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HOUSEHOLD ENERGY CONSUMPTION BEHAVIORS DURING THE COVID-19 PANDEMIC IN MONGOLIA

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Abstract

This investigation examines the impact of COVID-19 on households in Mongolia, particularly the choice of fuel for heating and cooking and awareness about harmful effects of indoor pollution due to the combustion of solid fuels for heating and cooking. This study uses publicly available MICS Plus survey data from UNICEF. MICS Plus is a longitudinal household survey with a sample of 2,000 representative households that collects information through telephone interviews. We compare data from a pre-COVID period (2018) and during the COVID-19 pandemic (December 2020). Our results show that households where the decision maker is female are more likely to have a clean source of heating—a district heating system. The results also show that a larger proportion of households switched to cleaner heating in the COVID-19 period. First, the share of households using central heating increased in 2020 to 26% from 19% in 2018. Second, the share of households using improved fuel for their heating requirements increased in 2020 as compared to 2018. Third, in December 2020, after the beginning of the COVID-19 pandemic, households were more likely to use district heating and manufactured space heaters than cooking stoves for heating compared to 2018.

Keywords: COVID-19, Mongolia, household survey, district heating, fuel choice, space heater

JEL Classification: D14, G51, H12, H84, I10, I24, J6

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1. INTRODUCTION

This study investigates the determinants of household demand for space heating in Mongolia and compares differences before and during the COVID-19 pandemic. In developing cold-climate countries, like Mongolia, heating is a basic survival good.

COVID-19 significantly affected households, including by way of income, employment, and expenditure (Morgan and Trinh 2021). Using a household survey in eight Southeast Asian households, Morgan and Trinh (2021) demonstrated that households experienced significant declines in income and employment during the COVID-19 crisis compared to the preceding period. Nearly half of households experienced financial difficulties due to COVID-19. Nearly all households experiencing financial difficulties had to reduce consumption, about half drew down cash and savings, and roughly a third borrowed from friends or relatives, delayed payments and debt repayment, or applied for government aid.

Traditionally a largely agricultural country with a significant share of the population living in rural areas, Mongolia is experiencing an economic transition featuring a growing industrial sector, which thus is increasing urbanization. The change in domestic structural transformation and the impacts of climate change in the form of natural disasters and livestock losses have recently been forcing people to move into urban locations. The increasing urbanization and growing overall population increase has resulted in higher energy demand. In addition to being one of the coldest countries globally, Mongolia is also characterized by having the highest recorded levels of urban air pollution. The country requires access to reliable and clean heating services for survival.

Mongolia has exceptionally harsh climate conditions, with average outdoor temperatures of -6°C between September and April and -20°C between November and January (NOAA 2019). As a result of the long, eight-month heating season, the housing sector is the country's biggest energy consumer and makes up 42% of the total heating demand, followed by industry and construction with 24% each. In 2015, the buildings sector was responsible for around 43% of greenhouse gas (GHG) emissions from energy demand (Ministry of Environment and Tourism 2018). In 2017, Mongolia had the fifth worst air pollution in Asia with an annual mean of particulate matter of diameter of less than 2.5 μm in μg/m3 ($PM_{2.5}$) concentration of 75 μg/m³ air (van Mead 2017), to which coal-based heating is a significant contributor.

According to the MICS Plus (UNICEF 2021) key findings report, a much smaller proportion of households use clean fuels for heating (34%) than for cooking (51%) or lighting (100%). Thus, studying the determinants of fuel choice for heating in Mongolia is important.

The existing literature on the determinants of household fuel choice for heating and cooking has identified households' socioeconomic and demographic characteristics, dwelling characteristics, and climatic conditions as key determinants of energy use for heating and cooking (Jaime, Chávez, and Gómez 2020). Households' socioeconomic and demographic characteristics include household income and size; age, education, and gender of the household head; and household location (rural or urban) (Lewis and Pattanayak 2012; Muller and Yan 2018; Timilsina 2014).

Research studies on households' fuel choice in Mongolia include those of Ganchimeg and Havrland (2011), Ganchimeg (2013), Tsevegjav (2013), and Wang et al. (2021). This literature shows that air pollution has become a priority on the policy agenda, and the major contributing factor to air pollution in Mongolia is the household practice of

burning fossil fuels. Among the approximately 170,100 herder households in Mongolia, only 77.2% are reported to have electricity, and herder households generally rely on the burning of livestock dung as a fuel for heating and cooking.

Studies on household fuel choices in other CAREC member countries include those of Azhgaliyeva et al. (2021), Kapsalyamova et al. (2021), Sabyrbekov and Ukueva (2019), and Gassmann and Tsukada (2014). These reports have also highlighted the importance of socioeconomic and demographic characteristics, dwelling characteristics, and climatic conditions on household fuel choice in Kazakhstan and the Kyrgyz Republic.

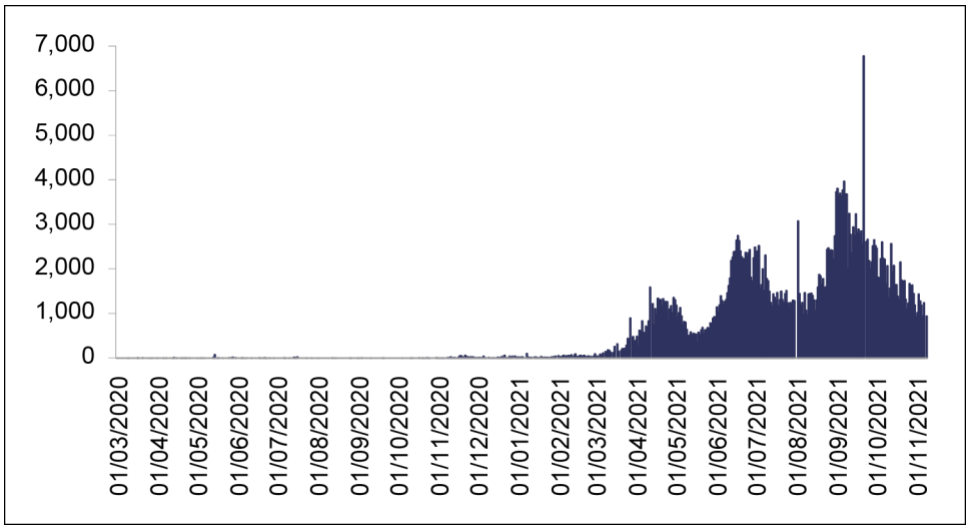
Lockdowns due to COVID-19, such as shutting down places like schools, workplaces, and international borders to contain the spread of the virus, have made people spend more time at home, thus changing the fuel needs for cooking and heating. Additionally, use of more fossil fuels for household cooking and heating has increased the threat of hazardous indoor pollution.

For all of these reasons, in this study we have investigated the impact of COVID-19 on household fuel choice in Mongolia. The methodology employs publicly available MICS Plus survey data from the United Nations Children's Fund (UNICEF). MICS Plus is a longitudinal household survey of 2,000 households. The main contribution of this paper is that it assesses the determinants of fuel choice in Mongolia during the COVID-19 crisis in 2021. To the best of our knowledge, this is the first study to have addressed this issue.

2. SPREAD OF COVID-19 AND GOVERNMENT RESPONSES IN MONGOLIA

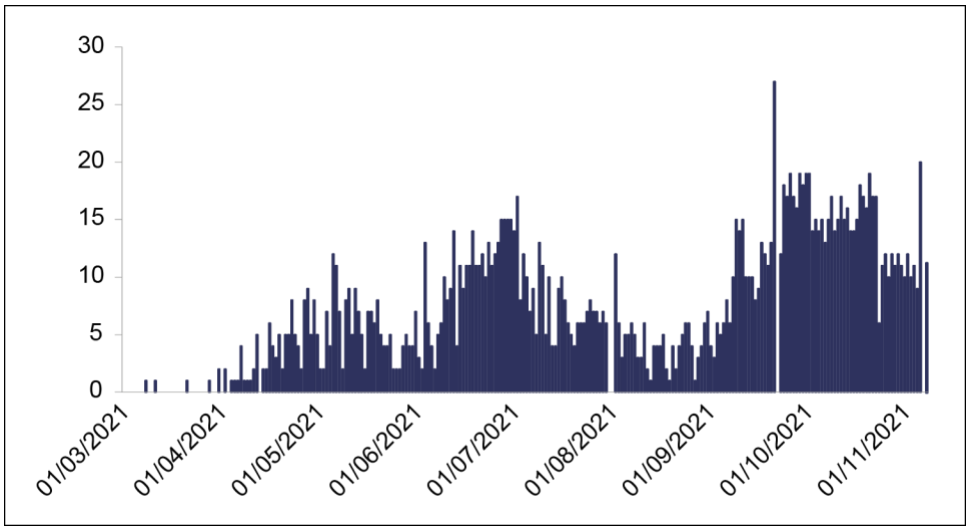
According to Bloomberg data, COVID-19 cases and deaths in Mongolia started to significantly increase beginning in March–April 2021 (Figures 1–2). Figure 1 demonstrates three peaks of COVID infections in April 2021, June–July 2021, and September–October 2021.

Figure 1: Daily COVID-19 Cases in Mongolia



Source: Bloomberg (2021).

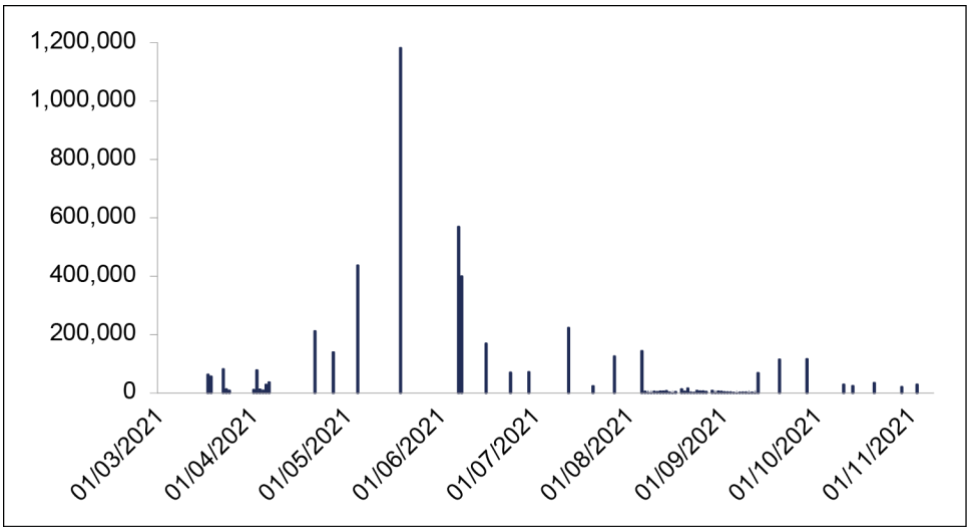
Figure 2: Daily Deaths Due to COVID-19 in Mongolia



Source: Bloomberg (2021).

COVID-19 vaccination in Mongolia started in March 2021, with most vaccines provided in May–June 2021. The peak of vaccination was in May 2021 with around 1.5 million vaccine doses, which is a significant number given the total population of 3.2 million (World Bank 2021). As of November 2021, Mongolia has administered at least 4.8 million doses of COVID vaccines. Assuming that every person needs two doses, that is enough to have vaccinated about three quarters of the country's population.

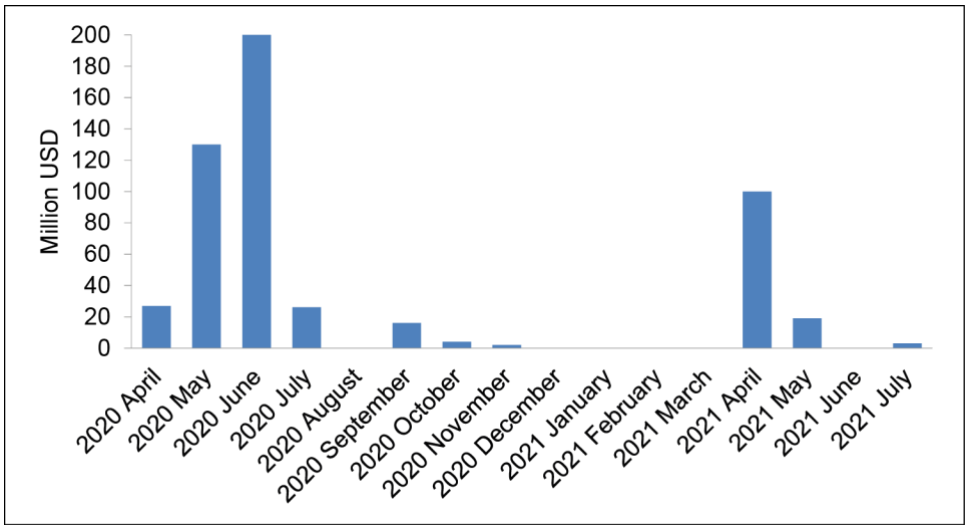
Figure 3: Daily COVID-19 Vaccine Doses in Mongolia, 2021



Source: Bloomberg (2021).

As indicated in Figure 3, COVID-19 vaccination started in Mongolia in March 2021. To finance vaccination and other responses to the COVID-19 outbreak, Mongolia, like many other developing countries, received loans from multilateral institutions (Figure 4). Mongolia started to receive pandemic loans beginning in April 2020, with the largest loans in Q2 2020 and Q2 2021. Pandemic loans were provided mainly to the government of Mongolia.

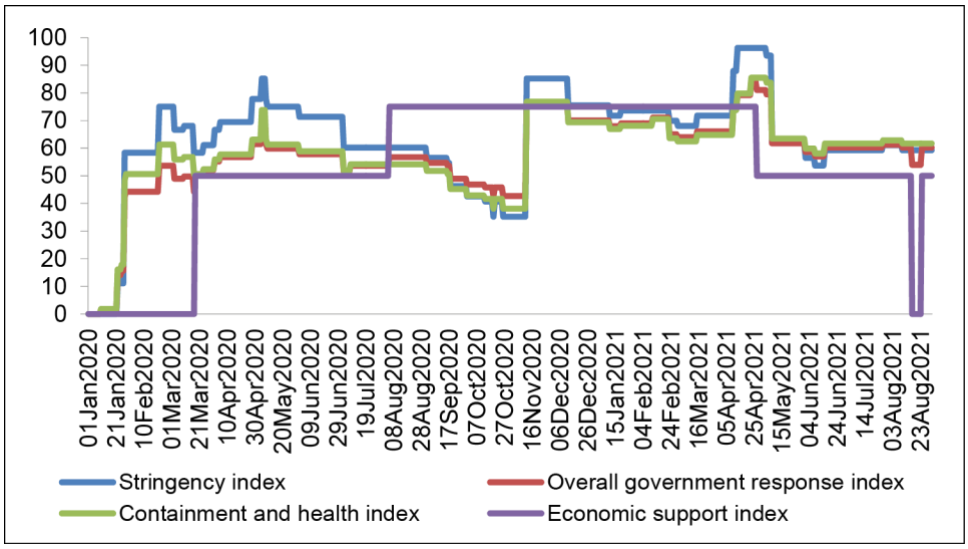
Figure 4: COVID-19 Pandemic Loans to Mongolia



Source: Bloomberg (2021).

Mongolian governmental responses to COVID-19 began as early as the end of January 2020, while economic support started at the end of March 2020 (Figure 5) according to COVID-19 governmental response indexes developed by the University of Oxford, Blavatik School of Government (Hale et al. 2020). Indexes measure how many of the relevant indicators a government has acted upon, and to what degree on a scale from 0 to 100 (Table 1).

Figure 5: Mongolian Governmental Response to COVID-19



Source: Hale et al. (2020).

Table 1: COVID-19 Governmental Response Indexes

Index	Description
Overall governmental response index	Measures response of governments over all indicators.
Containment and health index	Measures "lockdown" restrictions and closures with measures such as testing policy and contact tracing, short-term investment in health care, and investments in vaccines.
Stringency index	Measures the strictness of "lockdown" policies that primarily restrict people's behavior.
Economic support index	Measures such as income support and debt relief.

Source: Hale et al. (2020).

3. DATA AND METHODOLOGY

3.1 Data

This study uses publicly available MICS Plus survey data from UNICEF (2021). MICS Plus is a longitudinal household survey with a representative sample of 2,000 households that collects information through telephone interviews. Mongolia is the first country to release MICS Plus results, with its first two waves of calls completed in early 2021. The first wave centered on distance learning for children aged 2–17 years, while the second wave focused on food security and children's nutritional status.

Data for MICS Plus was collected using CATI (computer-assisted telephone interviewing). CATI is reliable for Mongolia due to a high coverage of phone numbers: 95% of households have phone numbers (97% in urban and 91% in rural areas) (UNICEF 2021).

The MICS Plus questionnaire contains not only household and dwelling characteristics but also 12 questions on household energy use. The questions cover the types of fuel for cooking, heating, and lights, as well as improved fuel sources and measures for heating safety. Improved fuel is a processed fuel, which is used instead of raw coal to reduce both outdoor and indoor air pollution, which leads to respiratory diseases. Solid fuel combustion is also the largest contributor to outdoor particulate matter in Ulaanbaatar (ADB 2014). Air pollution is the cause of 11% of premature deaths in the city and represents a social cost of about $177–$727 million a year (World Bank 2011). Ulaanbaatar used to be the city with the second-worst air pollution in the world (WHO 2012). In mid-2020, domestic use of raw coal in the capital city of Mongolia, Ulaanbaatar, was banned in order to reduce air pollution in the city. Such a ban was implemented due to high air pollution due to the use of coal for heating by households without access to district heating during cold and long (6–8 months) winters. Since then, households in the city have been supplied with processed fuel instead of raw coal (Xinhua 2020). Coal is abundant and is the only fossil fuel available in the country (ADB 2014).

For our data analysis we used Wave 2 (December 2020) of the UNICEF MICS Plus survey in Mongolia, which was conducted during the COVID-19 crisis in December 2020. We also used MICS survey data from 2018 for the purpose of comparison. The data shows that in 2020 60% of households used a traditional cooking stove for space heating, 83% of households used electricity for lighting requirements, and 57% of households used solid fuel for cooking (Figure 6). Figure 7 presents the households reporting cooking stoves as their source of space heating. Space heating in 2018 was usually provided using a traditional cooking stove (80%), central heating (district heating system) (19%), and electric heating (1%) (Figure 7). The share of households

using central heating increased in 2020 to 26% from 19% in 2018. The percentage of households reporting consumption of improved fuel for their heating requirements increased in 2020 compared to 2018 (Figure 8).

Figure 6: Sources for Heating, Lighting, and Cooking, Mongolia, 2020 (%)

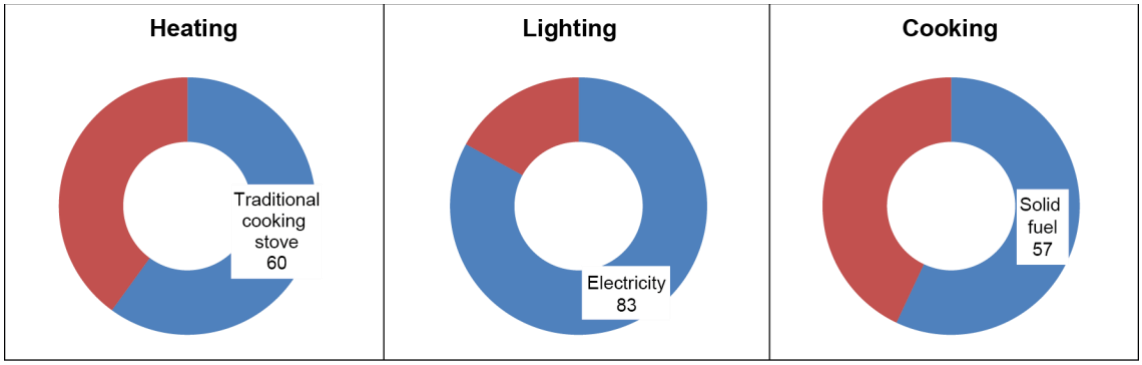


Figure 7: Proportions of Heating Types, Mongolia, Before and During COVID-19 Era (%)

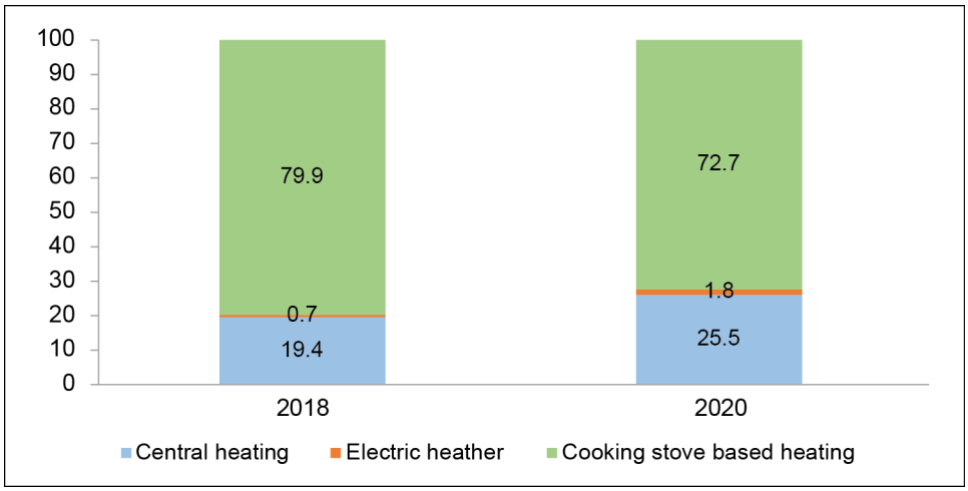


Figure 8: Heating Energy Types and Security of Supply, Mongolia, During COVID-19 Era (%)

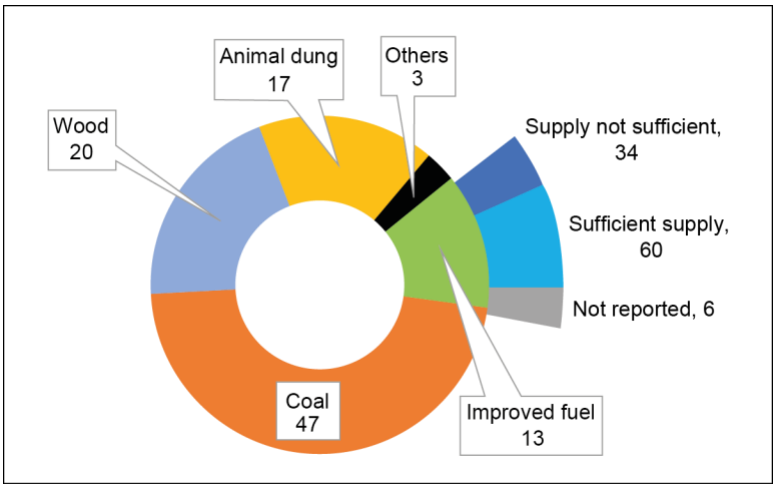
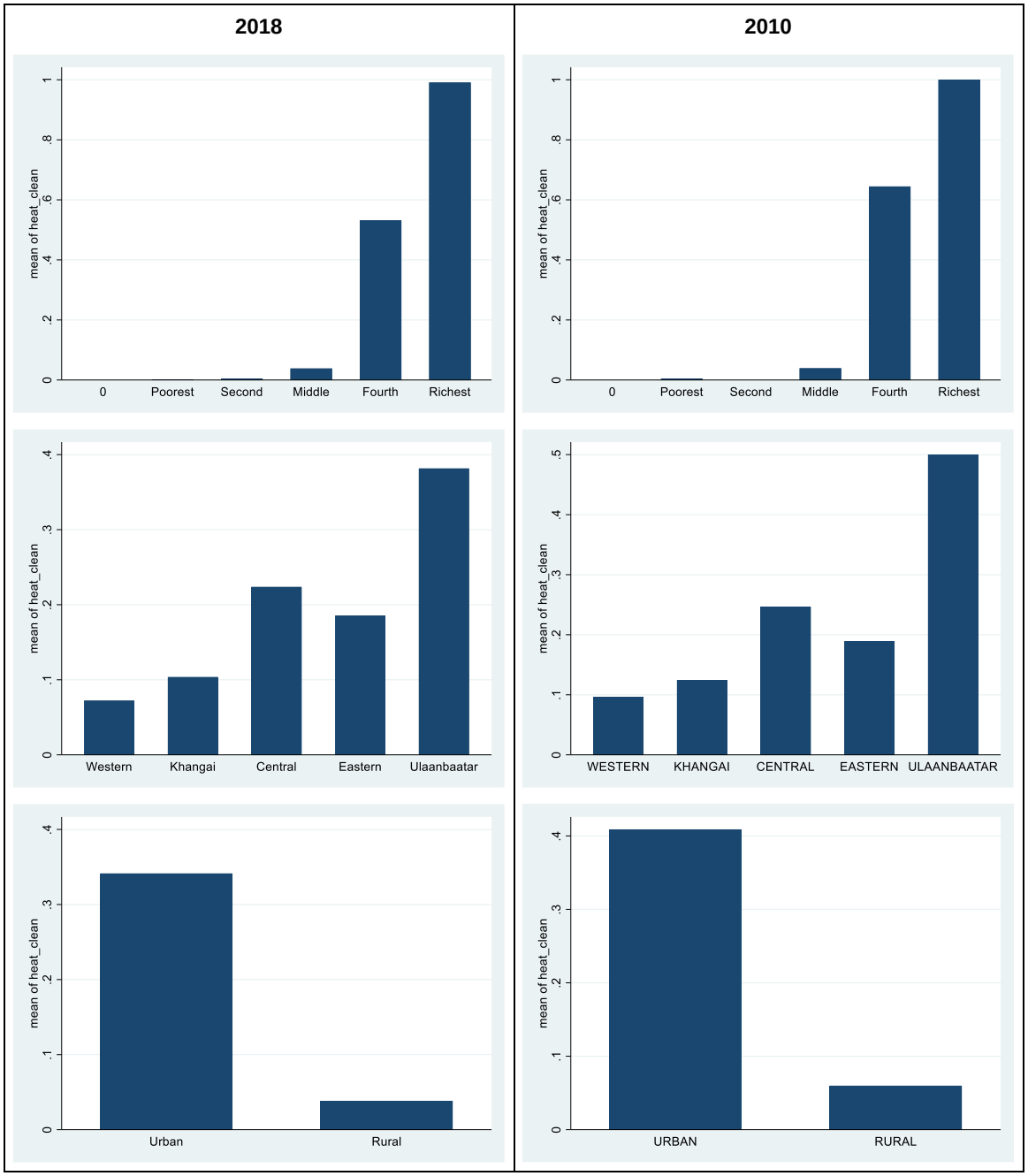


Figure 9 demonstrates the share of households reporting the use of clean fuel and technologies for heating (district heating, renewable energy, and electricity). The difference between 2018 and 2020 (before and during the COVID-19 era) is not large. Clean heating was mainly used by richer households, in the capital city Ulaanbaatar, and by urban households.

Figure 9: Clean Heating Across Wealth Groups, Region, and Rural/Urban Population Area, Mongolia, 2010 and 2018



Summary statistics and sample distributions across wealth group, regions, and urban/rural populations are provided in Table 2 and Figure 9. The number of observations in 2020 was 1,987 and 14,500 in 2018.

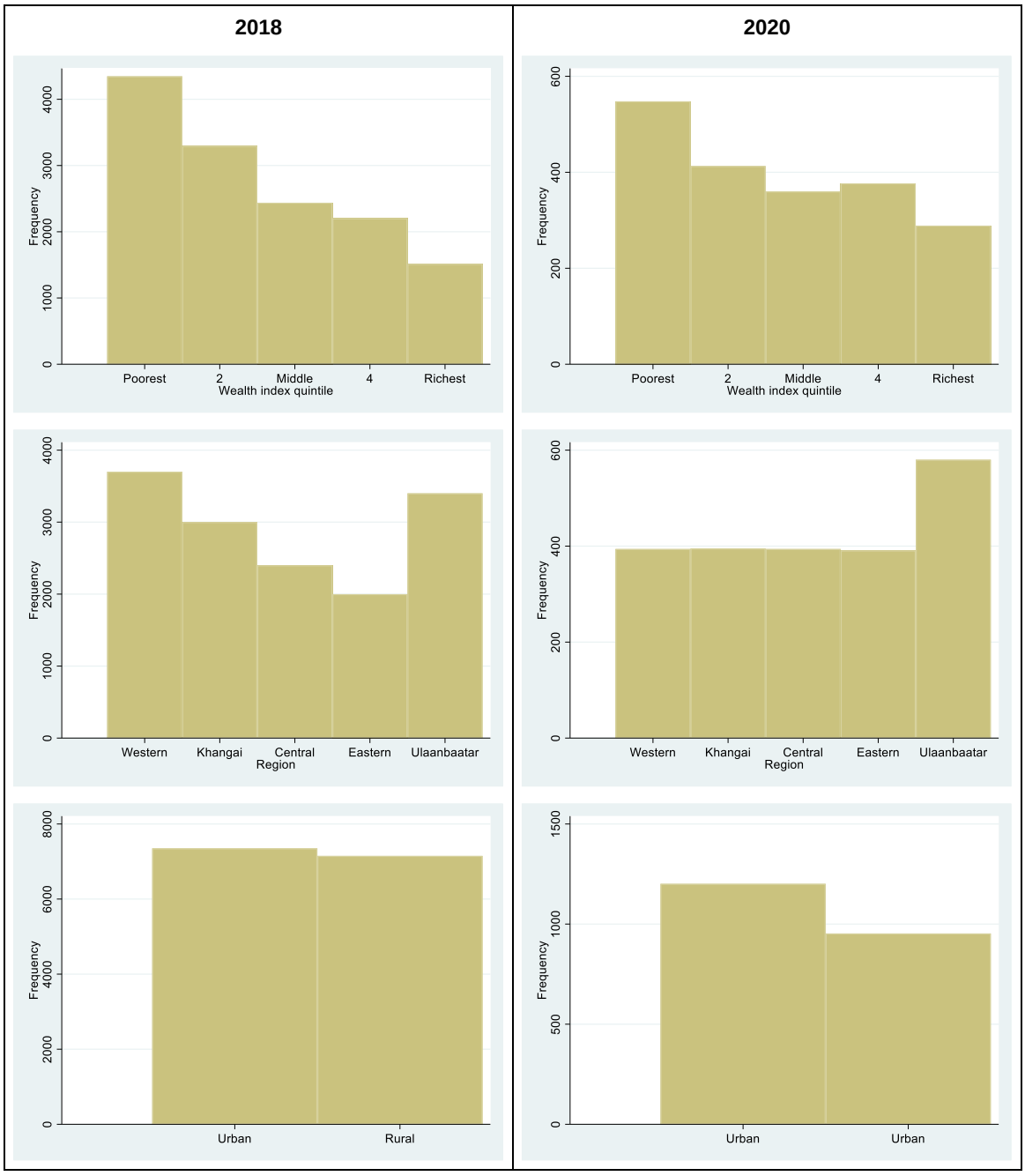
Table 2: Summary Statistics for Heating Type and Household Characteristics, Mongolia, 2018 and 2020

	2020				2018			
Variables	**Mean**	**Std. Dev.**	**Min**	**Max**	**Mean**	**Std. Dev.**	**Min**	**Max**
Heating type								
• District (central) heating	0.25	0.43	0	1	0.19	0.39	0	1
• Space heater	0.02	0.13	0	1	0.01	0.08	0	1
• Cook stove	0.73	0.45	0	1	0.75	0.43	0	1
Household head gender: female	0.18	0.38	0	1	0.21	0.40	0	1
Household size	4.00	1.73	1	12	3.61	1.66	1	15
Household head age	46.90	13.52	17	95	46.48	14.13	15	95
Dwelling type								
• Apartment, condominium	0.23	0.42	0	1				
• Convenient single-family house	0.02	0.15	0	1				
• Single-family house	0.35	0.48	0	1				
• Ger (yurt)	0.38	0.49	0	1				
• Public accommodation, Dormitory	0.02	0.12	0	1				
• Other	0.00	0.04	0	1				
Access to electricity	0.76	0.42	0	1	0.77	0.41	0	1
Cooking fuel								
• Solid fuel	0.57	0.49	0	1	0.64	0.48	0	1
• Electricity	0.38	0.49	0	1	0.35	0.48	0	1
• Liquid petroleum gas (LPG)	0.01	0.12	0	1	0.01	0.10	0	1
Wealth Index								
• Poorest	0.25	0.44	0	1	0.05	0.21	0	1
• Second	0.19	0.39	0	1	0.29	0.45	0	1
• Middle	0.17	0.37	0	1	0.23	0.42	0	1
• Fourth	0.18	0.38	0	1	0.23	0.42	0	1
• Richest	0.13	0.34	0	1	0.15	0.35	0	1
Region								
• Western	0.18	0.38	0	1	0.25	0.44	0	1
• Khangai	0.18	0.38	0	1	0.21	0.40	0	1
• Central	0.18	0.38	0	1	0.16	0.37	0	1
• Eastern	0.18	0.38	0	1	0.13	0.34	0	1
• Ulaanbaatar (capital city)	0.28	0.45	0	1	0.23	0.42	0	1
Area								
• Rural	0.44	0.50	0	1	0.50	0.49	0	1
• Urban	0.56	0.49	0	1	0.49	0.49	0	1

N=1,987 in 2020; N=14,500 in 2018.

The sample is distributed across different wealth groups, regions, and rural/urban populations. Most households are from the poorest wealth group (Figure 9).

Figure 10: Sample Distribution across Wealth Groups, Regions, and Urban/Rural



3.2 Methodology

Using the multinomial logit model (MLM), we modeled the factors affecting the choice of space heating system in Mongolia. We modeled the probability of adoption of a particular heating system, i.e., central heating, space heaters, and cooking stove, for heating using the following equation:

$$\text{iHeating\_system} = \alpha_0 + \alpha_1 \text{Gender\_HH} + \alpha_2 \text{Gender\_HH} + \alpha_3 \text{Household\_size} + \alpha_4 \text{Electricity\_Access} + \alpha_5 \text{Cooking\_type} + \alpha_6 \text{Wealth\_index} + \alpha_7 \text{Dwelling\_type} + \alpha_8 \text{Location} + \alpha_9 \text{Region} + \epsilon_i, \quad (1)$$

where $\mathrm{iHeating\_system}$ is a categorical variable which takes value of 1–3 based on the heating system installed in the household (cooking stove for space heating as base category). Independent variables include household characteristics such as household head's age and gender, household size, and household location (i.e., rural vs. urban areas); wealth classes (five classes being pre-generated in the data set, with the poorest as the base category); energy infrastructure and built environment with access to electricity (dummy); type of cooking system; and type of dwelling unit. ϵ_i represents the error term. We estimated the equations for pooled data years 2018 and 2020 with year dummy and separately for both years.

4. RESULTS

Table 3 presents estimation results of the MLM on heating types: district heating, space heater, and cooking stove used for heating. Empirical analyses are based on MICS Plus survey data from 2018 and 2020 and pooled data combining both survey years.

The dummy variable indicating the year 2020 to approximate the impact of COVID-19 shows that in December 2020, after the onset of COVID-19, compared to 2018, households were more likely to use district heating and manufactured space heater than a cooking stove for heating. This could be due to the need to spend more time at home due to lockdowns and preference for a more comfortable and warmer home.

Generally, household characteristics have expected impacts on heating types. Female-headed households had a higher likelihood to use district heating, in both survey years. This is in line with the empirical literature reporting that female-headed households are likely to use clean energy (Rahut et al. 2016). Household size had a negative impact on the likelihood to use district heating, and interestingly, this effect was statistically significant only for 2018 and in the pooled data. Larger households are generally settled in houses with large spaces not connected to district heating. This finding was also supported by the results on dwelling types for 2020. Households living in single-family houses showed a higher probability to use a cooking stove for heating, with a reduced use of district heating and manufactured space heater. Households with higher ages of household head showed a lower use of manufactured space heaters compared to cooking stoves, though this effect is valid at a lower level of statistical significance.

Use of clean cooking fuel demonstrated a strong and statistically significant correlation with the probability to use district heating and manufactured space heater compared to the cooking stove for heating. This effect is valid for both years except for district heating in the 2020 sample. This effect was expected, given the probability that households use cooking fuel also for heating. In line with this finding, a study by Kapsalyamova et al. (2021), examining Kazakhstan and the Kyrgyz Republic, stated that the same stove could be used for cooking and heating. Therefore, cooking with clean fuel is positively associated with district heating and a manufactured space heater.

Empirical results on the impact of the wealth index indicated that higher income, starting from middle income, led to an increasing probability of using district heating. However, this effect is evident only in the 2018 sample and the pooled sample. In general, this finding is in line with the mainstream literature arguing that with higher income households tend to consume cleaner fuels (Leach 1992).

Table 3: Results

	2020		2018		2018–2020	
Variables	**District Heating**	**Manufactured Space Heater**	**District Heating**	**Manufactured Space Heater**	**District Heating**	**Manufactured Space Heater**
Household head gender (female=1)	1.000*	0.0542	0.652***	–0.054	0.662***	–0.0748
	(0.511)	(0.690)	–0.113	–0.31	(0.107)	(0.280)
Household size	0.00440	0.110	–0.131***	–0.0312	–0.128***	–0.00499
	(0.124)	(0.133)	–0.0293	–0.0695	(0.0273)	(0.0604)
Household head age	0.0199	–0.0252	–0.00102	–0.0117	–0.000738	–0.0142*
	(0.0154)	(0.0174)	–0.00323	–0.00817	(0.00304)	(0.00727)
Dwelling type (base category: apartment, condominium)						
• Convenient single-family house	–5.711***	–1.664*				
	(0.787)	(0.987)				
• Single-family house	–5.299***	–0.941				
	(0.528)	(0.758)				
• Ger (yurt)	–5.908***	–0.634				
	(0.952)	(0.881)				
• Public accommodation, dormitory	–1.382	–18.28				
	(0.854)	(7,986)				
• Other	–22.97	–17.93				
	(13,752)	(11,195)				
Access to electricity	1.399	15.07	–0.93	–1.645	–0.679	–0.890
	(4.824)	(2,797)	–0.619	–1.137	(0.553)	(1.090)
Cooking with clean fuel	0.856	2.839***	2.394***	2.979***	2.328***	2.948***
	(0.668)	(1.054)	–0.185	–0.729	(0.171)	(0.597)
Wealth index (lowest as base category)						
• Second	–1.382	–1.025	1.219	0.689	1.065	0.0159
	(1,422)	(3,391)	–0.803	–1,671	(0.757)	(1,587)
• Middle	12.50	15.67	2.470***	16.62	2.297***	16.41
	(908.8)	(2,688)	–0.783	–1,327	(0.732)	(1,200)
• Fourth	16.55	16.69	5.648***	18.3	5.647***	17.87
	(908.8)	(2,688)	–0.777	–1,327	(0.725)	(1,200)
• Richest	20.09	20.05	10.09***	18.84	10.11***	19.24
	(908.8)	(2,688)	–0.825	–1,327	(0.773)	(1,200)
Regions (western as base category)						
• Khangai	0.232	–1.043	0.0838	–0.48	0.103	–0.616
	(0.871)	(0.934)	–0.171	–0.52	(0.161)	(0.450)
• Central	0.721	–0.229	0.587***	–0.664	0.592***	–0.518
	(0.667)	(0.727)	–0.149	–0.48	(0.141)	(0.388)
• Eastern	0.363	–0.129	0.914***	0.136	0.903***	0.102
	(0.730)	(0.791)	–0.168	–0.479	(0.158)	(0.403)
• Ulaanbaatar (capital city)	0.128	0.666	–0.273*	0.664*	–0.179	0.637**
	(0.634)	(0.681)	–0.143	–0.367	(0.134)	(0.320)
Rural	–1.067**	0.683	–0.779***	–0.169	–0.811***	0.0961
	(0.522)	(0.591)	–0.115	–0.368	(0.108)	(0.301)
COVID-19 (year 2020=1)					0.280**	0.893***
					(0.115)	(0.211)
Constant	–16.16	–35.12	–6.393***	–21.55	–6.612***	–21.92
	(908.8)	(3,879)	–0.643	–1,327	(0.642)	(1,200)
Observations	1,987	1,987	13,798	13,798	15,785	15,785

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Rural households showed a probability to reduce the use of district heating in both survey years. This is related to the fact that district heating is generally available in urban areas. Also, households in the central and eastern part of the country demonstrated a higher likelihood of using district heating than in the western region of the country, whereas households in Ulaanbaatar (capital city) tended to have a higher probability of using space heaters than those in the western region. However, this effect is statistically significant only in the 2018 sample.

Thus, our empirical findings do not demonstrate that household social and economic characteristics in Mongolia had a changing effect on the heating type use. However, the COVID-19 pandemic and related containment measures reflected by lockdowns may have increased the use of district heating and manufactured space heaters compared to cooking stoves.

5. CONCLUDING REMARKS

Using data from the UNICEF MICS Plus household survey in Mongolia in 2018 (N=1,987) and 2020 (N=13,798) this study assessed the determinants of household fuel choice for heating prior to and during the COVID-19 pandemic. Data for MICS Plus was collected using CATI (computer-assisted telephone interviewing). CATI is reliable for Mongolia due to a high coverage of phone numbers (95% of households overall, 97% in urban areas, and 91% in rural areas) (UNICEF 2021).

The paper presents several interesting results on the determinants of households' cleaner heating choice. The results show that more households switched to cleaner heating in 2020 compared to 2018. The share of households using central heating increased in 2020 to 26% from 19% in 2018, and the share of households using improved fuel for their heating requirements increased in 2020 compared to 2018. Finally, in December 2020, during the COVID-19 pandemic, comparing to 2018, households were more likely to use district heating and manufactured space heaters than cooking stoves for heating. This could be due to the need to spend more time at home due to lockdowns and the preference for staying in a warmer and more comfortable home.

It is crucial to understand the main drivers of household behavior concerning energy consumption and to highlight which supply-side barriers to overcome. For instance, dwellings do not always have access to all energy sources. In line with other studies (Wu and Cui 2019), we found that because central heating is mainly concentrated in big cities, gers are found in the periphery of towns, and rural areas are not connected to central heating networks, households located in rural locations showed a reduced probability of using central heating. There are upfront costs for changing to a particular heating system and thus using a specific fuel. Therefore, anecdotally, a household that wants to switch energy sources must buy and install new equipment that might be affected by dwelling occupation status, i.e., owner or tenant. The government should focus on efficient production, transmission, and distribution to improve the central heating system and expand its network to newly developed areas. The use of clean heating is particularly important during lockdowns such as those during the COVID-19 pandemic, in order to avoid the hazardous effects of indoor pollution due to indoor solid fuel combustion.

Our findings reveal that female-household heads are more inclined toward adopting a cleaner source of residential heating. The government should focus on women-centric interventions, where the primary beneficiaries are female household members, to promote the awareness and adoption of cleaner energy sources.

This study has a few limitations due to data sources. The MICS Plus household survey in Mongolia does not investigate the household level of education, which has been shown to have a significant impact on household fuel choice (Azhgaliyeva et al. 2021; Kapsalyamova et al. 2021). Another data limitation is that the number of observations on modern fuel and related information is small (only 191 observations, representing less than 10% of the sample).

APPENDIX

Table A1: Conversion of MICS Plus Survey to Variables Used in This Study

MICS Plus Questionnaire	Variables in this Study
EU1. In your household, what type of cookstove is mainly used for cooking?	Cooking fuel
• Electric stove	• Electricity
• Liquefied petroleum gas (LPG)	• LPG
• Cooking gas stove	
• Manufactured solid fuel stove	• Solid fuel
• Traditional solid fuel stove	• Solid fuel
• Three stone stove/open fire	• Solid fuel
• OTHER (specify)	• Solid fuel
EU4. What does your household mainly use for space heating when needed?	Heating type
• Central heating	• District heating
• Electric space heater manufactured	• Space heater
• Electric space heater handmade	• Space heater
• Manufactured cookstove	• Cookstove
• Traditional cookstove	• Cookstove
• Three stone stove/open fire	
• Wood heater with chimney	
• Low pressure steam boiler	
• Others (specify)	
• No source of heating	
• No response	

Source: UNICEF (2021).

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