indicates the coefficient of closure of business is 0.291, it is showing a unit decrease in employment. This paper studies most businesses are temporarily closed but some businesses are completely shut down due to the impact of COVID-19 measurement.

4.5.3 Analysis of the relationship between healthcare access and COVID-19

measurement

Healthcare Access	Coef.	t.Err.	t-value	p-value	[95% Conf	Interval	Sig
Region	-0.130	0.080	-1.63	0.103	-0.287	0.026	
Resident	0.193	0.075	2.57	0.010	0.046	0.341	**
Gender	-0.149	0.071	-2.11	0.035	-0.288	-0.011	**
Respondents' age	0.043	0.039	1.11	0.269	-0.033	0.118	
Relationship with HH head	-0.003	0.020	-0.14	0.888	-0.042	0.037	
Aged between 01 and 02 yrs	-0.103	0.087	-1.19	0.236	-0.273	0.067	
Aged between 15 and 64 yrs	0.945	0.095	9.94	0.000	0.758	1.131	***
Above 65 years old	0.053	0.078	0.68	0.494	-0.099	0.206	
Avoiding people	-0.313	0.102	-3.07	0.002	-0.512	-0.113	***
Stay at home	-0.025	0.117	-0.21	0.832	-0.253	0.204	
Travel within country area	0.471	0.138	3.41	0.001	0.200	0.742	***
Closure of schools/universities	-0.001	0.222	-0.00	0.997	-0.435	0.434	
Closure of business	-0.407	0.142	-2.87	0.004	-0.686	-0.129	***
Constant	-0.560	0.234	-2.40	0.017	-1.018	-0.102	**
Mean dependent var	0.645		SD dependent var			0.479	
Pseudo r-squared	0.091		Number of obs			1466	
Chi-square	174.143		Prob > F			0.000	
Akaike crit. (AIC)	1760.571		Bayesian crit. (BIC)			1834.635	

Standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$

Table 4.4 – Analysis of healthcare access and COVID-19 measurement

The result implies a strong relationship between residents, gender, aged between 15 and 64 years, avoiding people, travel within the country area and closure of businesses with healthcare access. The model indicates the value of residents is 0.193, it shows an increase of one unit in healthcare access. This study shows urban residents utilized hours of vaccination as healthcare access in the COVID-19 disease. The theory indicates the coefficient of gender

is 0.149, it shows a unit decrease in healthcare access. This study finds males do not utilise hours of vaccination as healthcare access through the COVID-19 sickness. The result 1 indicates the coefficient of ages between ages 15 and 64 is 0.945, which is one increase in healthcare access. This paper examines aged over 60 years people as priority people who have more chance to utilise hours of vaccination as healthcare access by COVID-19 health policy amid the COVID-19 a pandemic. The model indicates the coefficient of avoiding people is 0.313, it shows a unit decrease in healthcare access. This paper investigates avoiding people did not go anywhere to protect against infection that will not be utilization of healthcare access. The model indicates the coefficient of travel within the country area is 0.471, it shows a unit increase in healthcare access. The model indicates the coefficient of closure of business is 0.407, which shows a unit decrease in healthcare access.

4.5.4 Analysis of the relationship between income change and COVID-19 measurement

Income Changed	Coef.	t.Err.	t-value	p-value	[95% Conf	Interval	Sig
Region	-0.041	0.081	-0.50	0.614	-0.200	0.118	
Resident	0.040	0.077	0.52	0.600	-0.110	0.190	
Gender	0.025	0.071	0.36	0.722	-0.115	0.165	
Respondents' age	-0.018	0.018	-1.02	0.308	-0.052	0.017	
Relationship with HH head	-0.007	0.020	-0.35	0.729	-0.046	0.032	
Aged between 01 and 02 yrs	-0.001	0.087	-0.01	0.995	-0.171	0.170	
Aged between 15 and 64 yrs	-0.024	0.097	-0.25	0.802	-0.215	0.166	
Above 65 years old	-0.022	0.078	-0.28	0.782	-0.176	0.132	
Avoiding people	-0.076	0.106	-0.71	0.475	-0.285	0.132	
Stay at home	0.117	0.116	1.00	0.317	-0.112	0.345	
Travel within country area	-0.284	0.136	-2.08	0.037	-0.551	-0.017	**
Closure of schools/universities	0.220	0.212	1.04	0.300	-0.196	0.636	
Closure of business	0.297	0.141	2.11	0.035	0.022	0.573	**

Constant	-0.616	0.209	-2.95	0.003	-1.027	-0.206	***
Mean dependent var	0.333		SD dependent var			0.591	
Pseudo r-squared	0.007		Number of obs			1466	
Chi-square	11.896		Prob > F			0.536	
Akaike crit. (AIC)	1724.585		Bayesian crit. (BIC)			1798.649	

Standard errors in parentheses; *** $p < .01$, ** $p < .05$, * $p < .1$

Table 4.5 – Analysis of income change and COVID-19 measurement

The findings suggest a strong correlation between travel within a country area and the closure of business with income change. According to the model, travel within the country area dropped by 0.284, which shows one one-unit decrease in income change. The model indicates the coefficient of closure of business is 0.297, it shows a unit decrease in income change. This study examines most of the businesses closed that will be decreased income during the COVID-19 pandemic.

4.6 Summary of empirical findings

This paper investigates whether the impact of COVID-19 measurement on household status in Myanmar is significantly correlated. Otherwise, it examines the examination of the relationship between saving, employment, healthcare access, and income changes with household factors. According to the result, employment impact on income quintile in the COVID-19 disease. The regression results indicate that this study determines closure of schools and universities and savings have a relationship; stay at home and employment have a positive correlation; closure of business and employment is a negative relationship; urban residents, aged between 15 and 64 years, avoid people, and closure of business are negative relationship except travel within country area with healthcare access; travel within country area and closure of business are negative relationship with income changed. This study examines the relationship between Covid-19 measures and household status.

5. Conclusion and Policy Recommendation

5.1 Conclusion

The study examines how COVID-19 impact access to healthcare, employment, and health among households (by income quintiles) in Myanmar. The multi-probit model results show that COVID-19 measurement impacts household factors. The government of Myanmar grappled with implementing COVID-19 policies in a rapidly changing environment. Apart from workers' income loss under the conditions when industries were fully active, this study observed that most workers lost a significant amount of their income during the temporary closure of the workplace in 2020. This study observed that lockdown measures significantly impacted many respondents' income. For those who are employed in the retail industry and were badly impacted by the initial outage, the rehabilitation process has been slow.

The government strengthened its defenses against the most vulnerable citizens amid the COVID-19 pandemic with great speed. Distribution of food, power aids, and supplements compared to current cash transfers, such as social pensions and cash payments for mothers and children, have all been examples of assistance programs. The financial assistance provided by the initiative has attained almost 5.7 million households will be impacted by August 2020. However, as 17% of homes in the top quintile and bottom quintile also received this type of government support, it did not significantly help the poorest households. Regarding other programs, it has likewise proven difficult to direct assistance toward people who are most in need. It was more probable for food aid to fall into the quintile with the lowest consumption levels, but the electricity subsidy primarily benefited wealthier households.⁴

⁴ https://myanmar.un.org/sites/default/files/2020-11/COVID-19%20Socio-Economic%20Impacts_Monthly%20Digest%205.pdf

To effectively establish measures and policies to limit the pandemic's effects and improve recovery, it is imperative to have a thorough understanding of the COVID-19's socioeconomic effects on various industries, demographic groupings, genders, and geographical locations. Numerous socio-economic impact evaluations are carried out in Myanmar by UN organizations to augment the body of evidence and guide policymaking.

5.2 Policy recommendation

Myanmar government has to support financial to households to facilitate their basic needs in the short term. But that will release the current requirements of households and fill a little amount to the expenditure of households. The government must establish social sectors that are supportive of health, ensure that people have access to healthcare professionals and facilities, and give enough health services and credit to the nation's general populace through health policy. The government should focus more on facilitating access to vulnerable people as well as the poor and supporting food and medicines for the utilization of health care.

Additionally, policymakers should engage in widespread sensitization campaigns to raise awareness of the importance of employment, especially among low-income households in Myanmar. The government and all parties have to cooperate the creating job opportunities, assisting with finances or food, to monitoring the utilization of health care among income quintiles from households in Myanmar.

For long-term treatments to recover the losses of the global health crisis impact, the Myanmar government set up the Economic Relief Plan for COVID-19 (CERP) plan but there are composed policies and proposals not cover activities for all. Therefore, effective actions and activities with specific sectors and households especially those who are living under the poverty line and remote areas.

The important strategies and plan to mitigate the negative impact and surge on households should be included in the Economic Relief Plan of COVID-19 (CERP). The following policies and activities are urgently prioritized to implement for households such as supporting funds like microfinance loans or grants, and implementing quick-win activities for households like Cash-for-Work for daily workers to decrease unemployment, supporting the loans to industry and businesses to resilience the recession economy that will stimulate job opportunities for households, implementing child care services community-based teaching and a homestay education system to mitigate the losses the further studies due to long-time school closure and tax relief for commercial and commodities for reducing child care expenses and cost of child education access to help households' status.

5.2 Limitations

The study includes limitations. The first limitation of this study is data constraints collected 6 times rounds by the World Bank's survey that was done during the Pandemic period. Therefore, some round survey data included missing values and uncompleted. Another limitation is question types. In the survey, the main research questions were yes or no closed, so the study used binary variables and dummy variables for the research model and some research questions couldn't be utilised for analysis due to multiple choice. Moreover, the survey was done by phone, so some answers weren't relevant to the questions. This study focused on the effect of restrictions on specific households' socio-economic factors such as savings, employment, income changes and healthcare access that did not cover all livelihoods and other factors. To get inclusive information concerning how COVID-19 affects the socioeconomic well-being of households, further research still need to be done and it is also needed to analyze the other impacts.

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Appendix 1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
s2q1 Region	1500	.265	.442	0	1
s2q4 Resident	1500	1.689	.463	1	2
s1q2 Gender	1500	1.465	.499	1	2
s1q1 Res age	1500	3.281	3.871	1	82
s1q3 Relationship~1	1500	2.198	1.799	1	13
s1q7 01 02yrs	1500	.211	.408	0	1
s1q10 15 64yrs	1500	.835	.372	0	1
s1q11 above65f	1500	.291	.455	0	1
s15q3 6 avoidpeop~30	1500	.141	.348	0	1
s15q8 1 stayathom~20	1500	.125	.33	0	1
s15q8 2 travelwit~15	1500	.097	.297	0	1
s15q8 4 closureof~30	1500	.029	.169	0	1
s15q8 6 closureof~80	1500	.066	.248	0	1
work 7daysd10	1500	.676	.468	0	1
s1q1 hour healtha~30	1500	.631	.483	0	1
s10q1 1 savingd50	1500	.632	.482	0	1
s5q11 incomechang~40	1500	.333	.588	0	2

Appendix 2

Probit regression

Probit regression							
	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
s10q1_1_savingd5 0							
s2q1_Region	-.187	.077	-2.44	.015	-.337	-.036	**
s2q4_Resident	-.034	.073	-0.46	.644	-.178	.11	
s1q2_Gender	-.062	.068	-0.91	.365	-.195	.072	
s1q1_Res_age	.001	.009	0.11	.913	-.017	.019	
s1q3_Relationship o~1	-.001	.019	-0.05	.958	-.038	.036	
s1q7_01_02yrs	.001	.083	0.02	.987	-.162	.164	
s1q10_15_64yrs	.006	.092	0.07	.948	-.175	.187	
s1q11_above65f	.032	.075	0.43	.667	-.115	.18	
s15q3_6_avoidpeo p~30	.024	.101	0.23	.814	-.175	.222	
s15q8_1_stayatho m~20	.006	.112	0.05	.961	-.214	.225	
s15q8_2_travelwit ~15	-.193	.124	-1.56	.119	-.435	.05	
s15q8_4_closureof ~30	-.85	.214	-3.96	.0	-1.27	-.429	***
s15q8_6_closureof ~80	.08	.141	0.57	.57	-.196	.356	
Constant	.56	.196	2.86	.004	.177	.944	***
Mean dependent var		0.634	SD dependent var		0.482		
Pseudo r-squared		0.016	Number of obs		1466		
Chi-square		31.581	Prob > chi2		0.003		
Akaike crit. (AIC)		1922.621	Bayesian crit. (BIC)		1996.685		

*** $p < .01$, ** $p < .05$, * $p < .1$

Appendix 3

Probit regression

Probit regression							
work_7daysd10	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
s2q1_Region	-.07	.078	-0.90	.369	-.223	.083	
s2q4_Resident	.084	.074	1.13	.256	-.061	.228	
s1q2_Gender	.071	.069	1.03	.304	-.065	.207	
s1q1_Res_age	.001	.009	0.06	.952	-.017	.018	
s1q3_Relationship o~1	.02	.019	1.05	.296	-.018	.059	
s1q7_01_02yrs	-.005	.084	-0.06	.952	-.17	.16	
s1q10_15_64yrs	.07	.094	0.75	.452	-.113	.254	
s1q11_above65f	-.058	.076	-0.76	.446	-.206	.091	
s15q3_6_avoidpeo p~30	-.156	.101	-1.55	.122	-.353	.041	
s15q8_1_stayatho m~20	.257	.117	2.20	.028	.028	.486	**
s15q8_2_travelwit ~15	-.119	.126	-0.95	.344	-.366	.128	
s15q8_4_closureof ~30	-.231	.21	-1.10	.273	-.643	.181	
s15q8_6_closureof ~80	-.291	.138	-2.11	.035	-.561	-.021	**
Constant	.164	.196	0.83	.404	-.221	.548	
Mean dependent var		0.673	SD dependent var		0.469		
Pseudo r-squared		0.010	Number of obs		1466		
Chi-square		18.402	Prob > chi2		0.143		
Akaike crit. (AIC)		1863.612	Bayesian crit. (BIC)		1937.676		

*** $p < .01$, ** $p < .05$, * $p < .1$

Appendix 4

Probit regression

Probit regression							
	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
s1q1_hour_healtha ~30							
s2q1_Region	-.13	.08	-1.63	.103	-.287	.026	
s2q4_Resident	.193	.075	2.57	.01	.046	.341	**
s1q2_Gender	-.149	.071	-2.11	.035	-.288	-.011	**
s1q1_Res_age	.043	.039	1.11	.269	-.033	.118	
s1q3_Relationship o~1	-.003	.02	-0.14	.888	-.042	.037	
s1q7_01_02yrs	-.103	.087	-1.19	.236	-.273	.067	
s1q10_15_64yrs	.945	.095	9.94	0	.758	1.131	***
s1q11_above65f	.053	.078	0.68	.494	-.099	.206	
s15q3_6_avoidpeo p~30	-.313	.102	-3.07	.002	-.512	-.113	***
s15q8_1_stayatho m~20	-.025	.117	-0.21	.832	-.253	.204	
s15q8_2_travelwit ~15	.471	.138	3.41	.001	.2	.742	***
s15q8_4_closureof ~30	-.001	.222	-0.00	.997	-.435	.434	
s15q8_6_closureof ~80	-.407	.142	-2.87	.004	-.686	-.129	***
Constant	-.56	.234	-2.40	.017	-1.018	-.102	**
Mean dependent var		0.645	SD dependent var			0.479	
Pseudo r-squared		0.091	Number of obs			1466	
Chi-square		174.143	Prob > chi2			0.000	
Akaike crit. (AIC)		1760.571	Bayesian crit. (BIC)			1834.635	

*** $p < .01$, ** $p < .05$, * $p < .1$

Appendix 5

Probit regression

Probit regression							
	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
s5q11_incomechan g~40							
s2q1_Region	-.041	.081	-0.50	.614	-.2	.118	
s2q4_Resident	.04	.077	0.52	.6	-.11	.19	
s1q2_Gender	.025	.071	0.36	.722	-.115	.165	
s1q1_Res_age	-.018	.018	-1.02	.308	-.052	.017	
s1q3_Relationship o~1	-.007	.02	-0.35	.729	-.046	.032	
s1q7_01_02yrs	-.001	.087	-0.01	.995	-.171	.17	
s1q10_15_64yrs	-.024	.097	-0.25	.802	-.215	.166	
s1q11_above65f	-.022	.078	-0.28	.782	-.176	.132	
s15q3_6_avoidpeo p~30	-.076	.106	-0.71	.475	-.285	.132	
s15q8_1_stayatho m~20	.117	.116	1.00	.317	-.112	.345	
s15q8_2_travelwit ~15	-.284	.136	-2.08	.037	-.551	-.017	**
s15q8_4_closureof ~30	.22	.212	1.04	.3	-.196	.636	
s15q8_6_closureof ~80	.297	.141	2.11	.035	.022	.573	**
Constant	-.616	.209	-2.95	.003	-1.027	-.206	***
Mean dependent var		0.333	SD dependent var		0.591		
Pseudo r-squared		0.007	Number of obs		1466		
Chi-square		11.896	Prob > chi2		0.536		
Akaike crit. (AIC)		1724.585	Bayesian crit. (BIC)		1798.649		

*** $p < .01$, ** $p < .05$, * $p < .1$