

Revisiting the Pandemic:

Surveys on the Impact of **COVID-19**
on Small Businesses and Workers





THAILAND

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Thailand Report
Three Rounds of Surveys (May 2020 - January 2021)

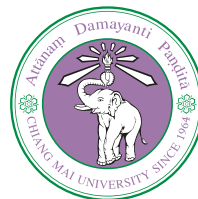
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The findings, interpretations, and conclusions of this study do not necessarily represent the views of The Asia Foundation or our funders.

Introduction

The COVID-19 pandemic is leading to a dramatic roll-back of economic progress across Southeast Asia. While the region has managed to contain the spread of the virus better than most others, the economic impact on the region has been devastating. As a result of its heavy dependence on the tourism sector, Thailand has one of the worst affected economies in Southeast Asia. Since international travel stopped almost entirely in March 2020, Thailand's tourism and business travel sectors have experienced unprecedented contraction. Many travel industry micro and small enterprises (MSMEs) have closed permanently as they could not survive the economic contractions brought on by COVID-19 lockdowns and travel restrictions. With each passing month, tens of thousands more Thai workers have become at risk of sliding into poverty, including many in the middle class. As the pandemic drags on, temporary job losses have become permanent, and household incomes have plummeted.

Governments across Southeast Asia have responded with an array of new programs to help the people and businesses most affected by the pandemic. Thailand has supplemented its existing social protection schemes by introducing new programs for informal workers, and temporarily reduced the expenses of people who have lost their jobs and income. For businesses, the Thai government has introduced new subsidized loan programs, tax breaks, debt repayment holidays, and incentives for keeping employees on the payroll. These crucial programs are essential for economic recovery, and the prevention of large-scale increases in poverty and inequality.

As large amounts of public money have been mobilized to help address the unprecedented COVID-19 crisis, governments urgently need ground-level data on how businesses and workers are being affected, and how they are coping. This information is essential so that governments can target their programs to achieve maximum benefit. To address governments' need for accurate data on how COVID-19 is impacting MSMEs, vulnerable workers, and the informal economy in heavily affected sectors, and how they are coping, The Asia Foundation (the Foundation) has conducted a series of surveys and case studies in Thailand, and five other Southeast Asian countries: Cambodia, the Lao Peoples' Democratic Republic (Lao P.D.R.), Myanmar, Malaysia, and Timor-Leste. These surveys and cases studies, which have been conducted with the Foundation's local research partners, were carried out via telephone calls and internet platforms. To determine the key survey questions for all six countries, the Foundation's offices in each country engaged with national government policy-makers and other relevant officials. The Foundation's local research partners then tailored the questions for the surveys and case studies to make them locally relevant. The local partners also carried out the surveys and case studies, analyzed the data, and collaborated with the Foundation in writing up the results.

This research aimed to identify the MSMEs and workers that are the most affected by the COVID-19 crisis so that policy makers and development agencies are informed about the situation on the ground, and can make informed decisions on how best to keep the country's path to recovery on a stable trajectory.

Research Methodology

To assess the impact of COVID-19 on Thai workers and MSMEs, between May 2020 and January 2021, The Asia Foundation's local partners conducted three rounds of surveys with a sample of Thai workers and three rounds of surveys with a sample of MSMEs. The surveys with Thai workers were conducted in

May 2020 (first period), August 2020 (second period) and November 2020 (third period). The surveys with the Thai MSMEs were conducted in June 2020 (first period), September 2020 (second period), and December 2020/January 2021 (third period).

	Thai Workforce	Micro & Small Businesses	Report Released
First period	May 2020	June 2020	September 2020
Second period	August 2020	September 2020	N/A
Third period	November 2020	December 2020 - January 2021	May 2021

The Survivability Model

The research team developed a model to identify the most important factors that determine the extent of COVID-19's impact on individual workers and MSMEs. This "Survivability Model" is an econometric analysis¹ that was used to analyze this study's survey data by focusing on the factors that supported or hindered the survivability of the Thai workers and MSMEs in each of the three time periods listed above. The term "survivability" applies to how long an individual worker or MSME owner believes their resources will last if the pandemic continues. In other words, the survivability of a worker or MSME is an estimate of how much longer they could keep going, under present conditions, before they run out of money and have to cut back on their consumption.

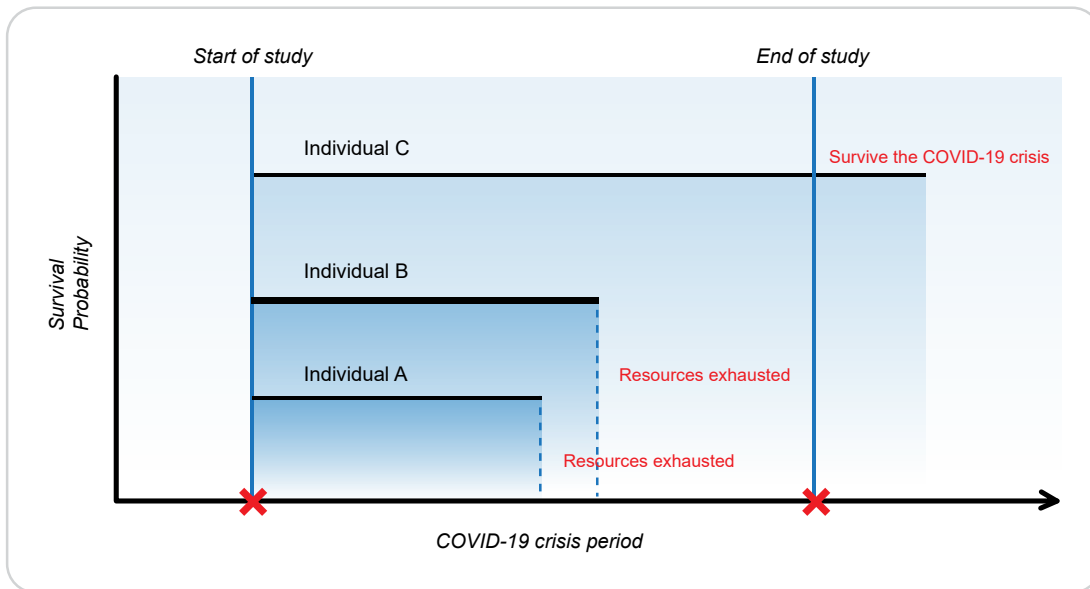
For workers, the information collected from each included their geographic region, age, gender, education level, occupation, income, debt, and government assistance received. To measure their survivability, workers were asked the question **"If Thailand faces COVID-19 for another year, how long do you think you can last, given your income, savings, and all the food that you have now?"** In answering this question, each worker was given a range of choices from one day to one year, and this answer was used to determine a respondent's survivability. Note, although the term "workforce survey" was used, a small number of respondents were retired or not working. Also note, this is an economic model, and the term "survivability" does not concern health or mortality resulting from the pandemic.

1. The Cox proportional-hazards regression model is used to predict the end of an event, such as death, bankruptcy, or consumption failure. The LASSO (Least Absolute Shrinkage and Selection Operator) method developed by Tibshirani (1997) is used to perform variable selection. The LASSO estimation allows a large number of variables to be included in the model and can enhance the prediction accuracy and interpretability of the resulting statistical model. Specifically, the LASSO model estimates values of parameters and simultaneously forces out unrelated regressors from the regression model. Thus, the best set of factors affecting the survival probability of individuals can be obtained. Note that the statistical inference on the parameter's estimation is not required because the LASSO model has already selected the best set of regressors that achieved the lowest level of prediction errors. Source: Tibshirani, R. (1997). "The LASSO method for variable selection in the Cox model." *Statistics in Medicine*, 16, 385–395. The description of the Cox model used for this study appears in Leurcharusmee, S., Yamaka, W., Maneejuk, P., Thaiprasert, N. & Tuntichiranon, N. (In Progress). "Economic Survival Duration of Thai Workers During COVID-19." A Working Paper. Chiang Mai University; and in Maneejuk, P., Leurcharusmee, S., Yamaka, W., Thaiprasert, N. & Tuntichiranon, N. (In progress). "A Survival Analysis of Thai Micro and Small Enterprises: Does the COVID-19 Pandemic Matter?" A Working Paper. Chiang Mai University.

The “survivability” of an individual worker or MSME is their own estimate of how much longer they can keep going, under present conditions, before running out of money and having to cut back on their regular consumption.

The analysis of workers’ and MSMEs’ survey data produced a series of charts that show the estimated “survivability” of the workers and MSMEs surveyed. The goal of these charts was to compare how the COVID-19 crisis has impacted different groups. **Figure 1** illustrates the logic behind the analysis.

Figure 1: Illustration of an individual’s survival versus their consumption failure during COVID-19

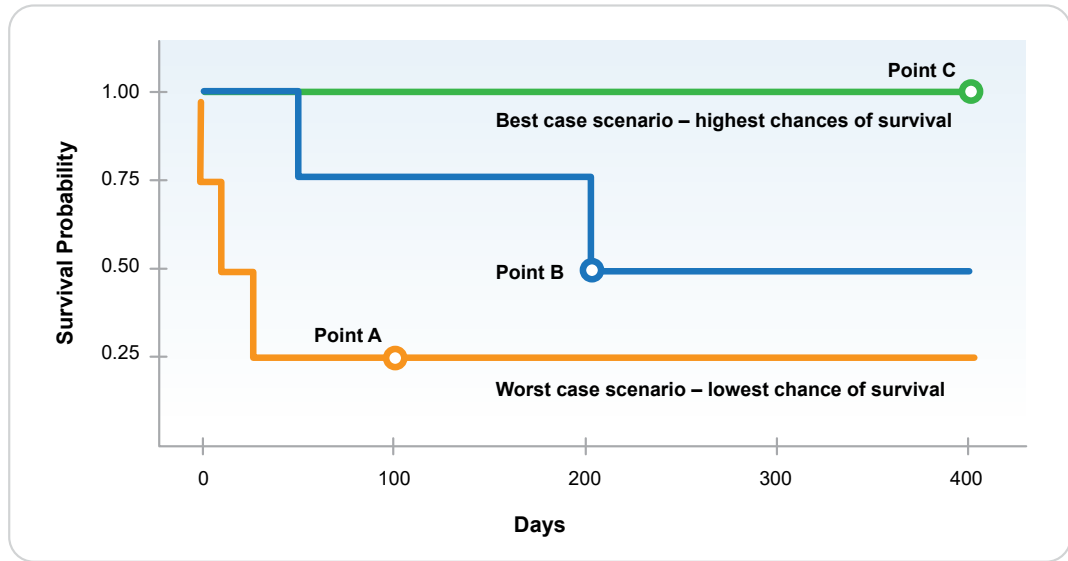


An effective way to present the descriptive statistics from the workers’ and MSMEs’ survey data was to plot the data on survival as probability paths, with each path representing a group or variable from the sample collected. The flow or direction of each path illustrates how individuals in the sample with a certain characteristic expect to survive over each period. The higher the survival probability, the more likely the individuals will be able to continue with their regular consumption during the pandemic. The width of the staircase steps indicates the number of survival days reported by individuals in the sample.

Figure 2 helps to explain how to interpret the survivability paths.² The orange line is the worst-case scenario. At Point A, this indicates that workers or MSMEs in this group will have only a 25% chance of surviving 100 days. The green line is the best-case scenario. At Point C, this indicates that 100% of the workers or MSMEs in this group will survive for 400 days. The respondents represented by the blue line are better off than those represented by the orange line, but worse off than those represented by the green line. At Point B, this indicates that 50% of the workers or MSMEs in the group will survive for 200 days or more.

2. Each survival probability path is derived directly from the raw survey data. On the vertical axis, the value of 1.00 represents 100%—meaning all individuals in the sample reported that they could survive for the length of the corresponding days on the horizontal axis. The value of 0.50 represents 50%, meaning half of individuals in the sample reported that they could survive.

Figure 2: Explaining the survivability paths



The same econometric model used to analyze the workers’ survey was used to analyze the MSME data on the factors that support or hinder the survivability of the MSMEs in each period. Similarly, MSMEs were asked this question: **“How much longer could your business survive under the current conditions?”** The respondents had six possible answers to choose from: less than a week, 1–3 weeks, 1–2 months, 3–6 months, more than 6 months, and indefinitely.

It is important to understand that the results from an econometric analysis are calculated from the interactions among all of the factors (variables) in the model that depict data from the surveyed sample populations. Thus, the variables interact, and can influence and override one another, and the results are the net results from their interactions. Therefore, results from an econometric analysis have more depth, complexity, and dynamism than results from descriptive statistics. In this study, both descriptive statistics and an econometric analysis were used to understand the impact of COVID-19 on both Thai workers and MSMEs.

Sampling Methods:

Thai Workers: The three Thai workers’ surveys were conducted over a seven-month period, at intervals

of two to three months. The first survey had a total of 3,181 individuals, the second survey had 1,998 individuals, and the third survey had 1,287 individuals. The Department of Economics and Development of the National Institute of Development Administration (NIDA) and NIDA Poll conducted the surveys with a nationally representative sample of the country’s labor force.³ This sample was drawn from NIDA Poll’s database of 300,000 individuals in Bangkok, and all four major regions in Thailand. This closely reflects the demographics of the Thai Labor Force Survey. Over the three survey rounds, the sampling methodology closely matched the population’s distribution in Thailand, with an average sample of 13.84% in Bangkok, 31.07% in the Central Region, 16.4% in the North, 25% in the Northeast, and 13.72% in the South.⁴ The provinces that reported no COVID-19 cases, as of May 2020, were excluded from this study.

For each of the four regions, NIDA randomly selected three large provinces, three medium-sized provinces, and two small provinces. Thus, along with Bangkok, eight provinces were surveyed in each region (for a total of 33 surveys conducted between May 2020 and January 2021). The number of businesses and individuals sampled in each location depended on the percentage of observations needed in each location.⁵ Informal workers, who comprise roughly 55% of the

3. NIDA Poll is a survey organization affiliated with NIDA: <https://nidapoll.nida.ac.th/>
 4. The number of observations collected from Bangkok and each region followed this regional distribution, namely: 420 observations from Bangkok, 935 from the Central Region, 489 from the North, 756 from the Northeast, and 400 from the South.
 5. For instance, in the first survey round, for the 935 observations in the Central Region, since Chonburi Province accounts for 21.43% of the total population across the eight provinces, we needed to have $935 \times 0.2143 = 200$ observations from Chonburi.

Thai workforce, are defined as those workers with no social insurance, regardless of their working status or sector of employment. Therefore, the sample comprised approximately 55% informal workers, and 45% formal workers in all three survey rounds—the same as the percentages for these groups in Thai Labor Force Survey.

Survey round	Target Group	Sample	Sampling Method Overview
First period	Workers	3,181	<ul style="list-style-type: none"> • Randomly selected from NIDA Poll's sample frame (n=300,000) • Nationally representative sample • 55% informal workers
	Small and micro enterprises in tourism and manufacturing	982 (720 chosen)	<ul style="list-style-type: none"> • Tourism MSMEs (60% of the sample) randomly sampled from the TripAdvisor website and supplemented by a list of travel agents from the Thai Revenue Department • Small-scale manufacturing MSMEs (40% of the sample) randomly sampled from the Thai Department of Business Development's list of MSMEs that are classified as manufacturing enterprises
Second period	Workers	1,998	<ul style="list-style-type: none"> • Follow up calls with the original 3,181 sample from the first survey • 37.19% drop off rate • 54.15% informal workers
	Small and micro enterprises in tourism and manufacturing	950 (720 chosen)	<ul style="list-style-type: none"> • 825 of the sample were the same respondents as the first-round survey, with the remaining 157 unwilling to participate or were uncontactable • 16% drop off rate • An additional 125 respondents were recruited for this survey round to ensure the sample remained proportional to the originally intended ratios for tourism (60%) and manufacturing businesses (40%)
Third period	Workers	1,287	<ul style="list-style-type: none"> • Follow up calls from the second-round sample • 54.23% informal workers • 35.59% drop off rate from second round sample
	Small and micro enterprises in tourism and manufacturing	827 (720 chosen)	<ul style="list-style-type: none"> • Follow up calls with the sample of 950 in the second-round surveys. • 13% drop off rate

Thai MSMEs: The three Thai MSME surveys were conducted over a seven-month period, starting in June 2020 and ending in January 2021, with the surveys conducted every 3 months. The first survey polled 982 MSMEs, the second survey polled 950 MSMEs, and the third survey polled 827 MSMEs. The percentages of MSMEs surveyed were the same in all three surveys: 60% were tourism enterprises and 40% were small-scale manufacturing enterprises. The percentage of tourism MSMEs was larger as a range of subsectors were sampled: Food & Beverage (30%); Hotels/Accommodation (30%); Travel Agents/Tours/Transportation (20%); and others (20%). Since the econometric analysis required having the same variables in all three rounds, and some respondents in the first survey could not be contacted in the second and third surveys, only the respondents who participated in all three rounds were chosen for the

econometric analysis, which reduced the number of eligible respondents for each round to 720.

The quotas applied during the survey were equally applied across Thailand’s four regions, however, the sample’s distribution by province within each region varied, depending on the database of MSMEs’ names. The respondents were all Thai owners of micro and small enterprises (medium enterprises were not included). To qualify for the study, enterprises had to meet two of the three criteria that the International Finance Corporation (IFC) uses to define micro and small enterprises, or if the enterprise falls within the relevant loan size. These concern the enterprise’s number of employees, the value of its assets, and/or the value of its sales, and whether the enterprise’s loan falls within the relevant loan size proxy.

IFC’s definition	Employees	Total Assets US\$	Annual Sales US\$	Loan Size at Origination US\$
Micro enterprise	<10	<100,000	<100,000	<10,000
Small enterprise	10–49	100,000–3 million	100,000–3 million	<100,000

Case Studies: In addition to the surveys, case studies were undertaken because some key topics are better understood through these. Data from this qualitative research complement the quantitative data from the surveys. The case studies examined the impact of COVID-19 on relevant sectors/areas, and how companies and workers have adapted to the pandemic’s restrictions. The first round for the case studies was conducted between July 14, 2020 and July 17, 2020, and comprised interviews with 12 MSMEs in tourism and small-scale manufacturing on the island of Koh Samet (Rayong Province); in Buriram Province, and in Pak Chong/Khao Yai (Nakhorn Ratchasima Province). The second round for the case studies was conducted from March 1, 2021 to March 4, 2021, with seven of the 12 MSMEs interviewed in 2020, plus an additional four interviews with hotel owners/managers in Bangkok.

to the pandemic, reachability was worsened due to travel restrictions, lack of proper contact details, and the closure of several businesses. These issues were especially challenging in the MSME surveys, as many businesses did not answer the phone, or their officially registered phone numbers were disconnected.

While it was not possible to calculate the actual effect that the rate of non-respondents had on the survey findings, the research team estimates that the likely impact was under-reporting of the pandemic’s negative impact on workers and MSMEs. Of the original MSME sample, for the second survey, roughly 40%⁶ of the randomly selected business owners were unreachable through their officially registered phone number. Likely a large percentage of these businesses were unreachable because they had either closed down, or their business phone had been disconnected as a result of ceasing operations. These businesses would almost certainly have experienced a significant decline in revenue, and would most likely have laid off all of their employees. As a result, the research team believes that the survey findings likely underreport the negative impact of the pandemic.

Potential Bias from Non-response Rate: One possible source of bias in the MSME survey comes from the high non-response rate, which was a result of challenges in reaching the selected respondents. In the surveys, which were conducted via telephone due

6. According to MI Advisory who collected the MSME data.

Socio-economic Impact of COVID-19 on Thailand

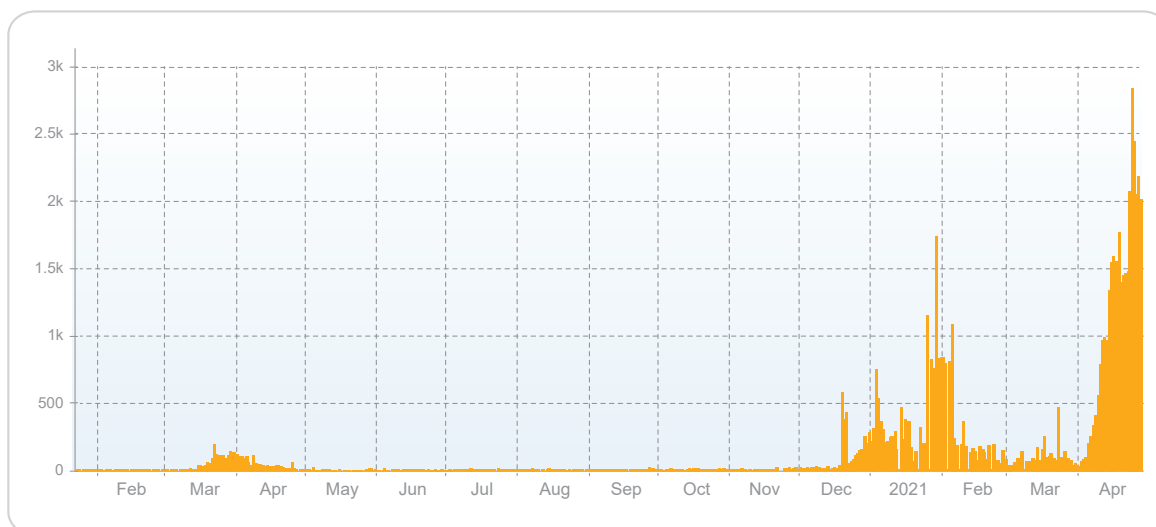
In 2020, during the first outbreak of COVID-19 in Thailand, the Royal Thai Government (the government) performed extremely well in containing the outbreak. The government proved early on that it was effective in curbing the spread of the pandemic, which led to recognition of Thailand's success by the World Health Organization and the United Nations.⁷⁸ By mid-2020, domestic tourism was rebounding, and most restrictions on movement had been phased out. International travelers were allowed to enter Thailand, but they were required to spend 14 days in quarantine on arrival, which discouraged people from traveling to Thailand.

The country began experiencing a second wave of infections in December 2020, which were a result of a cluster of migrant workers who were working in a seafood market in Samut Sakhon Province. This outbreak caused the total number of daily infections to rise. After reaching a peak of 1,732 new cases on January 29, 2021, effective control measures were taken, and by February 26, 2021, the daily infection rate declined to the low hundreds.

The government was much less effective in acquiring vaccines for the Thai population. Despite an arrangement for the Astra-Zeneca vaccine to be manufactured in Thailand, by early 2021, it became clear that the secured supplies of vaccine were far short of what was required to fully reopen the economy. As of May 1, 2021, Thailand was the third worst performer in the Association of Southeast Asian Nations (ASEAN), having given fewer vaccinations than Cambodia, Lao PDR, Malaysia, and Myanmar.

While concerns were growing over the slow roll-out of vaccines, a devastating third wave of COVID-19 hit Thailand. Beginning on March 25, 2021, a new outbreak occurred in Bangkok, clustered in a string of entertainment complexes frequented by wealthy Thais. This time, the COVID-19 variant from the United Kingdom (B.1.1.7) was the dominant strain, which spreads faster than the original virus that infected people in 2020. By April 24, 2021, Thailand had nearly 3,000 daily cases, and hospital beds were filling to capacity.

Figure 3: New COVID-19 cases per day in Thailand as of April 28, 2021



Source: COVID-19 Dashboard prepared by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

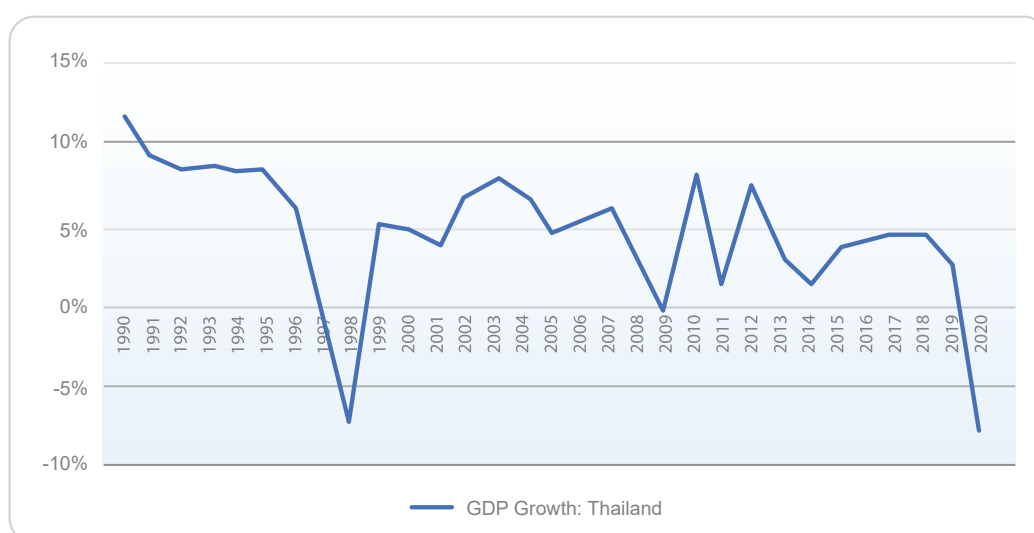
7. United Nations. (2020, August 4). Thailand's COVID-19 response an example of resilience and solidarity: a UN Resident Coordinator blog. Retrieved from <https://news.un.org/en/story/2020/08/1069191>
8. World Health Organization. (2020, October 14). Thailand's Review of the Health System Response to COVID-10. Retrieved from <https://www.who.int/thailand/news/detail/14-10-2020-Thailand-IAR-COVID19>

While the data for this study only show the impact of the first and second COVID-19 outbreaks, it is likely that the impact of the third wave will be similar or greater than these.

Thailand's methods of controlling the virus have comprised locking down the country, limiting the entry of international travelers, requiring incoming travelers to quarantine, forcing businesses to close that have high potential to spread the virus and, when necessary, halting cross-provincial travel. While these control methods have been effective tools in reducing the spread of the virus, the impact on the economy has been devastating.

As the country continues to suffer from sporadic outbreaks and the renewal of restrictions, it has become clear that the only way out of the crisis is widespread vaccinations. However, given the lack of vaccines, Thailand is unlikely to reach herd immunity in 2021, which means that the crisis is likely to last until mid-2022. Despite gross domestic product (GDP) growth in Thailand contracting by 6.5% in 2020, mirroring the contraction of 7.6% caused by the Asian Financial Crisis in 1998 (see Figure 4), Thailand's GDP is expected to grow by only 2.3% in 2021.⁹ While this may seem promising, Thailand's situation remains fragile. Thailand's road to recovery is highly dependent on the government's fiscal support policies, domestic demand, and preventing new waves of infection.

Figure 4: Thailand's GDP growth rate, 1990–2020



Source: data.worldbank.org

Thailand's Lockdown

The first case of COVID-19 appeared in Thailand in January 2020. As the infection rate began to rise, the government responded by declaring a state of emergency in March 2020, and imposing a nationwide lockdown. This lockdown included closing, partially or entirely, risk-prone places such as: airports, bus terminals, and train stations; boxing arenas; sport stadiums; playgrounds; fitness centers; massage

parlors; racetracks; bars, pubs, and restaurants;¹⁰ and venues such as museums; natural attractions such as public parks, historical sites, and zoos; public libraries; religious sites; markets; and department stores. Additionally, during the height of the lockdown, the government deterred cross-provincial travel and imposed a curfew from 22:00 to 04:00. On May 3, 2020, the government began easing restrictive measures on a bi-weekly basis, and by July 2020, almost all of the control measures were lifted.

9. Estimated by the Fiscal Policy Office as of April 29, 2021. https://www.thansettakij.com/content/money_market/477802

10. Restaurants were only open for take away and delivery.

Between July and December 2020, it seemed as if life had gone back to normal in Thailand, with many people ignoring social distancing measures and taking a relaxed approach to mask wearing, despite the soaring infection rate in much of the rest of the world. However, it did not take long for the pandemic to surge again in Thailand. On December 19, 2020, Thailand had 548 new COVID-19 cases, all located in Samut Sakhon Province, approximately 40 kilometers southwest of Bangkok. This cluster of cases was the largest spike in daily cases in Thailand since the start of the pandemic, and it sent shock waves across the country. Many feared that the second lockdown would be the final stroke to break the back of the Thai economy. The government acted quickly to contain the outbreak by forcing Samut Sakhon into complete lockdown, and preventing people from leaving the province. In addition, all December 31 New Year celebrations were cancelled across the country.

In an attempt to keep virus outbreaks localized, the government introduced a color-coding system that ranked each province according to its number of infections. Based on this color-coding system, appropriate control measures were applied to the respective province. Red indicates the highest level of infection, followed by orange, then yellow, and then green. This move by the government prevented a nation-wide lockdown and minimized the economic knock-on effects. In the case study interviews conducted in early March 2021, many businesses described the second wave as less severe than the first one, so the impact on their business and income was less. In December 2020, Samut Sakhon Province was the only red zone on the Thai map; four provinces, including Bangkok, were colored orange; 10 provinces were colored yellow; and the rest of Thailand was green.

By February 22, 2021, the Thai government had successfully reduced the infection rate across the country and, as a consequence, the government began proportionally reducing restrictions in each zone. For example, in Bangkok (an orange zone), on February 22, the city's restaurants were allowed to remain open until 23:00; entertainment venues, pubs, and bars could re-open, with some restrictions; department stores and malls could resume business; educational institutions could operate normally again; and sports stadiums could operate, but with limits on the number of spectators.

In retrospect, given the third COVID-19 outbreak that began in March 2021, it appears that easing lockdown restrictions was premature. However, due to when the data for this report were gathered, an assessment of the impact of the third wave has not been included in this report.

International arrivals in Thailand have been extremely limited since COVID-19 began to spread in the country in 2020. In the fourth quarter of the year, only 50,000 foreign tourists entered the kingdom, which was a 99.5% reduction from the number of tourists in 2019.¹¹ Starting April 1, 2021, the Thai government took steps to attract more international visitors by reducing the quarantine period from 14 to 10 days for travelers who entered the country with certificates indicating they were COVID-free. Travelers with additional documentation such as a vaccination certificate dated no more than three months previously, and no less than 14 days previously, were only required to quarantine for seven days. However, the government increased the quarantine period to 14 days again on May 6, 2021.

Details on the pandemic's timeline are presented in **Annex Table 1**.

11. Reuters. (2020, September 30). Thailand eyes 50,000 foreign tourists in Q4, down 99.5%. *Bangkok Post*. Retrieved from <https://www.bangkokpost.com/travel/1994339/thailand-eyes-50-000-foreign-tourists-in-q4-down-99-5->



Motorcycle taxi driver buying his breakfast in Bangkok / Athima Bhukdeewuth

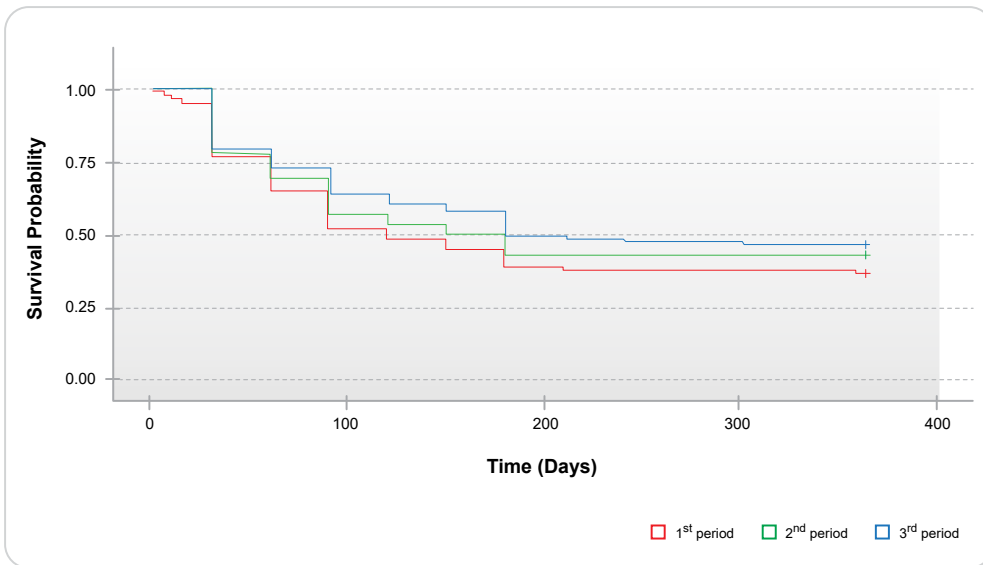
Impact on the Thai Workforce

This section presents the results of using the survey data in the survivability model, and descriptive statistics from the survey data, based on the survivability paths. These show that Thai workers were better able to cope in the third period, in comparison to the second period; and coped better in the second period, in comparison to the first period. It is clear from **Figure 5**, that surveyed workers were relatively confident that they would survive in the short term, but the longer the pandemic continued, the less confident workers were about the likelihood of their survival because their resources will diminish over time. However, there are small, but significant differences between the three survey rounds that show slight increases in survivability in the second and third surveys. As shown in **Figure 5**, survival probability was lowest in the first period when workers were less able to adjust their work pattern and consumption, and higher in the third period when the pandemic's risk of infection had improved. Fewer than 50% of the sampled workers (39.3% in May 2020, 44.1% in August 2020, and 49.8% in November 2020) had enough savings or a large enough stream of income to sustain consumption for longer than six

months. However, if they could last for six months, most could last longer than a year, as indicated by the horizontal lines after the 180th day. In May 2020, people were less prepared, and 2.7% of the survey respondents could sustain their consumption for less than a week. This phenomenon disappeared in August and November, indicating that the economic situation had improved for the most vulnerable in the surveyed groups.

These data seem to indicate that workers have adapted over the course of the pandemic, or at least are better prepared. With each survey round, participants were slightly more optimistic that they would get through the crisis. While it is difficult to pinpoint the exact reason, it could be that this was due to government programs, or workers were progressing in finding more sustainable work and/or living conditions to ride out the pandemic. Despite this slight improvement, overall, the findings across all three periods show that workers were deeply pessimistic that they could survive if the pandemic lasts for another year.

Figure 5: Survival probability of workers over three rounds of surveys in May, August, and November 2020



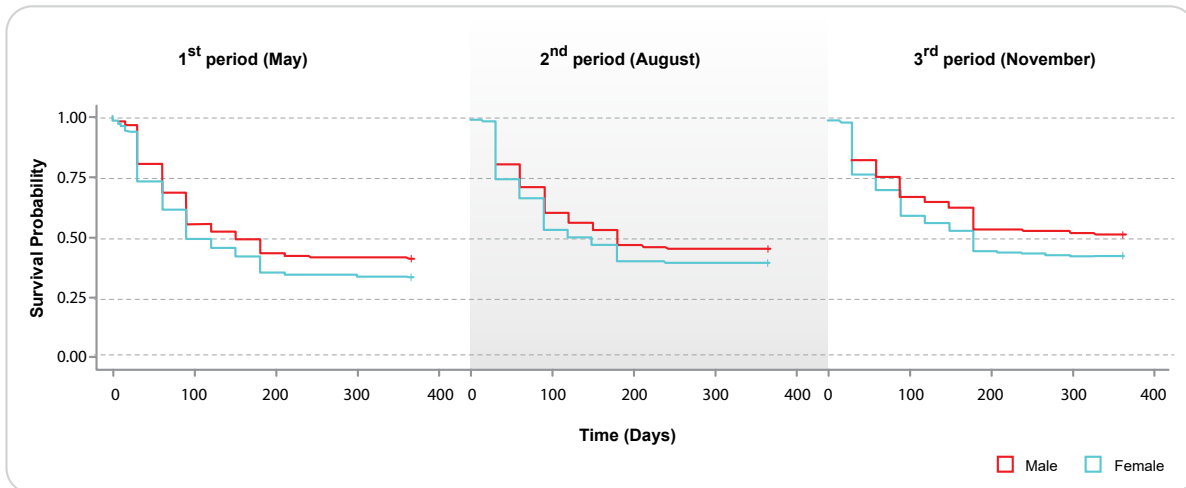
Results from the econometric analysis (survivability model) are presented in **Annex Table 2**. Important results are discussed below.

Female workers

Female workers were more vulnerable than male workers. In the first survey period, female workers had an 8.1% lower chance of survival than male workers.

In the second period, the gap improved to 6.4%, but the gap increased to 14.2% in the third period. However, both male and female workers had a greater chance of survival in the third period (see **Figure 6**). The reason female workers appeared to be more vulnerable than male workers is because the tourism and services sectors hire more female workers, and the pandemic has hit these sectors harder than the agricultural and manufacturing sectors.

Figure 6: Survival probability of male and female workers in May, August, and November 2020

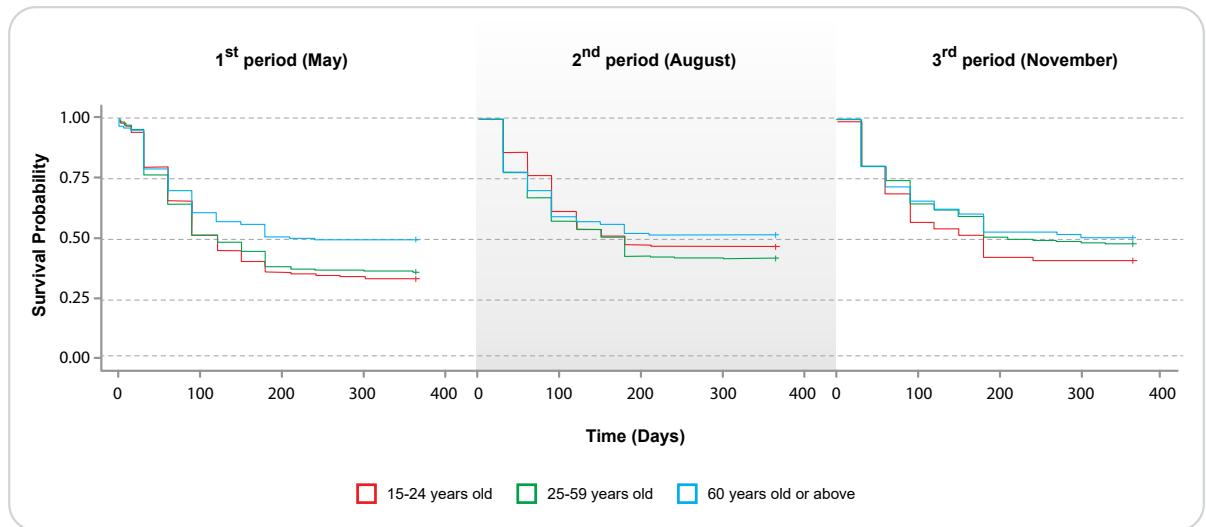


Elderly workers

Older workers are more likely to survive than younger age groups. Workers age 15 to 24 (young adults) and those age 25 to 59 (adults) had lower chances of survival than workers age 60, and older (elderly), although this was not the case in all three periods. The adult workers were significantly more impacted in the first and second survey periods—probably because they have dependents. The young adult workers were more impacted in the third period, probably

because finding a job had become harder for them. Conversely, as shown in **Figure 7**, the elderly group had higher survival probability in all three period. This was surprising, given the common assumption that the elderly are more vulnerable than younger people. However, this could be because most of the elderly in the sample had a reliable stream of income from non-work-related sources, such as a civil service pension, a social security pension, or the universal old-age allowance.

Figure 7: Survival probability of workers in different age groups over the three survey periods

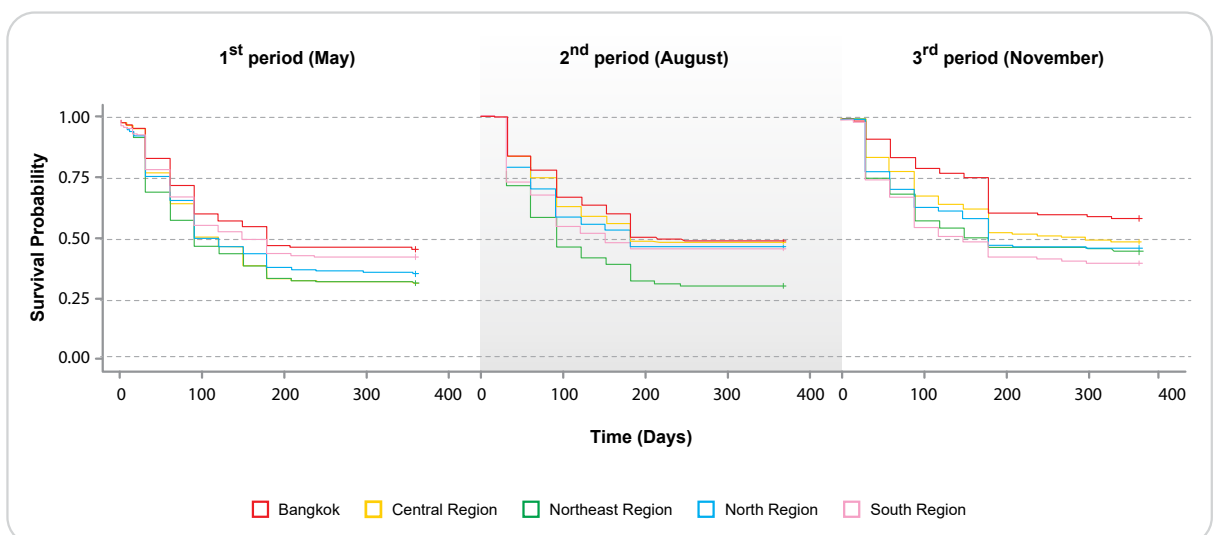


Regional comparison

The regression analysis did not find any clear trends when comparing different regions. For this analysis, we compared other regions with Bangkok (the base variable). In the second period, workers in the Northeast had a 26.5% lower chance of survival than workers in Bangkok. In the third period, workers in the South had a 7.6% lower chance of survival than

workers in Bangkok. However, the regression analysis results are not significant enough to explain these results for workers in the North and Central Regions. The survivability paths in **Figure 8** also support the regression analysis results as they show that the Northeast was worse off than other regions in the first and second periods, but in the third period, the South became the worst-off region.

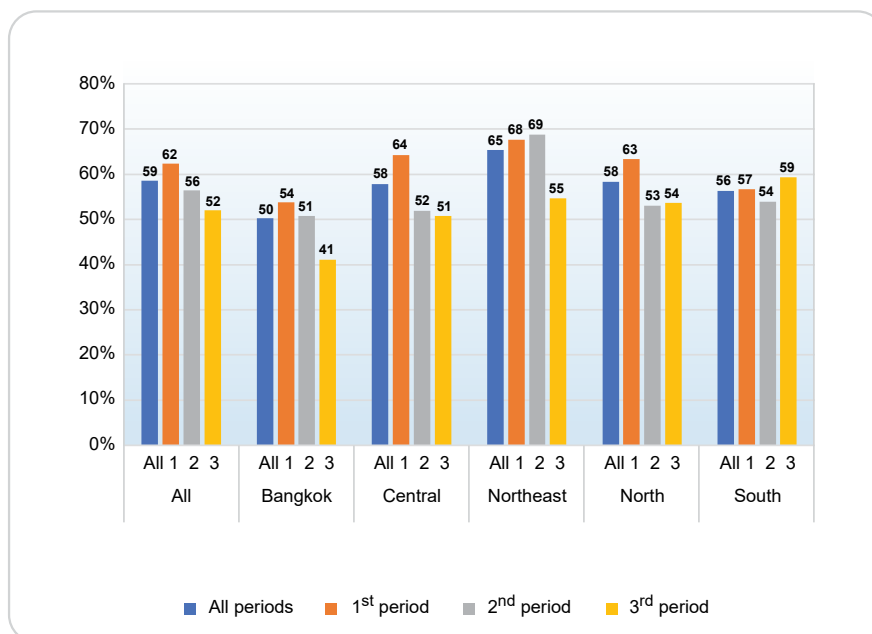
Figure 8: Survival probability of workers in different regions over the three survey periods



It is alarming that, on average, 59% of Thai workers (the first bar from the left in **Figure 9**) predicted that they would not survive for more than 365 days. The regional results are consistent with the regression analysis, which shows that the highest ratios apply to workers in the Northeast in the first and second periods, and to workers in the South in the third period. Workers' circumstances in Bangkok, and in the

Central, and Northeast Regions seemed to improve, considerably, in the third period as the percentage of those who responded that they could not survive for 365 days had dropped. However, the ratios in the third period were higher than those in the second period for workers in the North and South, which suggests that their circumstances were getting worse.

Figure 9: Percentages of workers who could not survive beyond 365 days, by region and survey period



It is unclear which specific factor played the key role in the suffering of workers in the Northeast during the first and second periods. However, this region has the lowest income per capita¹² in the country, the lowest level of educational attainment,¹³ and the highest dependency ratio.¹⁴ These reasons could make workers in the Northeast suffer the most unless another factor was more dominant. For workers in the South, the accumulated negative impact of round

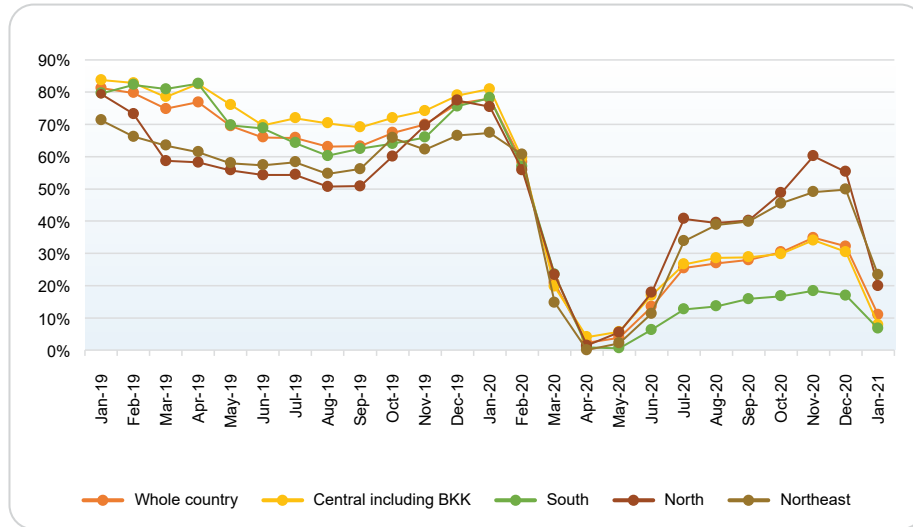
after round of damage to the tourism sector, which is the region's most important sector, was likely the main cause (see Figure 10). Figure 10, which is based on data from the Bank of Thailand, shows the extreme contraction of the tourism sector in March–April 2020, which was followed by a partial recovery over the rest of 2020, and then another extreme contraction in January 2021.

12. In 2019, the values for gross regional product, per capita (baht) for different regions in Thailand were as follows: whole country 243,787, Bangkok and vicinity 474,004, Central 271,360, West 163,129, East 502,471, North 114,287, Northeast 86,171, and South 153,659. Source: NESDC. (2019). Gross Regional and Provincial Product Chain Volume Measures 2019 Edition. Retrieved from https://www.nesdc.go.th/main.php?filename=gross_regional

13. With regard to workers with only a primary education or even less, the workers' surveys found that the Northeast Region had the highest percentage of these workers (35.5%), while in the other regions, the percentages were considerably lower (8.4%, 20.1%, 29.1%, and 17.6% for Bangkok, and the Central, North, and South Regions, respectively).

14. The dependency ratio compares the dependent population (people below age 15 and over age 64) to the working age population (people age 15 to 64). The ratio for the Northeast in 2020 was 59.2 versus 30.5, 42.6, 54.2, and 51.2 for Bangkok, and the Central, North and South Regions, respectively. Source: Global Data Lab. (2020). Thailand's Dependency Ratio. Retrieved from <https://globaldatalab.org/areadata/depratio/THA/>

Figure 10: Thailand's hotel occupancy rate by region



Source: Bank of Thailand

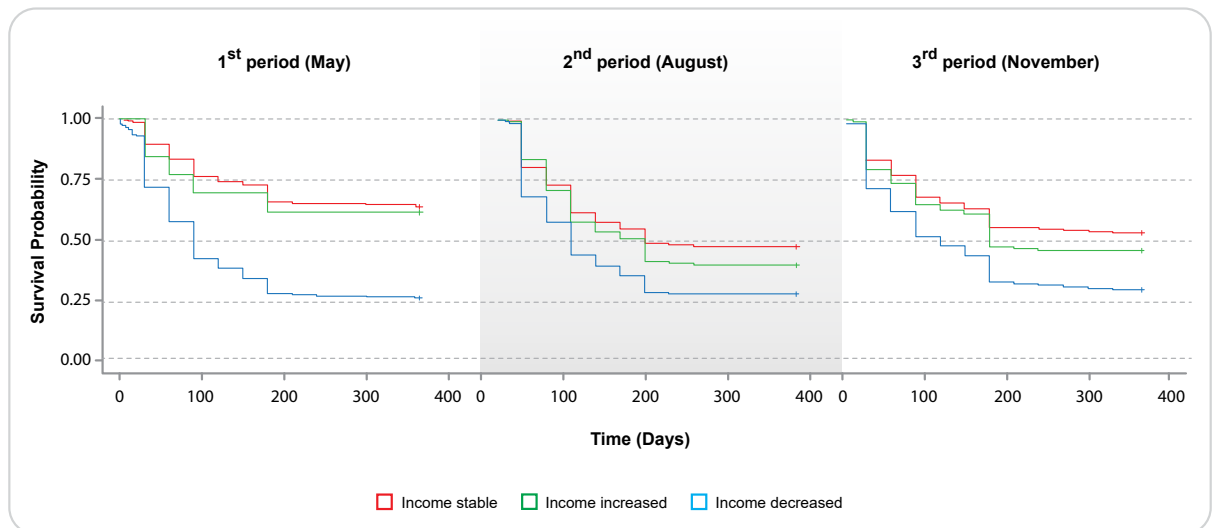
Workers declining income

As expected, there is a clear relationship between lower income and a shorter survivability period. Workers who stated in the first period that their income had declined since the pandemic began, had a 72.4% lower chance of survival than workers who stated that their income had stayed the same. In the second and third periods, this percentage improved,

substantially, to 33.4%, and 34.2%, respectively (see **Figure 11**).

Having a higher income matters, significantly, since the regression results show that in the first period if income increased by 1%, workers had, on average, an 11% higher chance of survival, and in second period they had a 3.9% higher chance of survival.

Figure 11: Survival probability of workers whose income changed over the three survey periods



The descriptive statistics in **Figure 12** show that the income of Thai workers improved from the first to the second period, but remained relatively stable from the second to the third period. Even in the second and third periods, however, we see that roughly 20% of

the workers continued to see their incomes decline. When focusing at the regional level, in the third period, more workers in the South reported that their income had declined since the second period (see **Figure 13**).

Figure 12: Percentages of Thai workers' whose income changed over the three survey periods

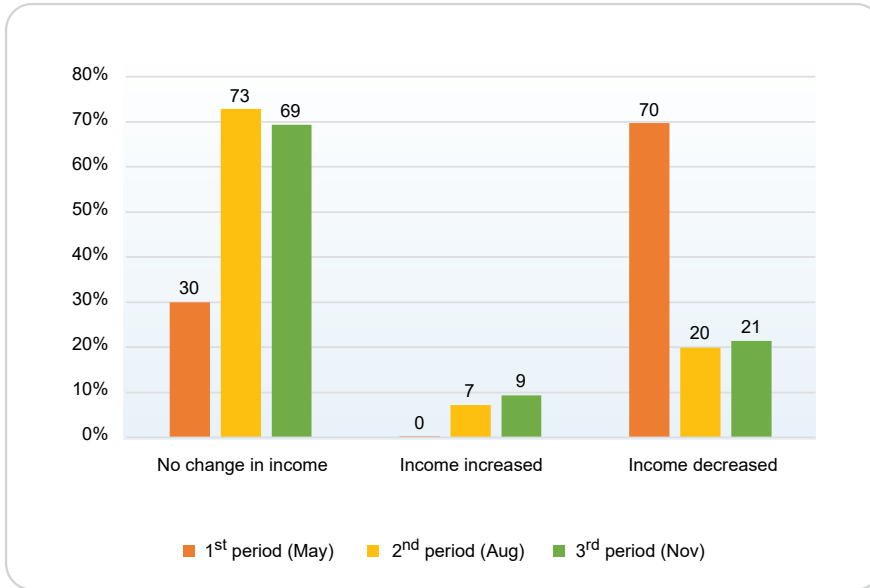
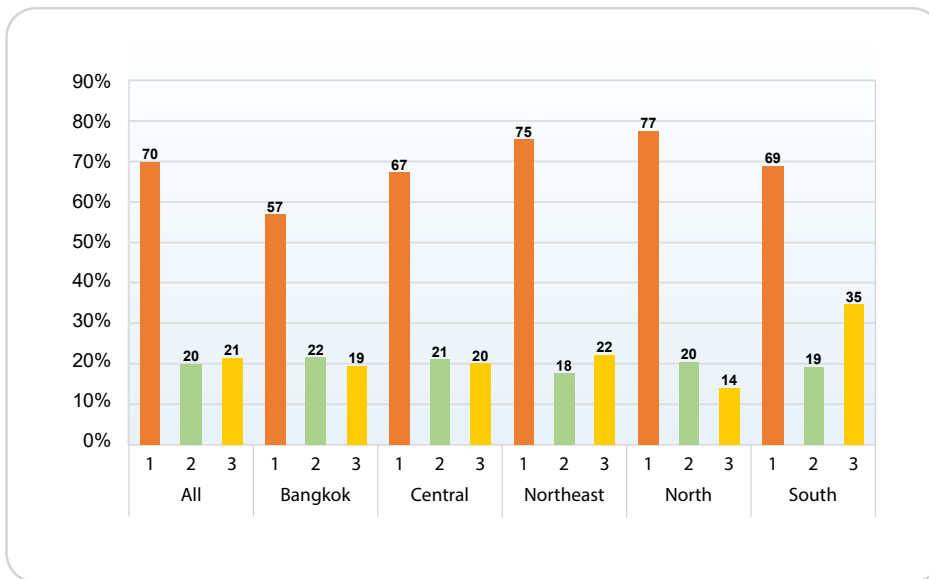


Figure 13: Percentages of Thai workers whose income declined, by region and survey period

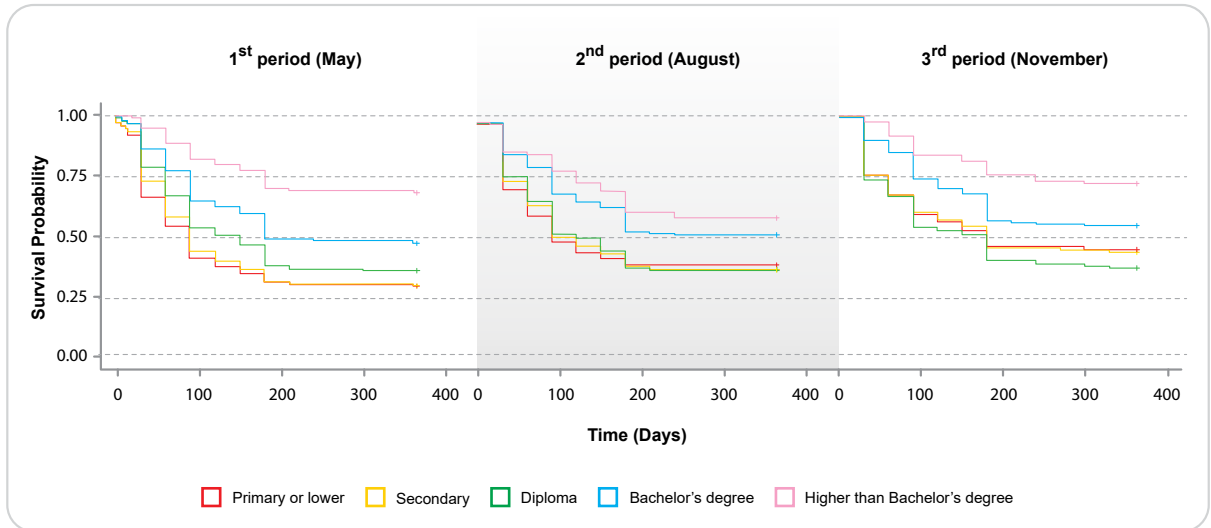


Workers with a lower educational level

Workers with a lower level of education (primary school or less) were much more affected by the economic impact of the pandemic than those with a higher education level (a bachelor's degree or higher), which indicates that the pandemic has worsened

inequality. It is clear from Figure 14 that workers with a higher education level had a higher chance of survival than workers with a primary education, or less. Notably, workers who completed high school or had a vocational diploma, did not do better than workers with only a primary education.

Figure 14: Survival probability of workers with different education levels over the three survey

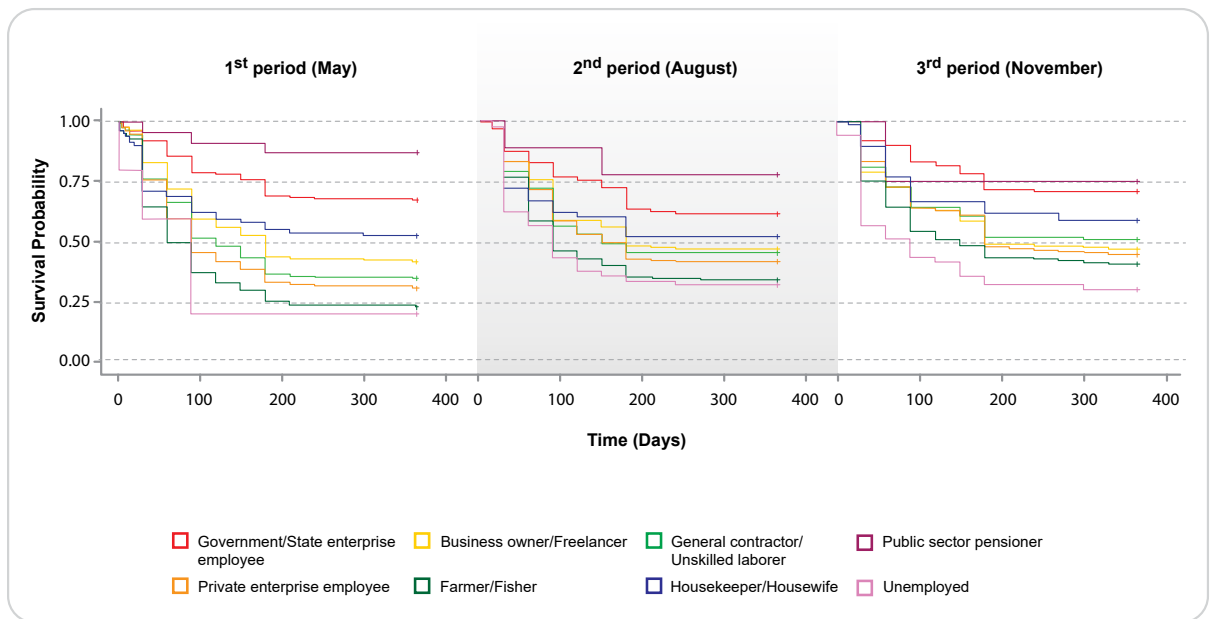


Unskilled workers

Unskilled and unemployed workers were more affected than other groups; while unskilled, contract laborers had a lower chance of survival than pensioners (13%, 8.4% and 4.3% less, respectively, over the three survey periods). Similarly, in the second and third

periods, unemployed workers had a lower chance of survival than pensioners (2.9% and 12.5%, in the second and third periods, respectively). In contrast, in the first period, government/state enterprise employees had a 2.7% higher chance of survival than pensioners (see **Figure 15**).

Figure 15: Survival probability of workers in different occupational groups over the three survey periods





Construction workers in front of the Grand Palace / Athima Bhukdeewuth

Workers in the services sector

The tourism sector was by far the worst-affected sector of any in Thailand. In fact, tourism workers were even worse off than unemployed workers in the third period (see **Figure 16**). Workers in tourism and other services sectors had, respectively, in the second and third periods, a 1.2% and 2.2% lower

chance of survival than was the case with pensioners (the comparison group). Conversely, in the second and third periods, respectively, public sector workers had a 27.7% and 36.9% higher chance of survival than was the case with pensioners. Over the three survey rounds, in comparison with workers in other sectors, tourism workers reported the greatest decline in their income (See **Figure 17**).

Figure 16: Survival probability of workers in different sectors over the three survey periods

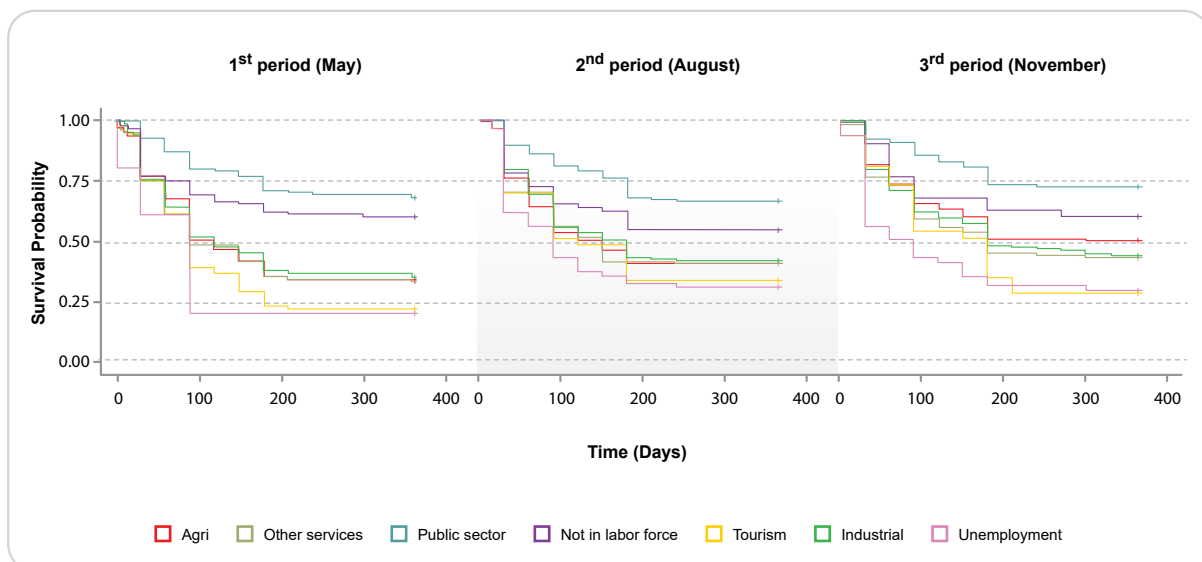
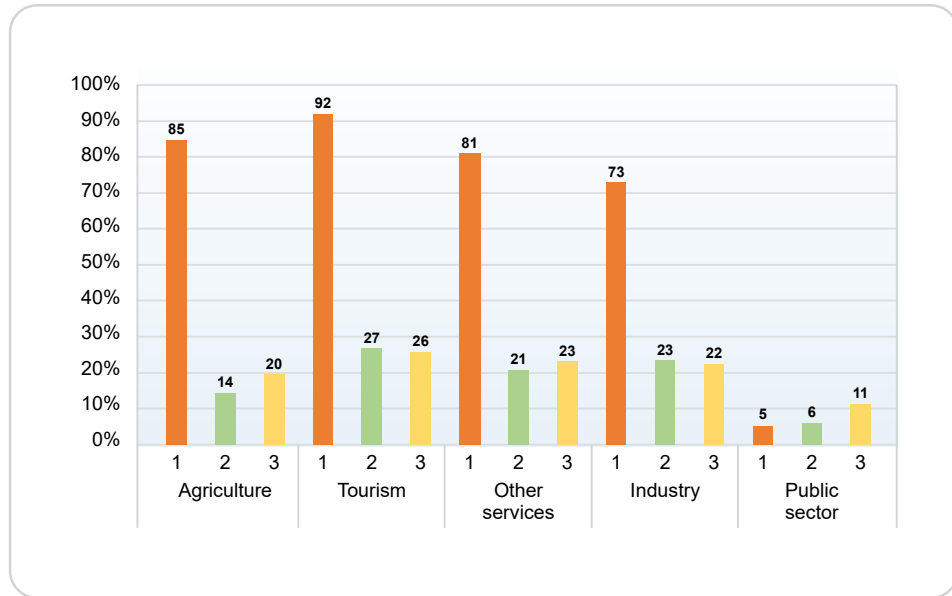


Figure 17: Decline in Thai workers' income during the pandemic, by sector and survey period



Indebted workers

The vast majority of workers were forced to borrow money to survive, and there is strong evidence that they were much worse off than those who did not borrow money. Workers who had to borrow money to relieve their COVID-19 problems in the first, second, and third periods had a 28%, 32.2%, and 39.6% lower chance of survival, respectively, than workers who did not borrow money (see **Figure 18**). Note that the regression results only reflect that there was a correlation between workers who borrowed money and their lower survivability rate. We cannot

determine, however, if workers were less likely to survive because they borrowed money, or because they borrowed money, workers were less likely to survive.

Figure 19 shows the shares of Thai workers who borrowed money over the three periods to relieve their pandemic-related financial problems. As the figure shows they borrowed less in the second period but slightly more in the third period. Workers in Bangkok borrowed more money than workers in other regions, and workers in the North and Northeast borrowed the least.

Figure 18: Survival probability of workers who borrowed money to relieve COVID-19 financial problems versus those who did not borrow, by survey period

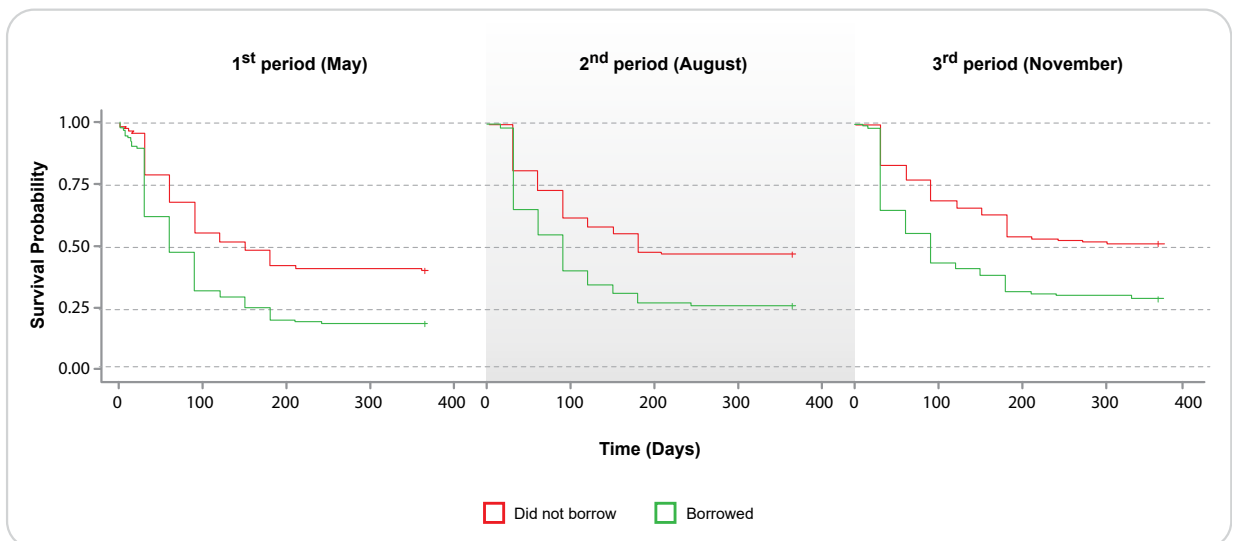
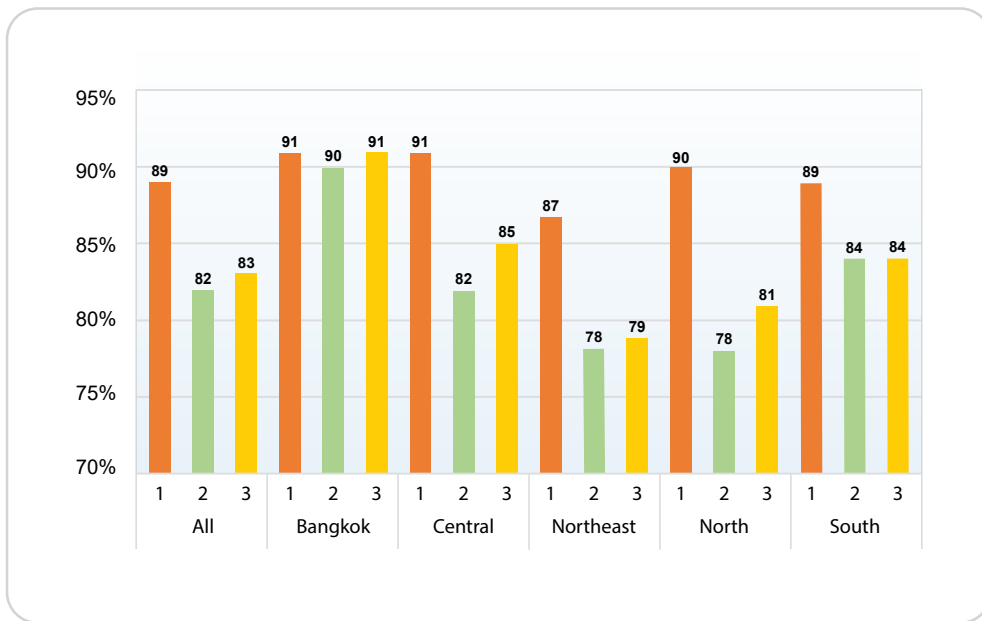


Figure 19: Share of Thai workers who borrowed money to relieve COVID-19 financial problems, by region and survey period

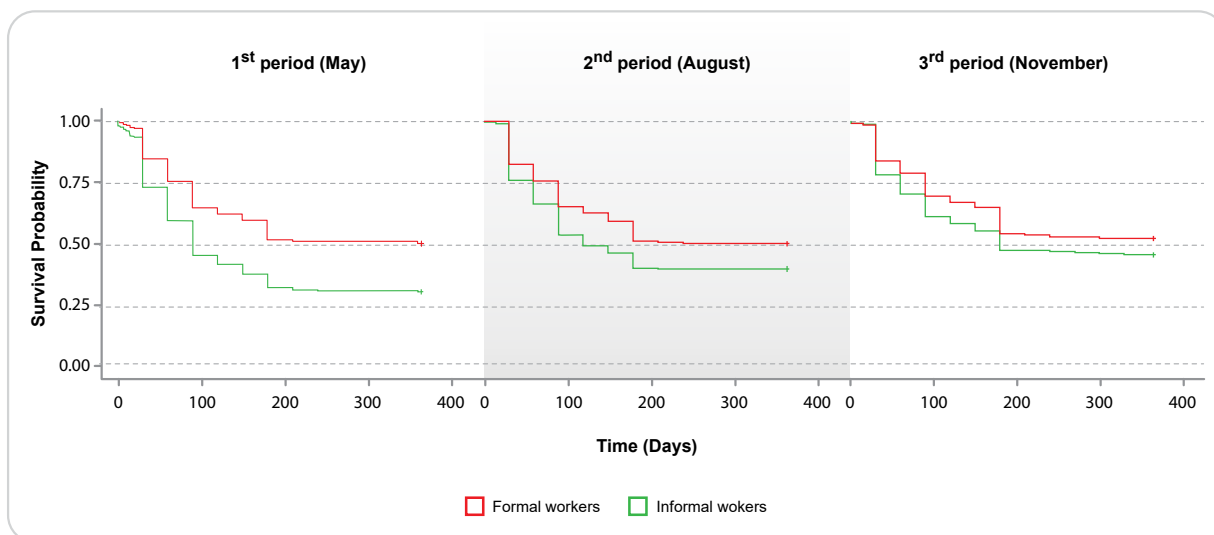


Informal workers

As shown in Figure 20, over the three periods, workers in the informal sector had a lower survival probability than workers in the formal sector. However, the regression analysis did not show that being in the informal sector was a significant factor in determining survivability. This was largely due to

the high correlation between informality, and informal workers' lower level of education, and their more vulnerable jobs in unskilled and contract work. Thus, the regression results, which were not statistically significant, inferred that the lower survival probability of informal workers could be accounted for by the variables for occupation and education.

Figure 20: Survival probability of formal and informal workers over the three survey periods





Garbage Collector in Isan /The Asia Foundation

Government support programs

To alleviate poverty and stimulate the economy, the Thai government launched a set of COVID-19 relief measures. The schemes aimed to assist the formal, non-agricultural informal, and agricultural workers whose employment or income was affected by COVID-19. The regression analysis conducted for this study suggests that only one government COVID-19 relief program was effective (the cash transfer for farmers); however, the data do not show, conclusively, how this program achieved impact.

Although regression analysis can suggest effective targeting of COVID-19 relief programs, it is not possible to determine, conclusively, how the programs delivered the impact.

Most people who were eligible to receive government support were more vulnerable to begin with, which made them less likely to survive, regardless of the assistance they received.

It is important to understand that the results from the econometric analysis are the net of two major effects. The first effect is that of selection bias, which means that people who were eligible to receive government support were more vulnerable to begin with, which

makes them less likely to survive, regardless of the assistance they receive. The second effect is the one from the government support programs, themselves, which is supposed to be positive. The net effect was the result of the interaction between these two effects, which also takes into account the effects of other variables in the model. Note, again, that the regression analysis can only reflect correlation, but not causality between each variable and workers' survivability.

From the econometric analysis, it appears that in the first period, the workers who received 5,000 baht cash support per month for three months from April through June 2020 *Rao Mai Ting Gun*, had a 14.2% lower chance of survival than the workers who did not receive any government support (the comparison group). This is very likely a sign that the government programs were, indeed, reaching the people who were in a more difficult situation. However, in the second period, the same group of people experienced improvement. They only had a 9.9% lower chance of survival than the comparison group. This suggests that cash support improved the survivability of the workers who received it, however, it is difficult to prove this. Similarly, for the formal workers who received severance pay from the Social Security Fund for between 90 to 200 days, depending on the cause of their unemployment (contract ended, employer's business closed temporarily, or they were laid off), they had a 4.7% lower chance of survival in the first

round, in comparison with the workers who did not receive any government support. Again, this could be because workers whose jobs or businesses were not secure were likely to be laid off and receive severance pay.

Interestingly, the farmers who received 5,000 baht cash support per month for three months (May through July 2020) had a 10.7% higher chance of survival than those who received no government support. This could be because farmers are less vulnerable to begin than urban workers, as their livelihoods in rural areas are more likely to survive the impact of an economic crisis, and they can grow some of the food they need. The 15,000 baht that farmers received over three months lasted a long time. Also, the timing of the cash farmers received reinforced the overall positive effect, because the support, which began in May, came at a time of year when agricultural output started to improve because of the arrival of the rainy season.

The results are not significant for other types of government support programs (500 baht financial aid per month for Village Health Volunteers for seven months, 3,000 baht extra financial aid for the elderly on top of their pension, and other types of financial assistance). As can be seen in Figure 21, their shares are almost zero percent (Note, these data were collected only in two rounds). **Figure 22** shows that in comparison with workers in other regions, quite a large number of workers in Bangkok did not receive any government support. More workers in Bangkok, and the Central, and South Regions received severance payments from the Social Security Fund than was the case with workers in the North and Northeast. This suggests that there are more formal types of work in Bangkok, and the Central, and South Regions. Also, far more farmers received cash support in the Northeast, North, and South Regions than was the case in Bangkok and the Central Region, where farmland and farming are much less.

Figure 21: Share of Thai workers using different types of government support, by program and survey period

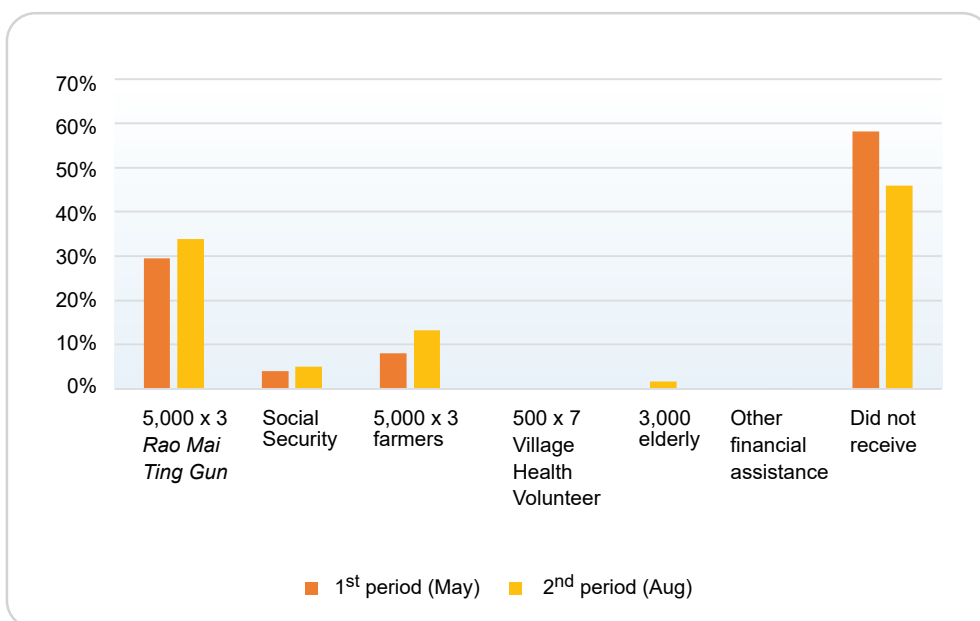


Figure 22 : Share of Thai workers who received government support, by program, region, and survey period

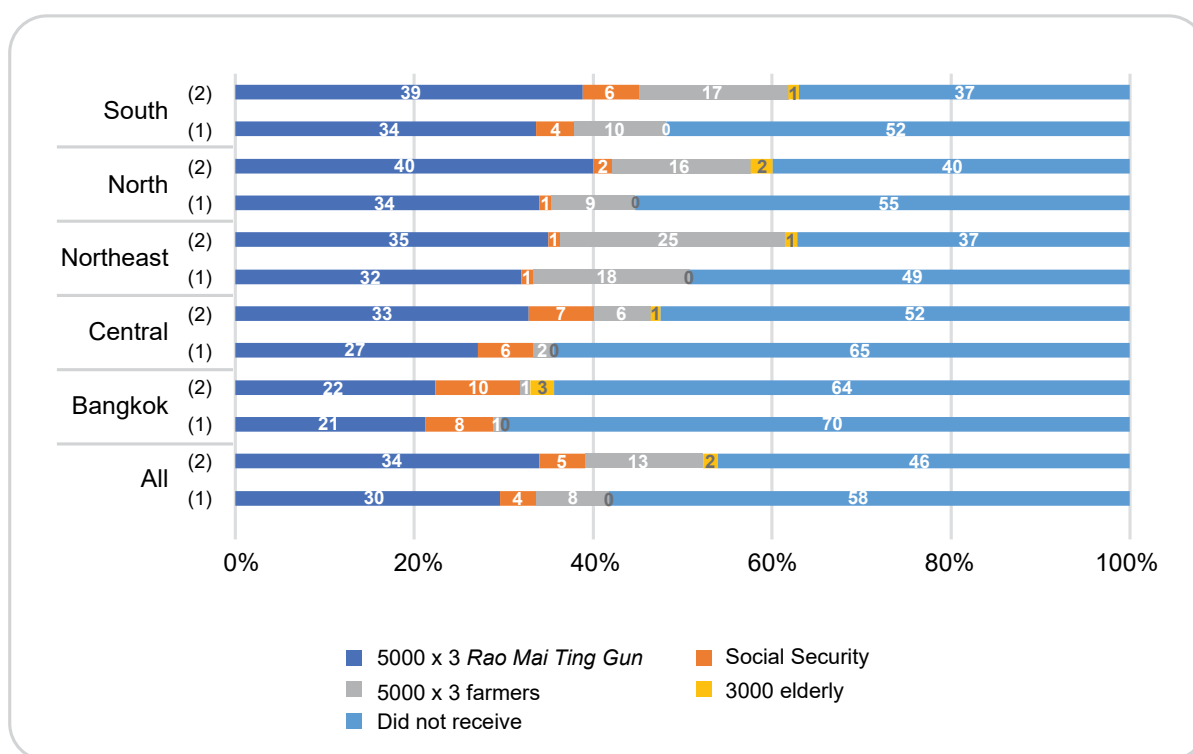


Figure 23 shows the reasons why some Thai workers did not receive any government support in the second period. The majority of workers (60%) responded that they were not affected by the pandemic, and thus they did not apply for government support. Some 23% of them applied for the programs, but were rejected due to their ineligibility. Around 14% of workers did not apply for the programs, although they were affected by the pandemic. This was probably because they were unaware of the programs. Around 3% said that they did not know how to register for the programs, or they could not do it successfully. One of the most popular government support programs has been “Half-Half” (*Kon La Krueng*). From October 23 to December 31, 2020, at eligible stores, this paid half the price for

purchases, excluding alcohol, tobacco products, and lottery tickets. The daily maximum was 150 baht, and the maximum over the whole period was 3,000 baht. This program targeted the informal workers whose incomes were higher than those who qualified for the State Welfare Card. **Figure 24** shows the reasons workers gave in the third survey for not participating in the “Half-Half” program. It is concerning that the two main reasons were: the registration time ran out, and respondents did not know how to register for the program. Note, due to the program’s popularity, and the government’s efforts to improve the registration process, the registration rate for “Half-Half” may have improved after this study’s third survey period.

Figure 23: Thai workers' reasons for not receiving support from any government program in the second period

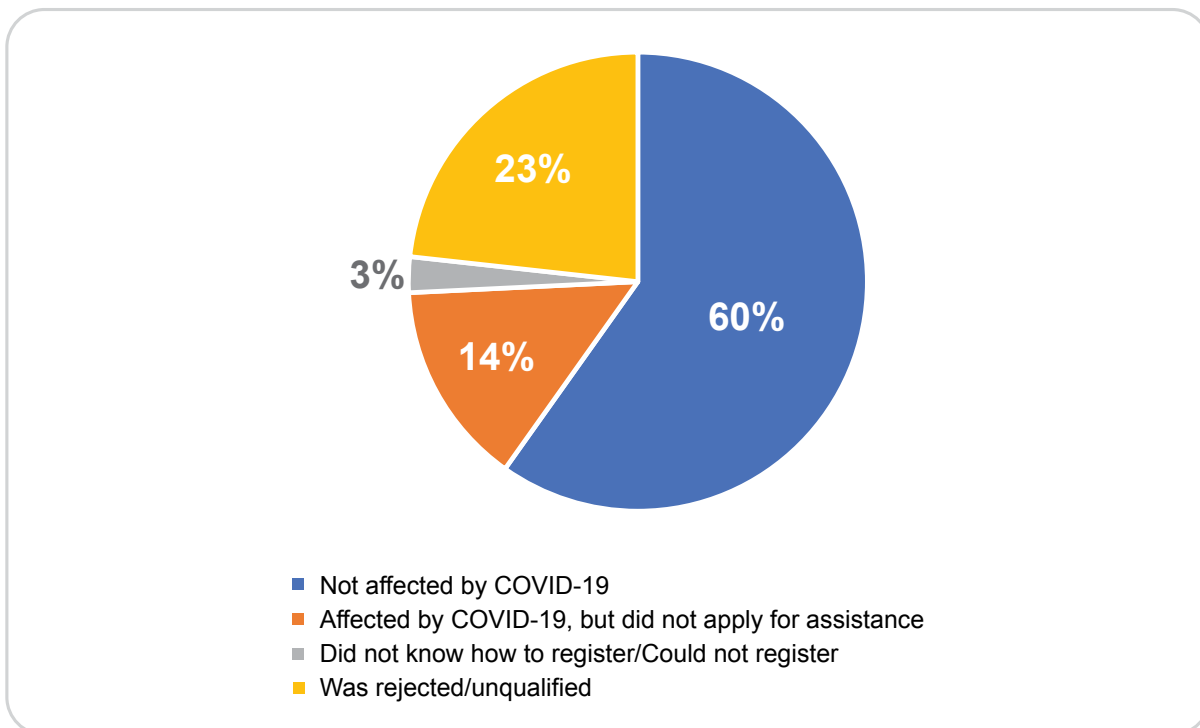
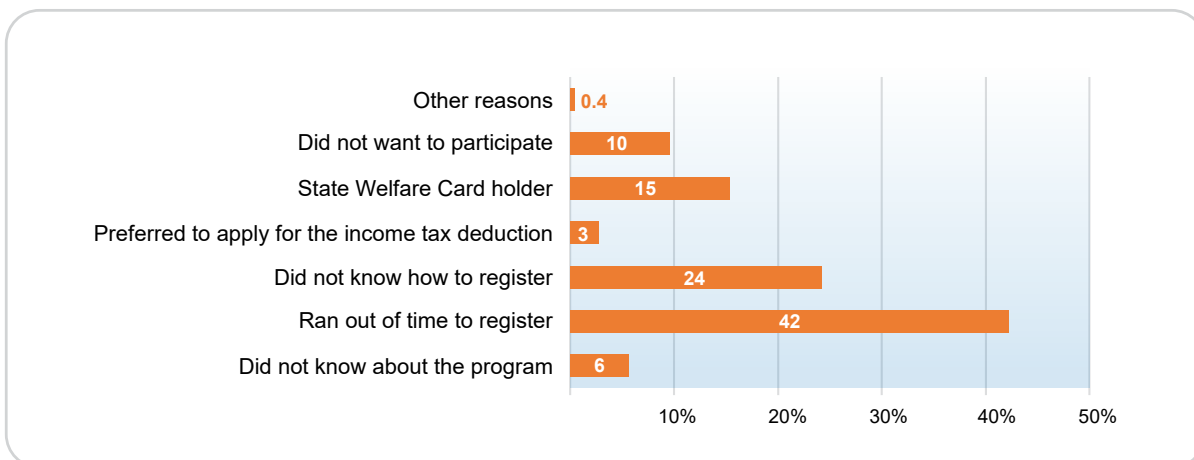


Figure 24: Thai workers' reasons for not participating in the "Half-Half" program in the third period





Clothing shop in Bangkok market / Athima Bhukdeewuth

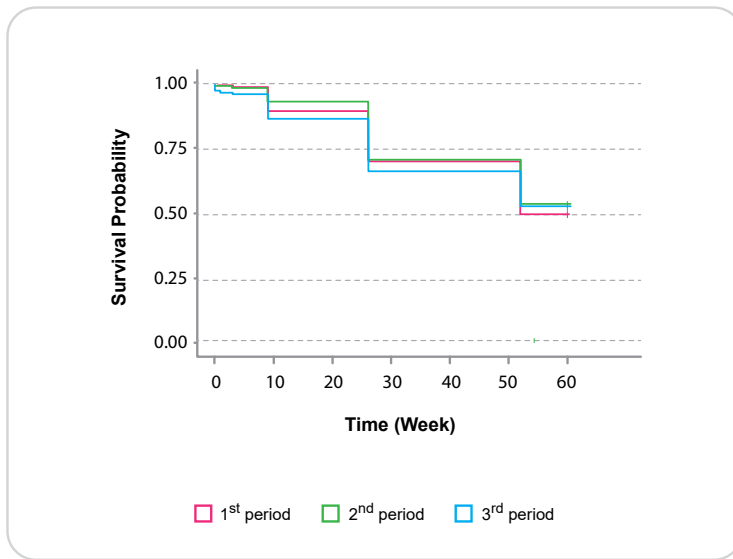
Impact on Micro and Small Businesses

The Asia Foundation's three rounds of surveys assessed the impacts of COVID-19 on micro and small enterprises' operations, income, and their adaptation to the pandemic. The three survey rounds were conducted in June 2020 (first period), September 2020 (second period), and December 2020/January 2021 (third period). For analysis of the surveys, responses were only selected if respondents had participated in all three survey rounds (720 respondents per survey).

The same econometric model used for the workforce analysis was also used to analyze the micro and small enterprise (MSME) data on the factors that supported or hindered the survivability of the MSMEs in each period. Similar to the workers' survey, the question asked of the MSMEs was: "How much longer could your business survive under current conditions?" The respondents had six possible choices: less than a week, 1–3 weeks, 1–2 months, 3–6 months, more than 6 months, and indefinitely.

Unlike the Thai workers, as shown in **Figure 25**, the prospects for the MSMEs to survive the pandemic-induced economic crisis did not improve after the first survey in June (during and after the state curfew). Even worse, when surveyed in the third period (during the second wave of the pandemic), MSME respondents said that their chance of survival had declined. This suggests that many MSMEs still faced an exceedingly difficult business environment, and they probably will not recover completely until the pandemic is permanently contained, or the country opens to more foreign tourists and they come to Thailand. Also, the chances of many more MSMEs going out of business is very high. Note that the second round of the surveys was conducted during a period of re-opening. This allowed us to compare the confidence level of enterprises during a period of relative openness to that of a lockdown period.

Figure 25: MSMEs’ probability of survival over the three periods—June 2020, September 2020, and December 2020/January 2021



Results from the econometric analysis (the survivability model) are presented in **Annex Table 3**, and key results are discussed below.

worth less than 3 million baht; however, this was only the case in the second period (+2.8%).

Size of the business

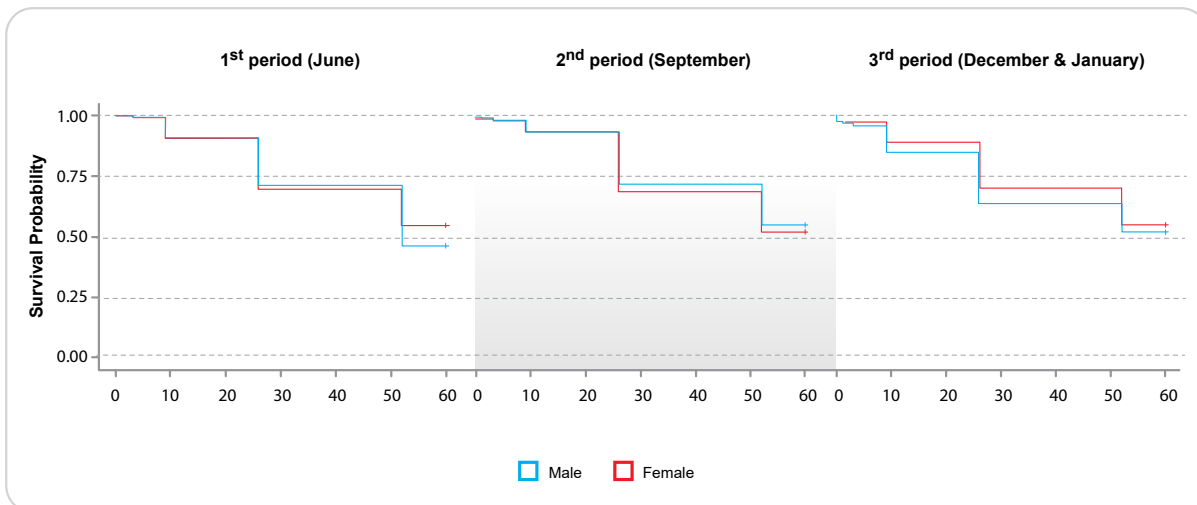
Larger MSMEs, in terms of their total employees before the pandemic, were in a better position to survive compared to the smaller ones we surveyed. With each additional employee, the business’ chance of survival improved by 1.0% in the third period.

Business owners

With regard to the survivability of their business, there was no difference between male and female business owners (see **Figure 26**). In the third period, the businesses of adult owners (age 35 to 44) had a 5.8% lower chance of survival than was the case with the businesses owned by young adults (age 15 to 24). The survival prospects for the businesses of other age groups was no different from that of young adult owners (the comparison group).

MSMEs that had greater assets before COVID-19 (61 million to 100 million baht), also had a higher chance of survival than was the case with MSMEs with assets

Figure 26: Survival probability for the MSMEs of male and female owners, by survey period



Region

By most measures, the MSMEs in Bangkok were the worst affected of all Thai MSMEs (see **Figure 27**). Only in the third period, did the MSMEs in the North have a lower chance of survival (-8.0%) than the

MSMEs in Bangkok. This result could be explained by Bangkok MSMEs' heavy reliance on international tourists who could not enter Thailand easily, and the fact that Thai domestic travelers were unlikely to choose Bangkok as a vacation destination.

Figure 27: Survival probability for MSMEs, by region and survey period

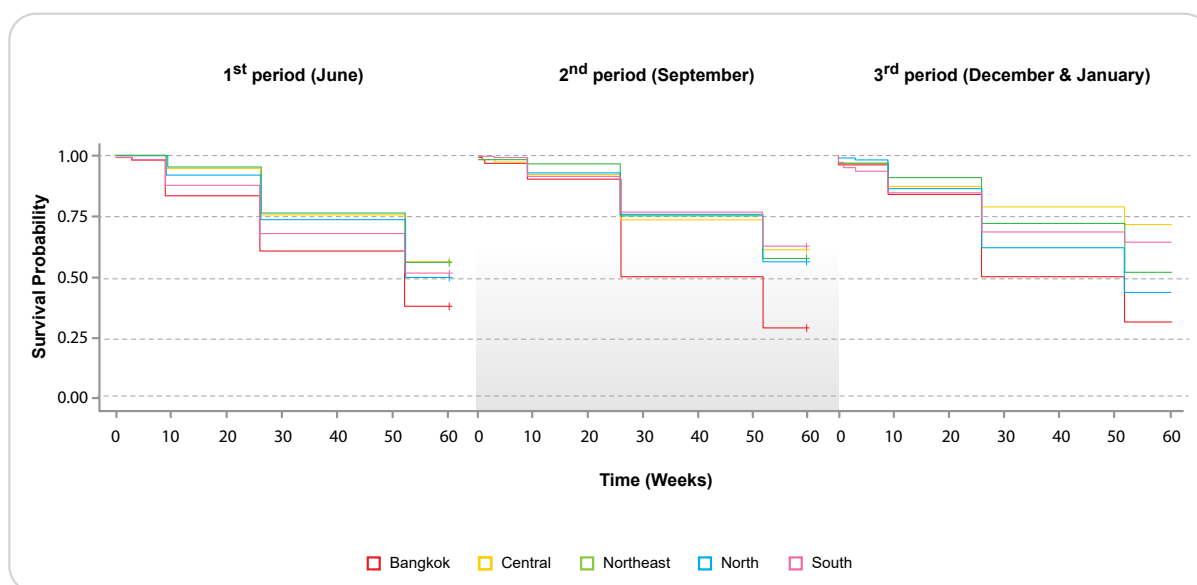


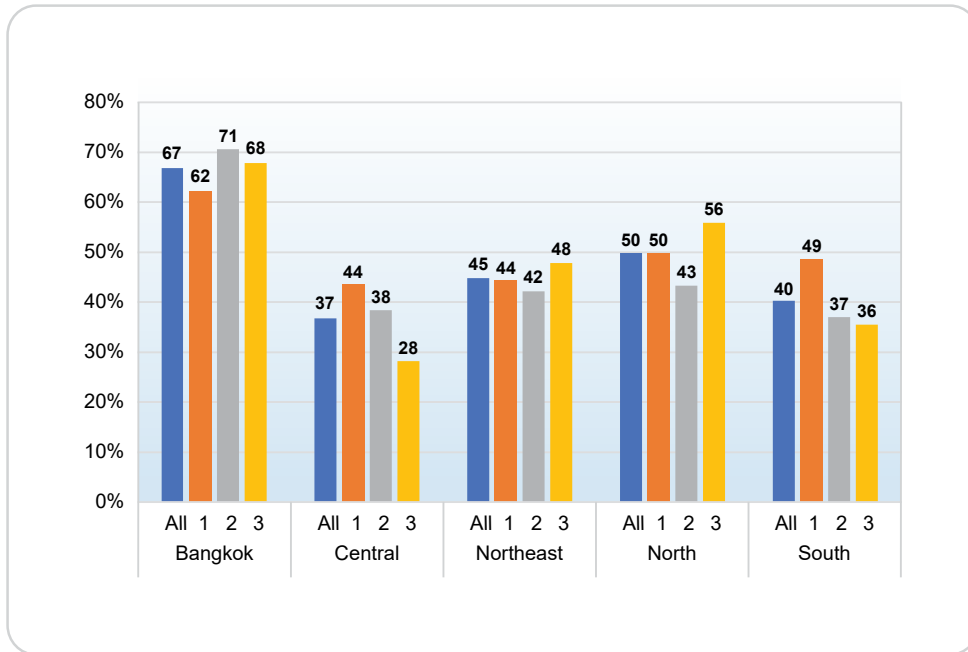
Figure 28 shows the surge in the ratio of MSMEs in the North in the third period that did not expect to survive beyond 52 weeks (one year); however Bangkok still had the highest percentage in that category in the third period. The reason why the regression analysis shows that MSMEs in the North had a lower chance of survival in the third period than those in Bangkok

was due to the sharp rise in the average number of employees that the MSMEs expected to let go in the coming two months. The percentage of these enterprises in the North surged by 83% from the first to the second survey period, and rose by 236% from the second to the third period, which was the highest level of any region (see **Table 1**).

Table 1: Number of employees MSMEs expected to let go within two months, % change from the previous survey period

	Bangkok	Central	Northeast	North	South
Change from 1st to 2nd period	-33%	114%	-74%	83%	-8%
Change from 2nd to 3rd period	36%	113%	100%	236%	-48%

Figure 28: Percentage of MSMEs expecting not to survive beyond 52 weeks, by region and survey period



Deserted Bangla Road in Patong Beach, Phuket during COVID-19 pandemic (3 May 2020) / Shutterstock.com



Khaosan Road during the COVID-19 pandemic (30 May 2020) / Shutterstock.com

Case Study – Hotels in Bangkok struggling to attract domestic tourists

Prior to COVID-19, Bangkok was one of the world's leading centers for tourists, with many of the city's businesses, and especially its hotels catering to visitors. In 2019, Forbes magazine declared that Bangkok was the most visited city in the world, with 22.7 million international visitors arriving in the city that year.

This study's research team conducted interviews with four different types of hotels on, or near Bangkok's popular Silom road. These hotels were a hostel, two small hotels (10 to 15 rooms), and a medium-sized hotel with 50 rooms.

The interviews were conducted on March 3, 2021, two days after the long weekend that celebrated Makhabuja —an important Buddhist festival. The timing of the interviews allowed the research team to gauge the impact of the long weekend on these four hotels by asking whether their occupancy increased on weekends, long weekends, and other holidays. The hotel owners responded that weekends, long weekends, and other holidays did not make much difference to occupancy during the pandemic. This was in sharp contrast to tourism-related MSMEs outside Bangkok, where weekends, long weekends, and other public holidays increased demand, which was driven, in part, by Bangkok residents leaving the city. When asked about occupancy levels, the respondents from the four hotels in Bangkok reported that pre-COVID-19 their facility was consistently fully booked. However, since the first lockdown in 2020, all four hotels reported surviving with only two or three rooms occupied (well below 25% of their capacity). This low occupancy rate forced the hotels to adapt in the following ways: using online platforms to promote themselves to Thais, reducing room prices, offering monthly rentals, reducing staff working hours, forcing staff to take leave without pay, and/or cutting some staff. While these adaptations allowed the two small hotels and the hostel to survive, the medium-sized hotel was in trouble. With 50 rooms, occupancy of just two or three rooms was only 4–6% of the hotel's total capacity. With this level of occupancy, the hotel owner stated that if things did not improve, the business would only be able to survive until mid-2021. In an act of desperation, this hotel has explored the idea of transforming into a non-government quarantine facility, however, due to the hotel's location in a cramped and busy lane near a school, the expected earnings would not justify the cost of making this transformation.

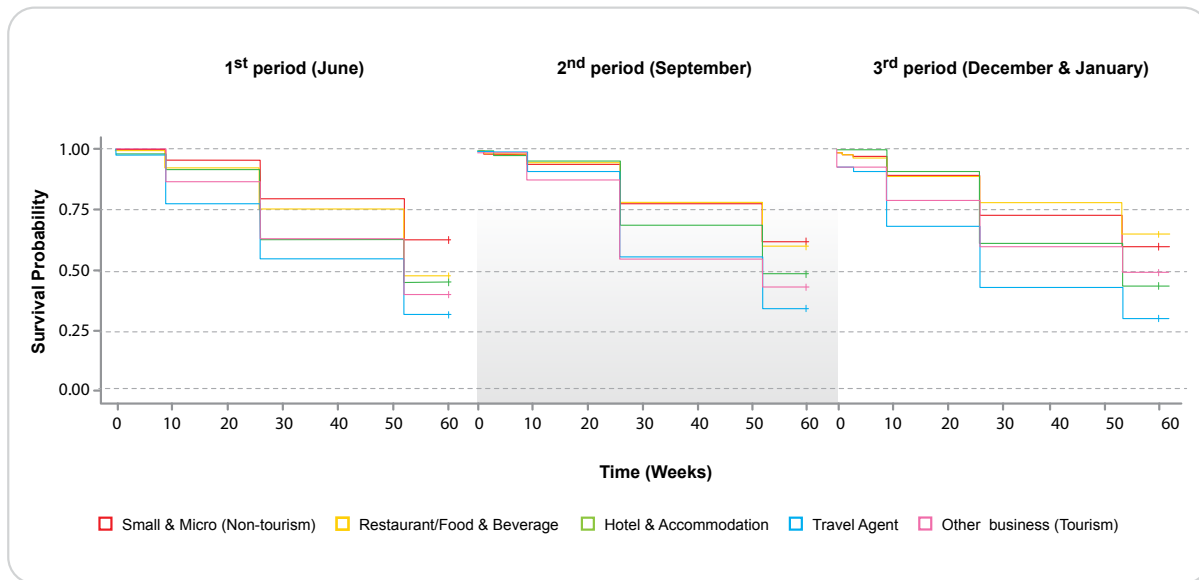
The various forms of adaptations mentioned above have allowed the hotels interviewed to survive for the short term; however, unless a sizable number of international tourists return, the future of these hotels remains uncertain.

Type of Business

In the second and third periods, restaurants and food & beverage providers related to tourism had a 7.4% and a 34.8% higher chance of survival, respectively, than businesses not in the tourism sector¹⁵ (see **Figure 29**). However, hotel & accommodation providers,

travel agents, tour guides, and tourist transporters all had a lower chance of survival than the comparison group (restaurants and food & beverage providers). This suggests that unlike other types of tourism businesses, it is easier for restaurants to adjust their business strategy to cater to domestic customers.

Figure 29: Survival probability for different types of MSMEs over the three survey periods



Revenue

In the second and third periods, respectively, the MSMEs whose revenue decreased as a result of the pandemic had a 0.3% and a 12.3% lower chance of surviving than the MSMEs whose revenue did not change. The small number of MSMEs whose revenue increased during the pandemic had a higher chance of survival in the first and third periods (30.7% and 41.9%, respectively) than was the case with the MSMEs that had no change in revenue.

Figure 30 shows another aspect of revenue. When asked if revenue was back to the pre-lockdown level, (the lockdown period was March 26, 2020 to May 3, 2020), the situation improved in the second period but worsened in the third. Interestingly, if results for the third period are broken down into two parts— before

the second wave of the pandemic started around mid-December 2020, and after in January 2021— it is clear that revenue improved before the second wave (3A), but became worse after the second wave (3B). Note, that about half of the third-round survey data were collected before the second wave started in December 2020 (367 respondents), and half of the data were collected in January 2021 (353 respondents). Conducting the third-round survey in two parts made it possible for this study to separate the results into two categories—before and after the second wave of the pandemic.

Figure 31 shows a comparison of pre-lockdown revenue by sector. MSMEs not in the tourism sector and restaurants seemed to suffer less than hotels, travel agents, and other tourism businesses.

15. The agriculture and small manufacturing sectors.

Figure 30: MSMEs' share of revenue compared to their pre-lockdown revenue, by survey period

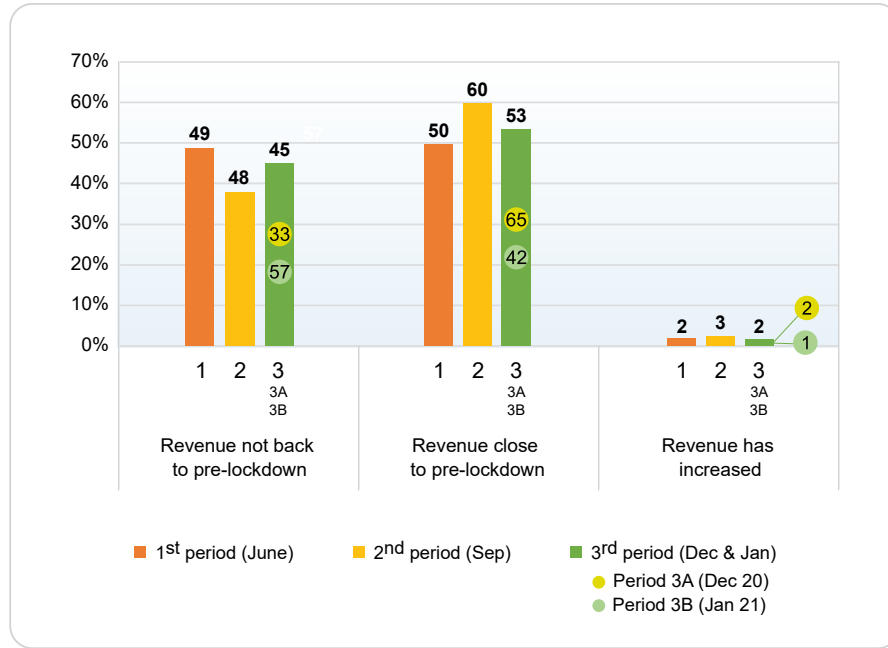
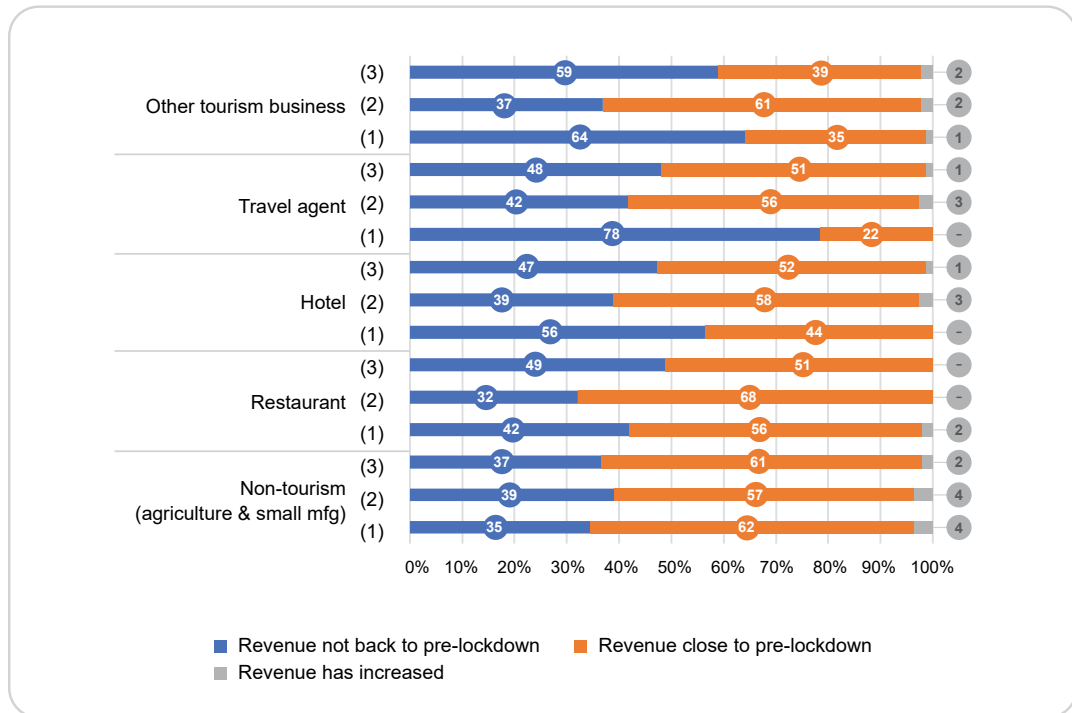


Figure 31 : MSMEs' share of revenue compared to their pre-lockdown revenue, by sector and survey period



Risk

As expected, there was a clear relationship between MSMEs that self-identified as higher risk, and their expected period of survival. But, most importantly, the absolute percentage of MSMEs in the high-risk group was at its highest level in January 2021 (54%). MSMEs

that stated that they were not at risk had a much higher chance of survival than those that stated that they were high risk (the comparison group). MSMEs that stated that they had closed, permanently, had a much lower chance of survival, than the comparison group.

Figure 32 shows that MSMEs' perception of high risk decreased significantly in the second period, but shot up substantially in the period after the second pandemic wave began (3B).

Figure 33 shows that the perceptions of risk of the MSMEs that were not in the tourism sector were the lowest, followed by those of restaurants. Conversely, the perceptions of high risk were higher for hotels, travel agents, and other tourism businesses.

Figure 32: MSMEs' share of perceived risk, by survey period

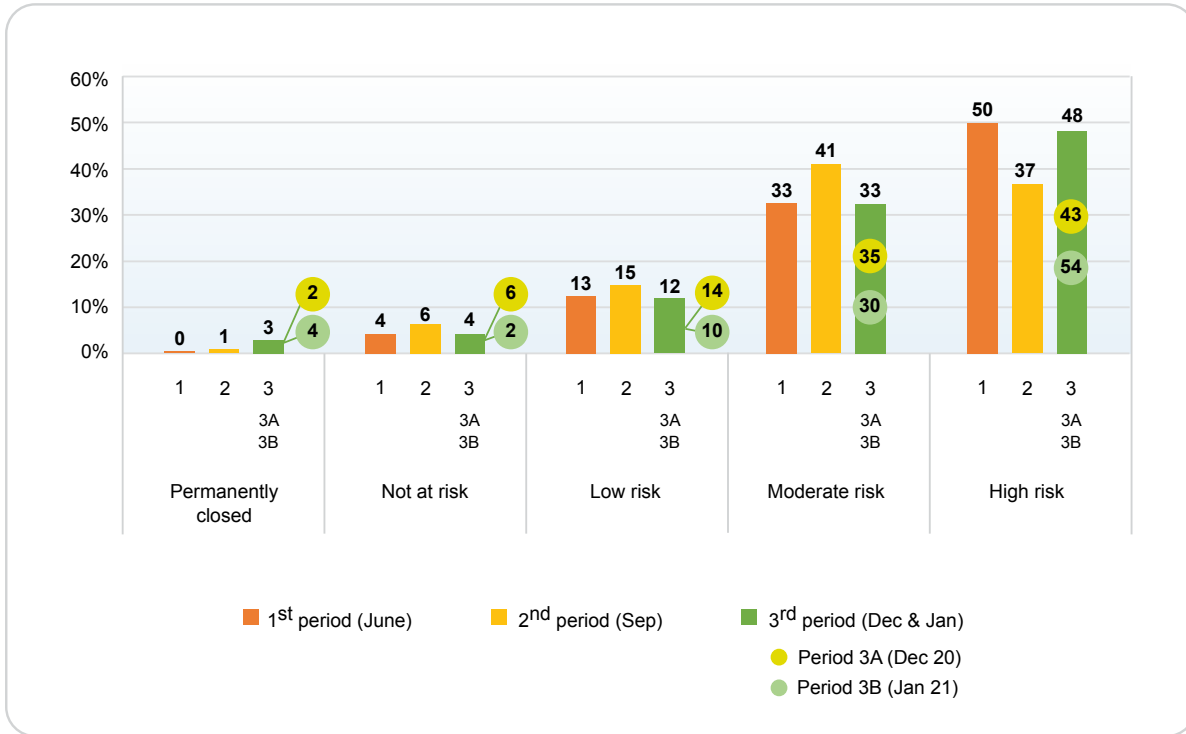
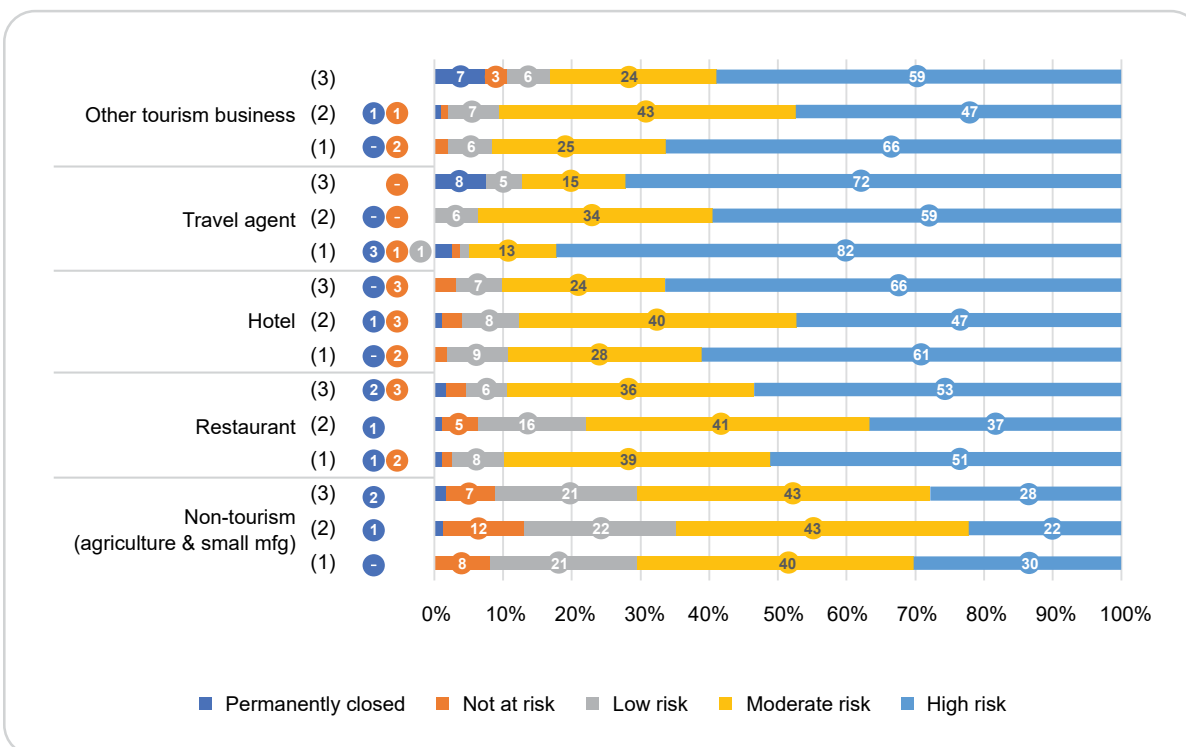


Figure 33: MSMEs' share of perceived risk, by sector and survey period

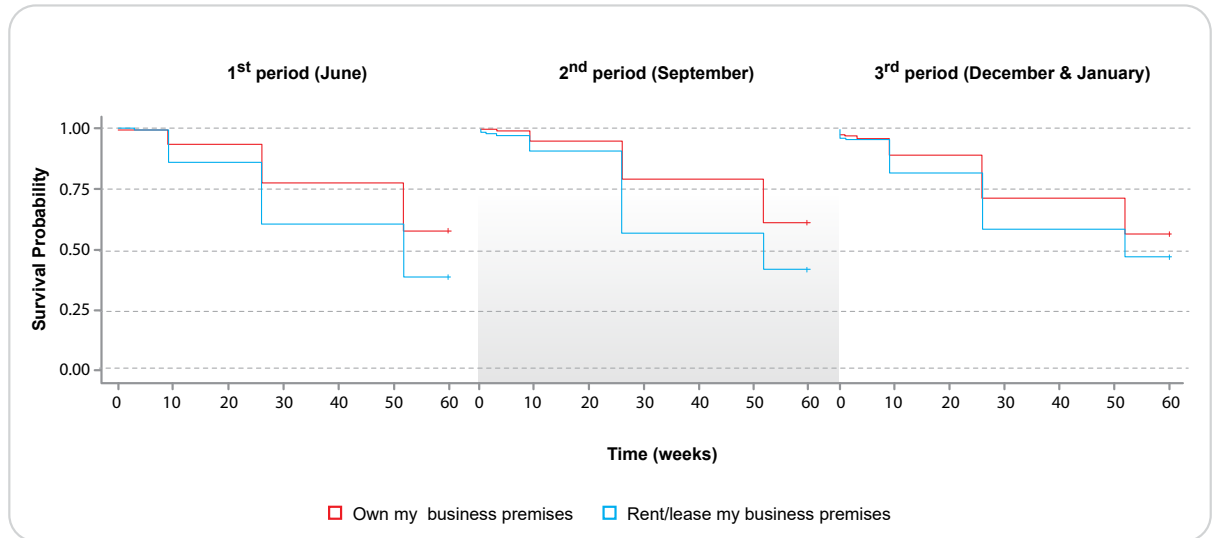


Business premises

Renters were more vulnerable than MSMEs that owned their business' premises. In the first, second,

and third periods, the MSMEs that rented had, respectively, a 28.0%, 26.0%, and 14.2% lower chance of survival (see **Figure 34**).

Figure 34: Survival probability of MSMEs that own their business premises versus MSMEs that rent, by survey period



Import and export

In the third period, the MSMEs that relied on imports had a 7.9% lower chance of survival than those that did not rely on imports. There was no difference in survivability between the MSMEs that export and those that do not.

Laid-off employees

Regarding laid-off employees, for each employee that a business had to lay off, its chance of survival decreased, respectively, by 0.4%, 1.3%, and 2.6%, in the first, second, and third periods. In addition, the MSMEs that stated that they planned to lay off one additional employee in the next two months had a 0.5%, 0.5%, and 2.2% lower chance of survival, respectively, in the first, second, and third periods. Note, however, that these results only show correlation, not causality, between layoffs and MSMEs' survivability.

Adjusted working hours

Although the best-case scenario for MSMEs was being able to work as usual, laying off some staff was

also a survival strategy. In the first, second, and third periods, respectively, the MSMEs that did not have to reduce their working hours or could work as usual, had a 40.3%, 39.1%, and 42.6% higher chance of survival than the MSMEs that had to reduce their working hours to minimize layoffs (the comparison group). In the third period, the MSMEs that had laid off some or all of their staff, already, had a 42.1% higher chance of survival than MSMEs in the comparison group that had to reduce their working hours to minimize layoffs. In the second and third periods, respectively, the MSMEs that were closed temporarily had a 9.4% and 0.2% lower chance of survival than the MSMEs in the comparison group.

Figure 35 shows that a large percentage of MSMEs were back to working as usual in the second period, but as a result of the second wave of the pandemic, many had to reduce their working hours, lay off staff, or close temporarily in the third period (3B). MSMEs in the tourism sector had to adjust more by reducing working hours, laying off staff, or closing temporarily than was the case with MSMEs not working in the tourism sector (see **Figure 36**).

Figure 35 : Share of MSMEs with adjusted working hours, by survey period

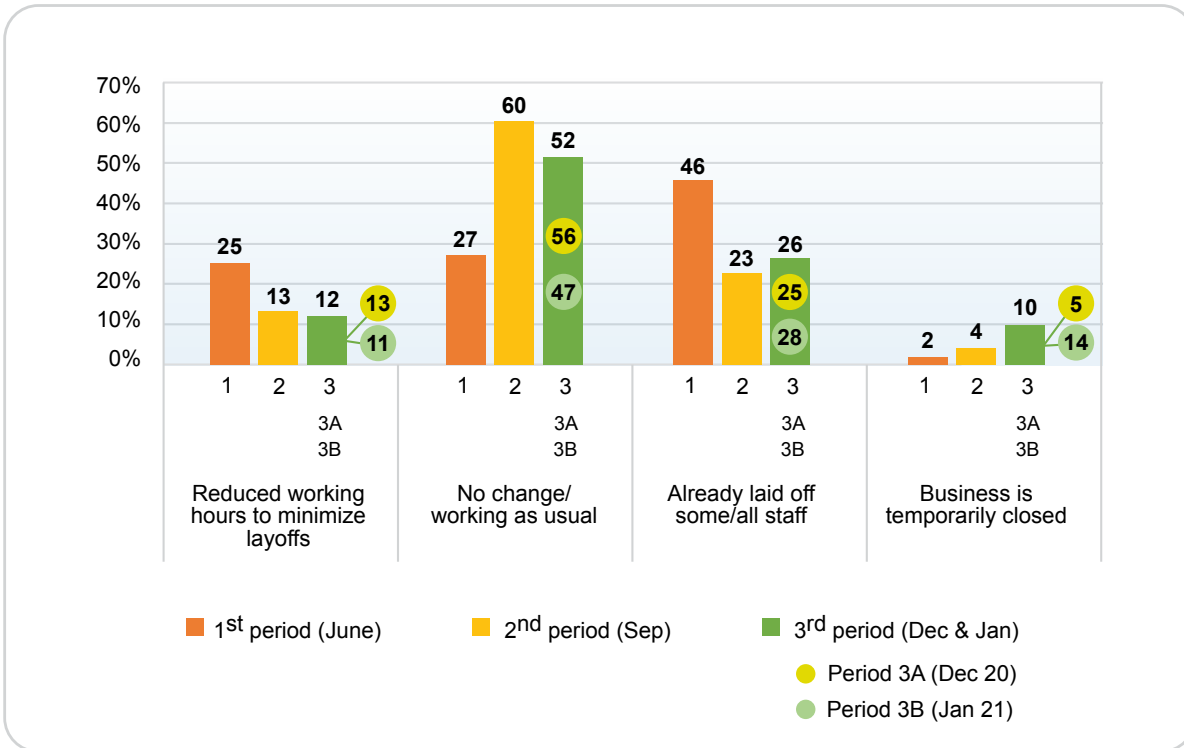
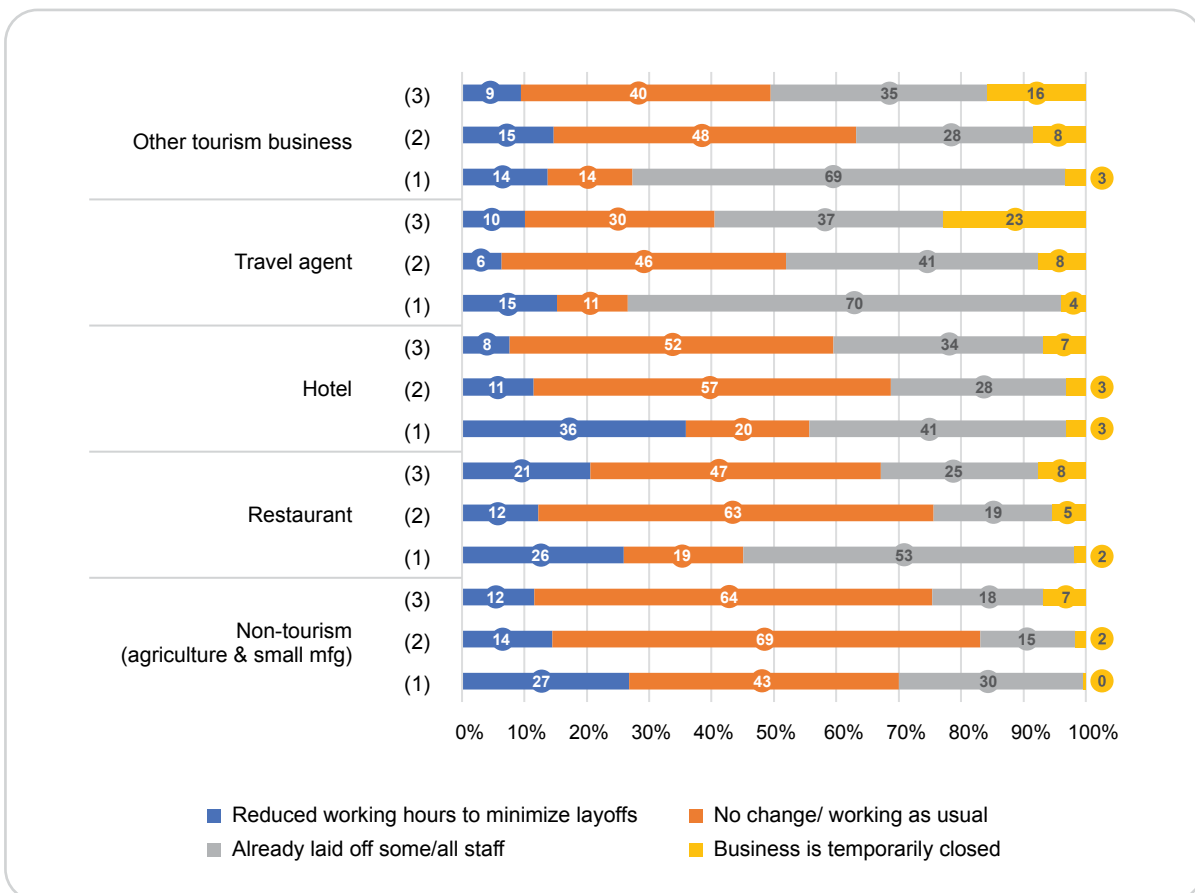


Figure 36 : Share of MSMEs with adjusted working hours, by sector and survey period



Coping strategy

MSMEs that adjusted their business strategy in the third period to operate with social distancing, e.g. using delivery services or having staff work from home, had an 18.2% higher chance of survival than

Finding a way to operate with social distancing, e.g. delivery services or working from home, seemed to be the best coping strategy, followed by using an online platform or social media for marketing.

Introducing new products or services that were in demand during the pandemic (e.g. facemasks or hand sanitizer) did not work so well—probably due to fierce competition.

MSMEs that proactively adapted their business tended to have a higher chance of making it through the crisis.

those MSMEs that did not change anything (the comparison group). This indicates that the MSMEs that proactively adapted their business tended to have a higher chance of making it through the crisis. The MSMEs that added new products or services that were in demand during COVID-19, e.g. facemasks or hand sanitizer, had an 8.0% lower chance of survival in the third period than was the case with businesses that did not change anything. This may be because too many MSMEs rushed to make new products or offer new services, and the market quickly became oversupplied. In the first and third periods, the MSMEs that used an online platform or social media for marketing had a higher chance of survival than the comparison group that did not do these things (+2.0% and +11.3%, respectively). In the second and third periods, the MSMEs that coped by reducing their employees' salaries so that they remained employed, had a lower chance of survival than the comparison group that did not do anything (-9.5% and -4.8%). See **Figure 37**.

Figure 37: Survival probability of MSMEs with different coping strategies over the three survey periods

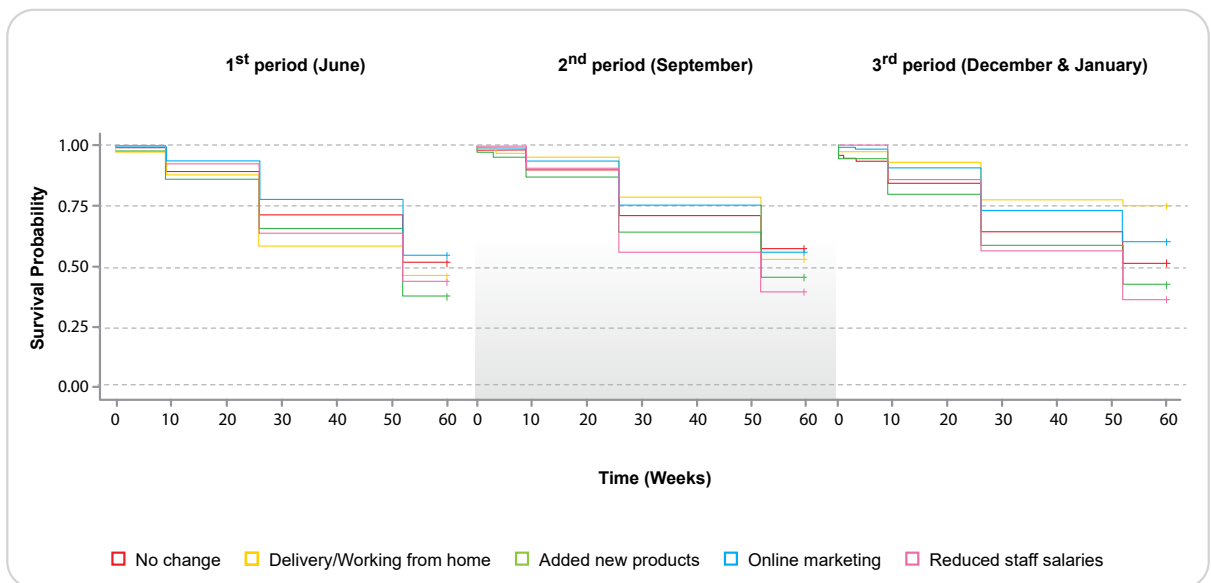


Figure 38 shows that the percentage of MSMEs that added an online platform or used social media for marketing gradually increased over the first, second, and third periods. However, the second-wave of the pandemic interrupted this, and more MSMEs had to adjust, instead, by reducing the salaries of their staff. The percentage of business that did not change declined, but did so gradually. As of January 2021, more than a third of businesses still had not changed

some aspect their operations.

Figure 39 shows that as their main coping strategy, a number of businesses in both the tourism sector and not working in tourism, gradually shifted to marketing through an online platform or social media. As time passed, hotels and travel agents used this strategy to a greater extent instead of reducing the salaries of their staff.

Figure 38 : Share of MSMEs' adaptation by survey period

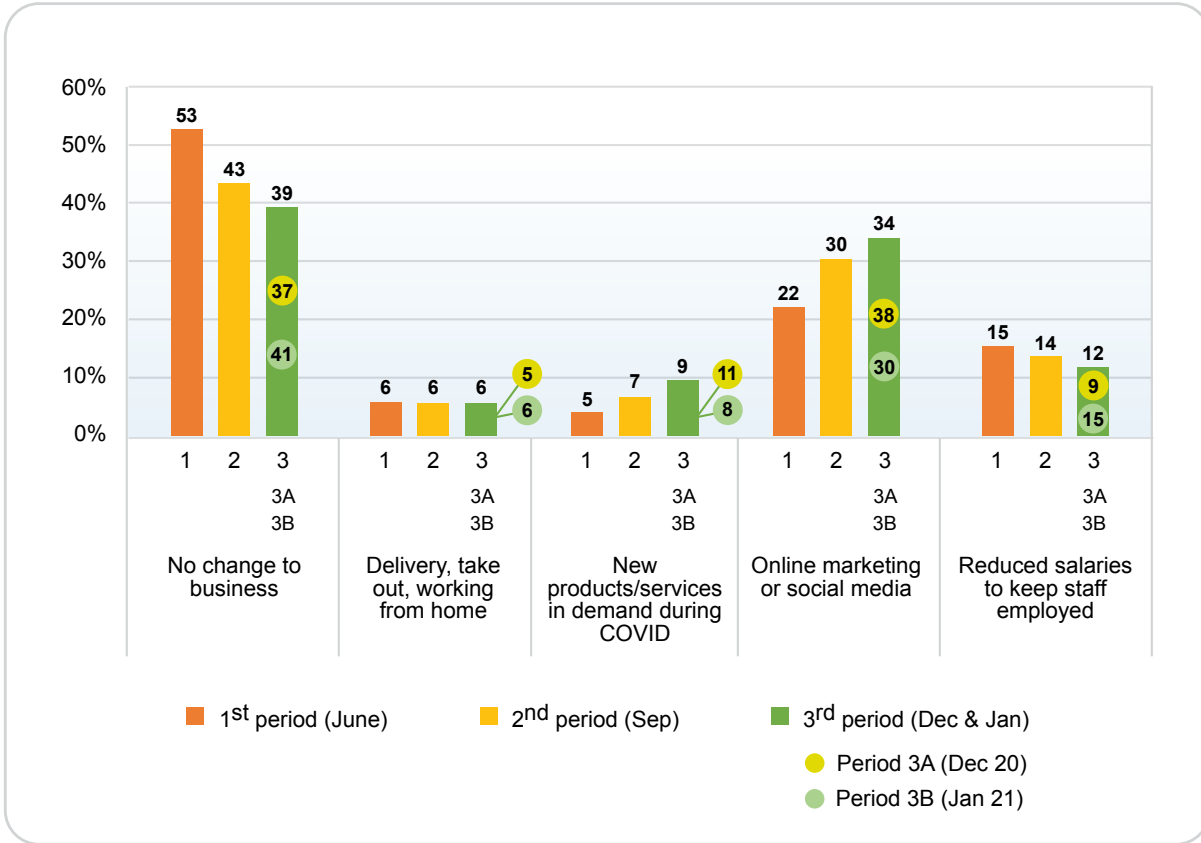
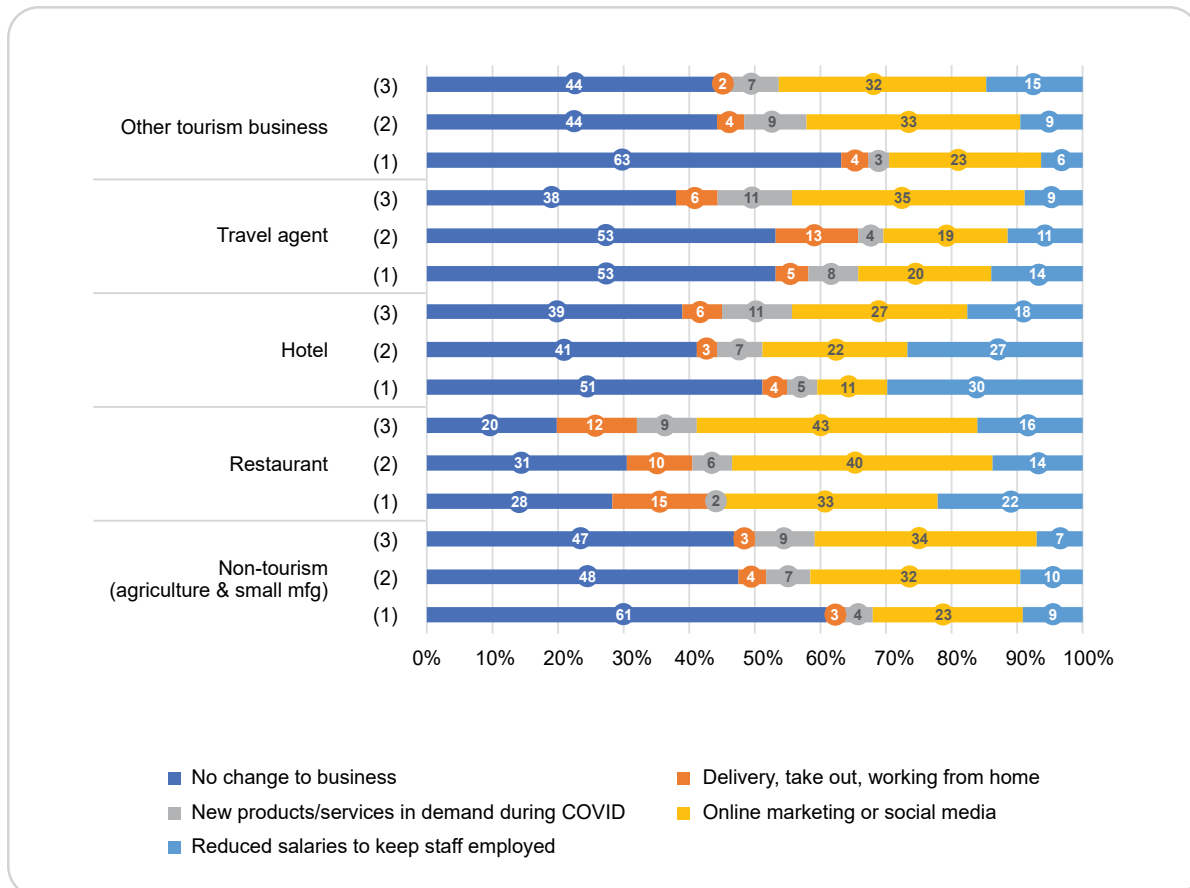


Figure 39: Share of MSMEs' adaptation, by sector and survey period



Case Study – Follow up with Banana Chip Production Cooperative Adapting in Buriram

In March 2021, the research team did a follow up call with a banana chip cooperative located in rural Buriram. In the previous report for this study, this cooperative noted that it had managed to raise its sales to 80% of pre-COVID levels by utilizing online platforms such as Line and Facebook to promote and sell its products, and it used delivery companies such as Kerry express to distribute its products. Since that interview was carried out in July 2020, the cooperative has almost recovered to 100% of its pre-COVID sales, and it does not feel the direct impact of the pandemic on its business operations. The primary challenge the cooperative was facing in March 2021 was Thailand’s poor economy, which was raising the prices of the inputs needed for production.

While their business has managed to bounce back from the pandemic, members of the cooperative still feel the future is uncertain, and the future of the economy is much more of a concern than public health.

Soft loans

In the first and third periods, MSMEs that received soft loans through the government’s support program had, respectively, a 2.5% and a 4.3% higher chance of survival than MSMEs that did not receive a soft loan. Note, again, that the regression results can only reflect correlation and not causality between the variable and MSMEs’ survivability. This means that the positive correlation between a loan and the chances of survival could be because the MSMEs that were able to get a

loan were more viable than the MSMEs that did not get a loan. Conversely, these results could show that the soft loans had the intended effect of improving the survivability of MSMEs.

Figure 40 shows that the percentage of MSMEs that received a soft loan only increased slightly over the survey periods. Notably, as shown in **Figure 41**, the businesses that were not in the tourism sector received more soft loans than was the case with tourism businesses.

Figure 40: Share of MSMEs that received a soft loan, by survey period

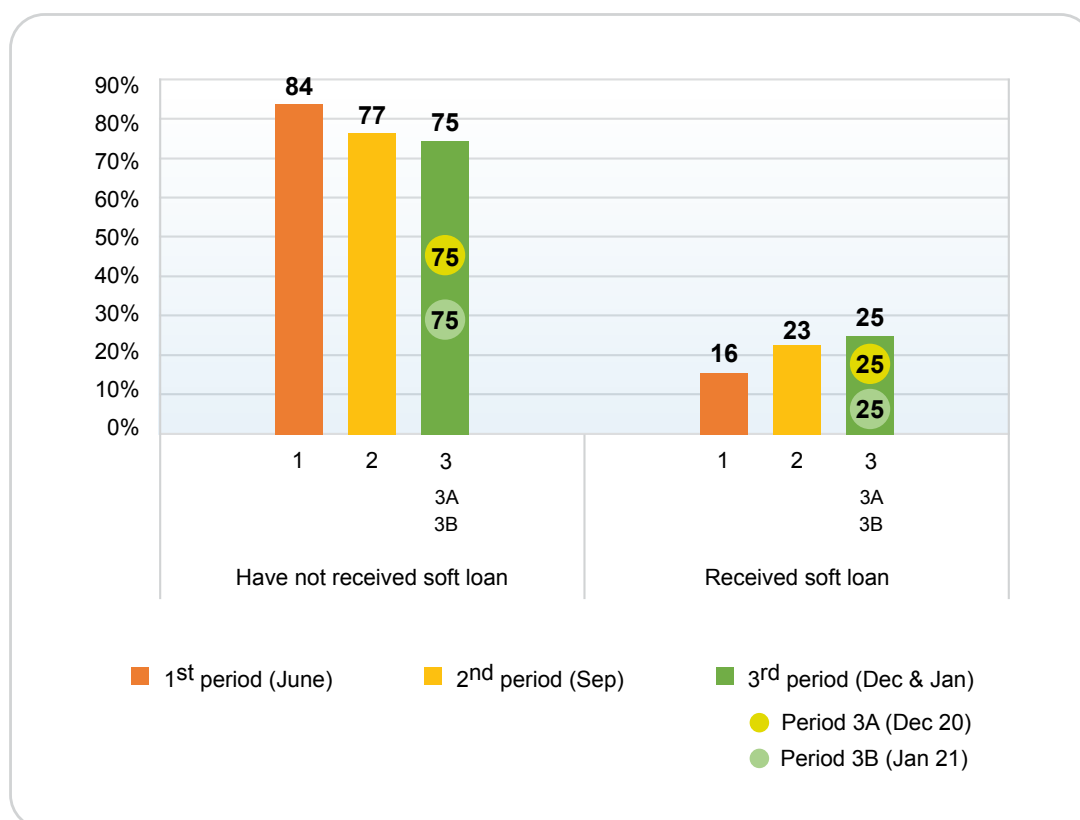
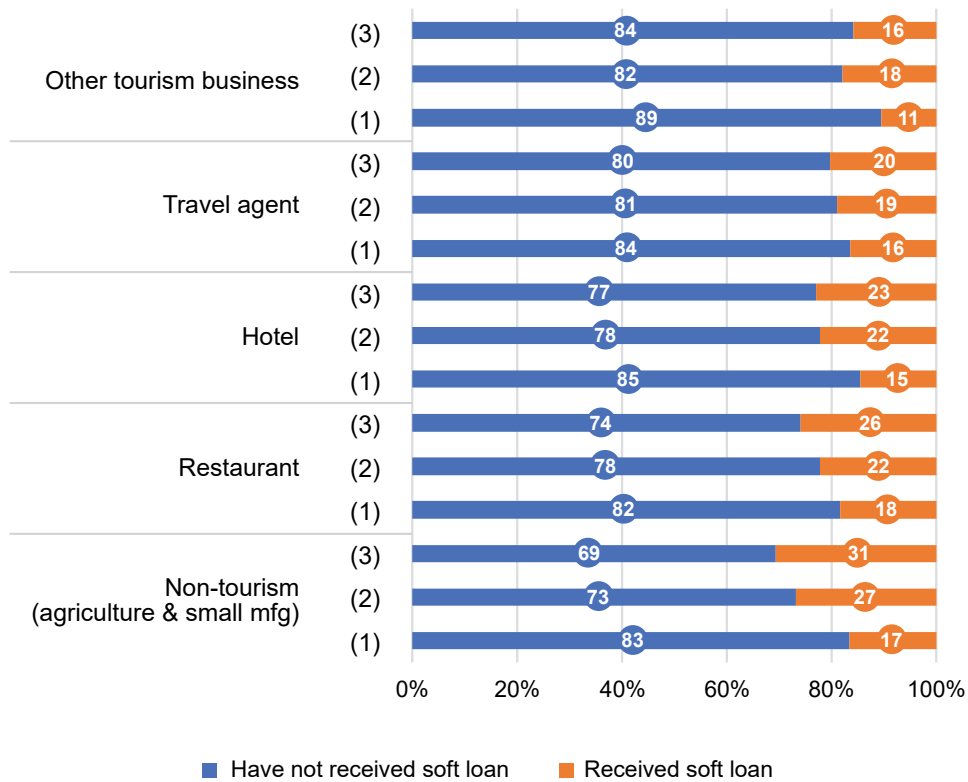


Figure 41: Share of MSMEs that received a soft loan, by sector and survey period



Case Study – Follow Up with Heavily Indebted T-shirt Manufacturer in Korat

The small-scale T-shirt manufacturer in Nakhorn Ratchasima, which was featured in the previously published report in this study, has continued to struggle due to the pandemic. Heavily dependent on sports events and company retreats, this business has not reached 50% of its pre-COVID sales since the beginning of the pandemic. The second lockdown in Thailand has put additional pressure on this MSME, and the owner stated that his business would not be able to survive another month if the economy continues on its downward trajectory. To make a better income, he said he has tried to adapt in several ways such as selling masks and advertising on Facebook, and has even considered abandoning T-shirt manufacturing all together. Although he said he was desperate to increase his working capital to keep the business afloat, he was completely unaware that the business could be eligible for a soft loan, and knew nothing about the program. The owner also said that other businesses in his personal circle were unaware of the government’s soft loan program.

Other government support programs

Besides soft loans, the government program that supports domestic tourism (“We Travel Together” or *Rao Tiew Duay Gan*) also attracted more than a quarter of MSME respondents (see **Figure 42**). For eligible recipients, the government program “Half-Half”, described above, received survey respondents’ highest average score for satisfaction (see **Figure 43**).

As of January 2021, the government’s soft loan program seemed to be the program most in-demand by MSMEs, followed by the “We travel together” and “Half-Half” programs.

The shopping tax rebate program required both users and service providers to be in the formal sector, which made it less accessible in a dominantly informal economy such as Thailand’s.

Figure 42: Share of government support programs received by MSMEs

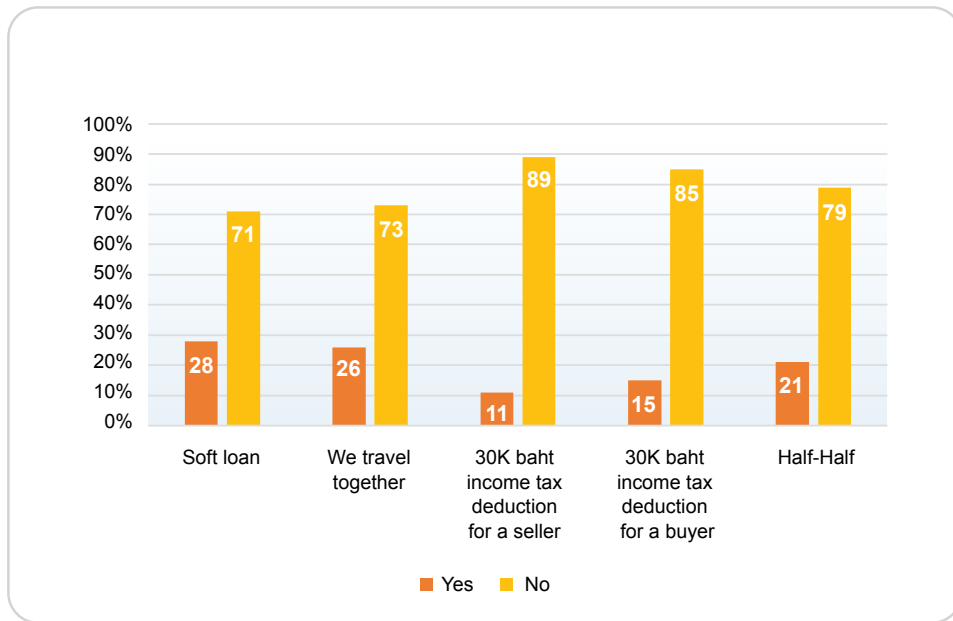
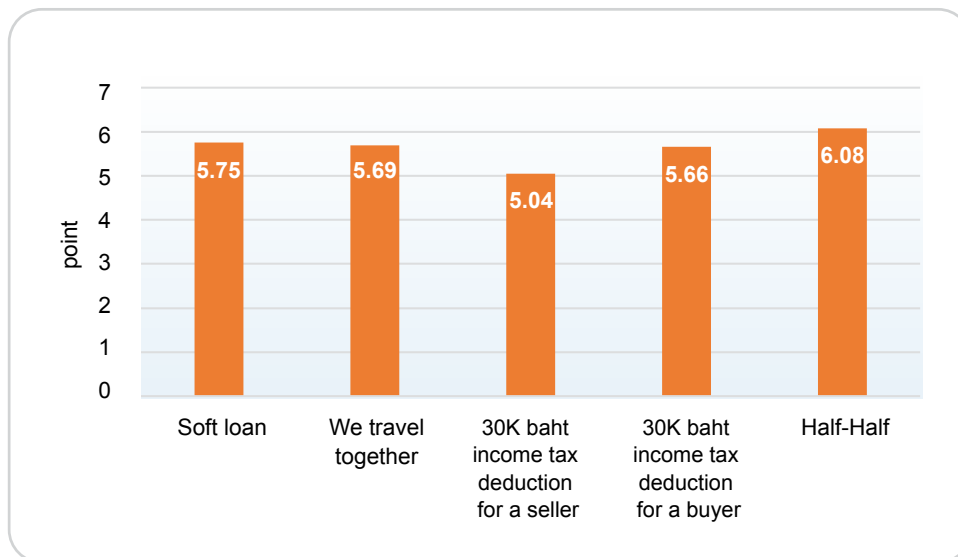


Figure 43: Average score out of 10 for MSMEs’ level of satisfaction with government support programs



Case Study – Koh Samet family-run bar and restaurant is surviving

After businesses on Koh Samet were allowed to re-open after the first lockdown, this island bar and restaurant's sales recovered, significantly, to 70% of its pre-COVID-19 level. The business' customers changed from international tourists to expatriate teachers who work in international schools across Thailand and flock to island on weekends and public holidays. However, with the imposition of the second lockdown limiting cross-provincial travel, this business' sales were back down to around 20% of its pre-COVID-19 level, with only enough revenue coming in to survive for another 10 months. In order to help support the household, the family's daughter has been doing odd jobs around the island. Also, the restaurant is now offering food by delivery, which has helped to raise its sales; however, the cost of packaging for the food has cut into the business' profits.

The household attempted to take advantage of the *Rao Chana* program (a successor to the government's cash support program, *Rao Mai Ting Gun*), however, only two of its three applications were accepted. Regarding the *Rao Tiew Duay Gan* ("We Travel Together") program, the owners found the process challenging, slow, and in the end, they were unable to take advantage of it due to complications with the OTP code (One-Time Password). The reduction in utility bills was not helpful. The owner said that *Roa Chana* was helpful, but the process was slow and not accessible if people lacked the digital literacy needed to complete the online application. This family found that the in-person application process for government income support was not satisfactory, as the banks providing the service were slow in processing applicants' payments. Also there were challenges in getting a payment as the required OTP code sent via SMS never came.

Conclusions and Policy Recommendations

- 1. The Tourism Sector Recovery Plan should be the government's highest priority.** It is clear from this study's surveys (see Figures 16, 17, 29, 31, 33, and 36) that Thailand's tourism sector has been hit the hardest of any in the country. In fact, in the third period of data collection (November 2020), tourism workers were even worse off than unemployed workers. This was probably because some unemployed workers had income coming in from their Social Security Fund's unemployment benefits (for up to 200 days), while the tourism workers, although still employed, were earning far less. Since early 2020, when the pandemic began in Thailand, businesses dependent on international tourism have been barely able to continue operating, and many have had to close down.

Bangkok, where there are usually very few domestic tourists, has been hit particularly hard. Compounding this problem, domestic tourism has also contracted, and is nowhere near the level needed to fill the gap left by international tourists. With problems continuing with the vaccine roll-out, most tourism businesses now realize that visitor levels will not return to pre-COVID-19 levels for years, and that tourism could be cut off again at any time if there is a new outbreak. Hotel & accommodation providers, travel agents, tour guides, and tourism transporters all had a lower chance of staying in business than was the case with businesses in other sectors. However, some tourism businesses have found viable strategies for coping with the social distancing requirements, and these have increased their chances of survival (e.g. operating a delivery service, having staff work from home, selling online, and/or marketing via social media). However, beyond this small group of survivors, the tourism industry has been devastated.

The government should develop a viable strategy for recovery of the tourism sector that includes a realistic vaccine roll-out timeline. The tourism stimulus program "We Travel Together" (*Rao tiw duay kan*) has helped to boost domestic tourism, however, an extension of the program, and preventing fraudulent claims are needed. With regard to international tourism, the government should quickly develop approaches such travel

bubbles with other countries, vaccine passport guidelines, and a plan for vaccinating the Thais who live in tourism-dependent areas.

- 2. High value over high volume tourism.** Given the widespread disruption in the tourism sector, and the likelihood of recovery taking a number of years, the government should explore shifting Thailand's approach to tourism marketing to emphasize high value over high volume tourism. The high level of tourist arrivals in 2019 is now a distant memory, and it may be years before this level is reached again. However, there are clear opportunities for invigorating the tourism sector. These include worker re-skilling for work in other sectors and supporting new business models that focus on eco-friendly, sustainable tourism. The latter could help Thailand's tourism earnings to return to a pre-COVID-19 level without waiting for the high-volume, low-margin tourists to return. Another way to increase tourism revenue would be to allow high-skilled foreign professionals to work in the country more easily. This could not only boost domestic tourism, but also increase the transfer of knowledge and technology from the high-skilled foreign professionals to local professionals and businesses.

- 3. Female workers are more vulnerable in the current downturn.** Female workers are more at risk of losing their jobs and have a lower chance of surviving economic hardships than their male counterparts. There are several likely reasons for this. Women, who are usually expected to take care of their family, have had a greater burden during the current crisis. When schools closed because of the pandemic, working mothers were expected to leave their jobs to take care of their children and supervise their home schooling. In doing so, women received little support from the government. Women were also more likely to lose their jobs as a result of the pandemic because more women than men work in the badly affected tourism sector.

Given women's circumstances during the pandemic, a strong case can be made for the government promoting the rehiring women workers and, in the short-term, giving women retraining and reskilling opportunities. Although

the Ministry of Labor has recently launched a useful job-matching and online-training website (*Thai mee ngan tam*),¹⁶ for workers impacted by the pandemic, additional efforts should be made to help women to return to the workforce. These could include providing affordable childcare and eldercare facilities close to workplaces, which would help to reduce women's caregiving burden. Also, retraining programs could help women in the tourism and hospitality sectors to transition to other sectors that require similar skills, including infant and childcare, eldercare, and care management.

- 4. The Thai social protection system should not be so dependent on individual officials' discretion.** While individual pandemic relief programs have performed relatively well, the Thai government's social protection systems are overly dependent on individual officials' discretion. A more efficient, effective, and fair social protection system should be developed to prevent economic shocks from affecting Thai workers and businesses. Ideally, the system would perform as an automatic stabilizer, because in a downturn, an economic relief program would automatically kick in to support affected people and businesses. This is similar to how the unemployment insurance and progressive tax systems work.

Decision-making in most of the current pandemic relief and recovery programs is up to individual officials' discretion, which can result in their arbitrarily denying benefits for individuals and businesses. Thus, the laws and regulations governing the social protection system should be revised to reduce government officials' role in decision-making. For example, a law could be passed that determines that if a specific circumstance occurs in the economy, certain groups of people would automatically receive economic relief, and existing social protection programs such as the old-age pension and the child support grant would automatically pay recipients a higher amount.

- 5. Data integration to support government social protection and relief programs.** During the pandemic, the Thai government has lacked comprehensive data on the Thai population, workforce, and businesses, and this has slowed the delivery of many of the government's COVID-19 relief programs. Thus, there should be better integration of the data from different

government agencies as accurate and comprehensive data are crucial for developing well-targeted social protection and economic relief programs that meet peoples' needs. During the pandemic, to identify recipients receiving benefits, data collection and analysis has temporarily been the responsibility of the Fiscal Policy Office, which has been integrating and updating the database of the State Welfare Card program, and other cash support schemes. The government should now designate a permanent unit for this, which would be authorized by law to coordinate and oversee the integration of data from all government ministries and agencies and have the legal authority to access these data for smooth and timely analysis.

- 6. Key changes to the soft loan program are needed.** As of March 2021, only 45.8% of the budgeted amount¹⁷ for soft loans had been given to MSMEs in Thailand. This was due to the strict eligibility criteria set by the Bank of Thailand. For the program to serve more MSMEs, the government should relax its eligibility criteria. One especially important condition to eliminate is the requirement that MSMEs have an established line of credit with a commercial bank. This change is necessary because Thailand's commercial banks are extremely risk adverse when considering whether to provide financing for MSMEs. Consequently, MSMEs that could qualify for the COVID-19 soft loans cannot do so because they have no pre-existing line of credit. Instead, the Bank of Thailand should set up a special entity to process MSMEs' soft loans (similar to the Small Business Administration in the United States). This is a better alternative than assigning the Thai Credit Guarantee Corporation (CGC) to provide a guarantee for MSMEs that do not have a line of credit with a bank. Even if MSMEs have a CGC guarantee covering 40% to 90% of their loan, commercial banks may still refuse to provide them with a loan. In addition, the government should promote the soft loan program more broadly and effectively because, as this study shows, many MSMEs were unaware that their business could be helped by the soft loan program. The Asset Warehousing scheme, which allows businesses (primarily hotels) to use their assets as collateral for a loan with a financial institution, is a good start. However, the government must develop a similar scheme that is suitable for smaller businesses whose assets are worth far less, and that have no established line of credit with a commercial bank.

16. Ministry of Labor. (2020). ไทยมีงานทำ. Retrieved from <https://ไทยมีงานทำ.com/>

17. The budgeted amount for the soft loan program is 350 billion baht. Only 160,422 million baht had been used as of March 29, 2021. Source: Bank of Thailand. (2021). มาตราการช่วยเหลือและข้อมูลสถาบันการเงินในสถานการณ์ COVID-19. Retrieved from <https://www.bot.or.th/covid19/Pages/default.aspx>

7. Compared to other upper-middle-income and higher-income countries, Thailand's support for MSMEs' recovery has been modest, and the pace of delivering support has been slow. As of April 2021, the government still had approximately 342 billion baht left in its economic recovery fund.¹⁸ To support the MSMEs and individuals affected by the pandemic, the amount budgeted for various economic recovery plans should be spent more quickly, or it should be transferred to either the COVID-19 relief fund administered by the Ministry of Finance, or to the fund administered by the Bank of Thailand. Priorities should be an extension of cash support programs such as *Rao Chana* and "Half-Half". The government should also allow recipients to get the former subsidy in cash so that they can spend the money on urgent needs

such as rent or tuition fees. In addition, two new subsidy programs should be added for MSMEs: a cash subsidy program for MSMEs that have been forced to close temporarily or reduce their operating hours (such as the subsidy provided in Japan); and, an employee salary support program for businesses that are in trouble and could be forced to shut permanently (such as the subsidies provided in Singapore, the United Kingdom, and the United States). The Thai government could borrow more domestically to finance these relief and recovery programs as the country's debt-to-GDP ratio is still manageable (53.2% in 2021).¹⁹ In addition, interest rates are at an all-time low, and are not likely to spike in the next few years, as was previously feared.

18. The 342 billion baht comprises 220 billion baht left from the 1-trillion-baht loan decree for economic and social rehabilitation, and another 120 billion baht from the central budget for emergency spending. Source: Thairath. (2021). "ก้าวไกล" งง "งบกลาง" มีแต่รัฐไม่ใช้แน่ะ จัดงบใหม่เยียวยาประชาชน. Retrieved from <https://www.thairath.co.th/news/politic/2067483>

19. Public Debt Management Office. (2021). หนี้สาธารณะ. Retrieved from <https://www.pdmo.go.th/th/public-debt/debt-outstanding>

Annex Table 1: Timeline of the COVID-19 pandemic in Thailand (up to April 2021)

January 23, 2020	The Ministry of Public Health, and the Civil Aviation Authority of Thailand issue guidelines on preventing the spread of COVID-19; all people on in-bound direct or connecting flights from Wuhan, China are subject to screening tests before entering Thailand
February 28	The World Health Organization (WHO) reports that 33 countries have COVID-19 infections, including Thailand; all outbound passengers from Thailand must be screened for the virus
March 18	All foreign travelers arriving from countries identified as having COVID-19 infections are subject to a 14-day quarantine upon entering Thailand, and must present proof of good health, and proof that they have health insurance; airlines are required to adopt measures that include a 2-meter distance between passengers, compulsory face coverings, and limited services provided to passengers
March 25	The government declares a State of Emergency in all areas of the Kingdom of Thailand that takes effect on March 26
March 26	<p>Section 9 of the Decree on Public Administration in Emergency Situations goes into effect, which includes:</p> <ul style="list-style-type: none"> • Prohibition of entry into risk prone areas, including boxing stadiums, sports stadiums, sport arenas, playgrounds, racetracks, pubs, entertainment venues such as movie theaters, massage parlors, fitness centers, and education institutions • Complete or partial closure, as deemed appropriate, of natural tourist attractions, museums, public libraries, religious sites, air terminals, bus and train stations, markets, and department stores • Closure of points of entry into the Kingdom for all foreigners except those with exemptions from the Prime Minister or a cabinet minister, carriers of essential goods, vehicle operators and crew members with a clearly scheduled time of departure, and persons on diplomatic or consular missions • Prohibition of assembly • Requiring people at risk due to age or health conditions to remain inside or close to home • Allowing only medical facilities, supermarkets, and shops selling essentials to remain open • Discouraging travel across provincial boundaries • Enforcing disease prevention measures such as the wiping surfaces with disinfectant, making hand sanitizer and face masks available, and requiring people to use face masks • A curfew from 2200 to 0400

April 6	With the exception of repatriated Thais, the Civil Aviation Authority of Thailand bans all passenger flights into country until April 28
April 28	The government extends the State of Emergency to May 31
May 1	The government announces plans to relax some prohibitions on May 3, but the ban on international passenger flights is extended from May 1 to May 31
May 3	Some prohibitions are relaxed: <ul style="list-style-type: none"> • If disease prevention measures are followed, the sale of food and beverages by restaurants, cafes, hotels, and hawkers is permitted • Department stores, shopping centers, and community malls may open but only for access to supermarkets, pharmacies, and stores selling essential items. Their restaurants can only provide take away food • Beauty salons and barbers may open, but customers cannot wait inside prior to their appointment • Medical facilities of all types may re-open, including dental clinics • Outdoor sports fields may open, but players must maintain social distancing, and audiences are banned • Public parks may open, but performances, and gatherings remain prohibited
May 17	<ul style="list-style-type: none"> • The curfew is reduced to 2300 to 0400 • The use of school and educational institution buildings and premises is permitted for special purposes • Food and beverage enterprises may open but serving alcohol is prohibited • Department stores, shopping centers, and community malls may sell consumer products, provide services, and may open activity centers • Gatherings are permitted in meeting rooms, hotels, convention centers or when shooting television programs, however, the number of people must be limited • Fitness centers and other indoor exercise facilities, public swimming pools, and gardens may operate if there is no person-to-person contact
May 31	The government extends State of Emergency to 30 June
June 1	<ul style="list-style-type: none"> • Foreigners with work permits or permission from the Ministry of Labor or another government agency are permitted to enter the country. Only those whose services are urgently needed can apply for a permit, and they must be COVID-19 free, remain in quarantine for 14 days, and provide documents proving that they have health insurance • The curfew is reduced to 2300 to 0300 • The buildings and other premises of schools and other educational institutions can open to non-formal students for education and training, as well as meetings and examinations • Department stores, shopping centers, and community malls can open until 2100 • Convention and exhibition centers may hold meetings or exhibitions in spaces that do not exceed 20,000 square meters • Fitness centers may hold classes for small groups • Cross-provincial boundary travel is permitted for travelers complying with disease control measures • The ban on international passenger flights is extended to June 30
June 15	<ul style="list-style-type: none"> • The curfew is lifted • Schools and educational institutions can now provide education or training if classes smaller than 120, and comply with government rules to prevent infection • Meetings, seminars, trainings, exhibitions, ceremonies, movies, and performances are permitted

	<ul style="list-style-type: none"> • Consumption of alcoholic beverages in restaurants and eateries is permitted, however, bars and pubs must remain closed • Traditional Thai massage parlors may operate • Group exercise and sports venues may operate, but not venues with animal fights such as bullfights • Cross-provincial boundary public transport is permitted, but with limited passengers per vehicle, space between passengers, and multiple rest stops • Extension of the ban on international passenger flights to June 30
June 29	The government extends the State of Emergency to 31 July
July 1	<ul style="list-style-type: none"> • Bars and pubs may operate, but must shut by midnight • Foreigners can enter Thailand if they meet following criteria: <ul style="list-style-type: none"> o Persons exempted by the Prime Minister or a cabinet minister o Diplomats o Delivering goods o Operating transport o Other non-Thais can enter if they meet one of following requirements: married to a Thai citizen, have a residency permit, attend a Thai school or university, have a work permit, are coming for medical treatment, or have been granted entry under a special arrangement o Short-stay business travelers from Japan, South Korea, Singapore, and China, including Hong Kong
July 29	The government extends the State of Emergency to 31 August
August 13	School premises and education institutions can operate if they follow disease prevention measures
September 28	<p>The government extends the State of Emergency to 31 October</p> <p>Additional groups of foreigners can now enter Thailand:</p> <ul style="list-style-type: none"> • Sportspersons who will compete in area without spectators • International cyclists participating in the royal marathon cycling event • Participants competing in the world badminton championship being hosted in Thailand • Non-immigrant visa holders who do not have work permits but have evidence of savings of at least 50,000 THB for six months • Tourists who have applied for a visa under the Special Tourist Visa Scheme
November 18	The government extends the State of Emergency to 15 January, 2021
December 17	<ul style="list-style-type: none"> • The government permits sports tournaments • Visitors from 56 countries and territories can remain in Thailand for up to 30 days
December 19	<p>548 positive COVID-19 cases are found in Samut Sakhon Province, resulting in a strict lockdown for 14 days, ending on January 3. Control measures include:</p> <ul style="list-style-type: none"> • Closure of gambling establishments, tutoring institutes, sports schools, and nurseries • Fresh markets are allowed to open for only six hours per day • School, shopping malls, beauty parlours, gaming venues, and nurseries must remain closed • Food shops can provide takeaway meals only • Curfew from 2200 to 0400 • Leaving Samut Sakhon Province is prohibited

December 20	<p>Bangkok Metropolitan Authority announces:</p> <ul style="list-style-type: none"> • All schools in Bang Khunthien, Bang Bon, and Nong Khaem districts must close for 14-days from December 21 to January 4 • All persons who commute from Samut Sakhon to Bangkok must work from home and self-isolate • All New Year's celebrations are cancelled • Gatherings in public parks are prohibited • Increased screening for COVID-19 infection at designated checkpoints, construction sites, and fresh markets
December 24	<p>The government introduces a color coding system that categorizes provinces as red (highest level of infection), orange, yellow, or green (lowest level of infection).</p> <ul style="list-style-type: none"> • Samut Sakhon is the only red province at this time • 4 provinces are categorized as orange, including Bangkok • 10 provinces are categorized as yellow • The remainder of the country is categorized as green
January 2, 2021	<p>Bangkok Metropolitan Authority orders the temporary closure of 25 types of venues including:</p> <ul style="list-style-type: none"> • Entertainment venues such as pubs and bars • Theme and water parks • Children's playgrounds • Snooker halls • Gaming kiosks and internet cafes • Cockfighting rings • Nurseries for children and nursing homes for elders • Boxing rings • Horse racing tracks • Public shower rooms • Massage parlors • All types of sport stadiums • Banquet rooms • Bullfighting and fish fighting rings • Shops selling Buddhist amulets • Pre-school children's development centers • Beauty parlors and tattoo shops • Fitness centers • Boxing and martial arts training • Spas and traditional Thai massage parlors • Bowling lanes and ice skating and rollerblade rinks • Dancing schools • All education institutions and tutorial facilities <p>To prevent cross-provincial spread of the virus, 14 check points are set up on roads connecting Bangkok to other provinces</p>
January 5	<p>All travelers going in or out of the 28 red-zone provinces must self-quarantine for 14-days and must report to local authorities</p>
January 22	<p>The Bangkok Metropolitan Authority allows reopening of the following 13 businesses:</p> <ul style="list-style-type: none"> • Gaming arcades • Internet cafes • Seniors' day-care centers • Racecourses and sport stadiums with the exception of horse racing tracks and boxing stadiums (no spectators allowed) • Banquet rooms but permission must be granted for more than 300 guests • Shops selling Buddhist amulets • Beauty parlors and tattoo parlors

	<ul style="list-style-type: none"> • Fitness centers, but no personal trainers • Traditional Thai massage parlors and spas, but not massage parlors • Boxing gyms • Bowling alleys and skating rinks • Dance academies but contests are not allowed • Martial arts schools
February 1	<p>Control zones are as follows:</p> <ul style="list-style-type: none"> • Highest-level Control Zone – 1 province: Samut Sakhon • High Control Zone – 4 provinces: Bangkok, Nontaburi, Patumthani, and Samut Prakarn • Control Zone – 20 provinces • High Surveillance Zone – 17 provinces • Surveillance Zone – 35 provinces <p>In the highest control zones, control measures are follows:</p> <ul style="list-style-type: none"> • Meetings, banquets, and food donation events must be limited to 100 participants, with no alcohol and dancing allowed • Department stores, shopping centers, community malls, supermarkets, and convenience stores may open as usual provided that there are no events or activities that bring groups of people together • Exhibition centers and conference halls may open as usual provided that people have one square meter of space to themselves • Pubs, bars, and karaoke venues may serve food but only for take away • Restaurants can serve food and non-alcoholic drinks inside until 2300 hours. No alcohol can be consumed onsite but can be sold for take away • Teaching, examinations, and training must be limited to groups of no more than 120 students • Gambling dens, cock fighting, and bull fighting arenas must remain closed • Massage parlors and entertainment complexes must remain closed • Spas and Thai massage parlors must limit customers to ensure social distancing is maintained between customers • Fitness and boxing gyms may open • Boxing matches are permitted if there are no spectators
February 22	<p>The government extends the emergency decree until March 31. Restrictions on control zones are as follows:</p> <p>Red-zone province (maximum control): Samut Sakhon</p> <ul style="list-style-type: none"> • Restaurants can open until 2100 but alcohol must not be served • Entertainment venues, pubs, and bars cannot open • Shopping centers and department stores can open until 2100, however, sales and promotions are prohibited • All educational institutions, including tutoring schools, must remain closed, with the exception of online classes • Gyms, fitness centers, and outdoor exercise facilities must remain closed <p>Orange-zone provinces (high control): Bangkok, Samut Prakan, Samut Songkhram, Nonthaburi, Nakhon Pathom, Pathum Thani, Tak, and Ratchaburi</p> <ul style="list-style-type: none"> • Restaurants can serve food and alcohol until 2300 • Entertainment venues, pubs, and bars can serve alcohol until 2300 • Live music performances are permitted, however, dancing is not • Department stores and malls can open as usual, however, sales and promotions are prohibited • Educational institutions at all levels can open as usual • Gyms, fitness centers, and outdoor exercise facilities can open as usual • Sports stadiums can admit a limited number of spectators

	<p>Yellow-zone provinces (high surveillance): Kanchanaburi, Suphan Buri, Ayutthaya, Saraburi, Nakhon Nayok, Chachoengsao, Phetchaburi, Ranong, Chon Buri, Rayong, Chumphon, Songkhla, Yala, Narathiwat</p> <ul style="list-style-type: none"> • Restaurants can serve food and alcohol until midnight • Entertainment venues, pubs, and bars can serve alcohol until midnight. Live music performances are permitted, however, dancing is not • Department stores and malls can open as usual, however, sales and promotions are prohibited • Educational institutions can open as usual • Outdoor exercise facilities, gyms, and fitness centers can open as usual • Sports stadiums can admit a limited number of spectators <p>Green-zone provinces: 54 provinces</p> <ul style="list-style-type: none"> • restaurants, pubs, bars, and entertainment venue can open as usual, along with educational institutions and all type of gyms • Sports stadiums can admit a limited number of spectators
March 8	<p>Quarantine rules for international visitors and Thais returning to Thailand, effective April 1, 2021:</p> <ul style="list-style-type: none"> • International travelers with a vaccination certificate dated no more than three months previously, and no less than 14 days, and who have a COVID-19-free certificate are only required to quarantine for 7 days • Returning Thais with a vaccination certificate dated no more than three months previously, and no less than 14 days, are only required to quarantine for 7 days. A COVID-19-free certificate is not required • International travelers with a COVID-19-free certificate are only required to quarantine for 10 days, with the exception of travelers from Africa
March 25	40 people in seven nightlife venues around Bangkok are infected over the weekend
April 5	The Bangkok Metropolitan Authority orders the closure of 196 entertainment venues in three districts, from April 6 to 19, 2021
April 8	<p>Travel from Bangkok, Nonthaburi, Nakhon Pathom, Pathum Thani, and Samut Prakan is restricted by a number of provinces</p> <p>The Bangkok Metropolitan Authority cancels all Songkran (Thai New Year) mid-April activities</p>
April 9	Night venues in 41 provinces, as well as Bangkok, are required to shut
April 10	Pubs, bars, and massage parlours in 41 provinces, as well as Bangkok are required to shut for two weeks
April 17	<p>The Centre for Covid-19 Situation Administration (CCSA) announces that 18 provinces are red zones, namely Bangkok, Chiang Mai, Chonburi, Samut Prakan, Prachuap Khiri Khan, Samut Sakhon, Pathum Thani, Nakhon Pathom, Phuket, Nakhon Ratchasima, Nonthaburi, Songkhla, Tak, Udon Thani, Suphanburi, Sa Kaew, Rayong, and Khon Kaen. The remaining 59 provinces are considered control areas or orange zones.</p> <p>As of April 18, the following restrictions are required for 14 days:</p> <ul style="list-style-type: none"> • All schools and educational institutes must hold only online classes • All entertainment venues, including pubs, bars, karaoke outlets, and massage parlors, must close until further notice

- Any gathering exceeding 50 people must get official approval
- All banquets or gatherings must be cancelled or postponed
- People should avoid going outdoors and work from home as much as possible
- Interprovincial travel is permitted

In red zones:

- Restaurants can serve food until 2100 and provide takeaways until 2300. No alcohol can be served
- Department stores and shopping malls may open until 2100. Stores cannot hold a sale, promotion, or other activity that gathers a crowd
- Supermarkets, flea markets, fresh markets, convenience stores, and similar places of business can open until 2300 and reopen at 0400
- Stadiums and gyms can open until 2100. Competitions can be held, but only if there is no audience

In orange zones:

- Restaurants can serve diners until 2100. No alcohol can be served
- Department stores and shopping malls can open until 2100. Stores cannot hold a sale, promotion, or other activity that gathers a crowd

Annex tables 2 and 3 show results from the econometric analysis. Numbers presented in the tables are all statistically significant. The result numbers present the change in percent compared with the base variable. For example, in terms of gender, a male worker is chosen as the base variable and, thus, results in the row “female” show what percentage of female workers differ from male workers with regard to their survival probability. A negative number means that the group is worse off, or less likely to survive.

Annex Table 2: The LASSO regression model’s estimation of Thai workers’ chance of survival in different rounds of the survey

Variable	First period	Second period	Third period
Base: Male			
Female	-8.1%	-6.4%	-14.2%
Base: Age 60+			
Age 15–24	.	.	-1.6%
Age 25–59	-9.1%	-7.2%	.
Base: Bangkok			
Central	.	.	.
Northeast	.	-26.5%	.
North	.	.	.
South	.	.	-7.6%
If income increases by 1%	+11.0%	+3.9%	.
Base: Income has not changed			
Income increased during pandemic	.	.	.
Income decreased during pandemic	-72.4%	-33.4%	-34.2%
Base: Primary education or lower			
Secondary education	-0.1%	.	.
Diploma	.	-1.4%	-5.4%
Bachelor’s Degree	+0.8%	+10.0%	+12.6%
Higher than Bachelor’s Degree	+27.9%	+7.5%	+33.1%
Other education	.	.	.
Base: Pensioners			
Govt employees/state-owned enterprise employees/Conscripts	+2.7%	.	.
Private sector employees	.	.	.
Business owners/Freelancers	.	.	.

Variable	First period	Second period	Third period
Farmers/Fishers			
Employees/General contractors/Unskilled workers	-13.0%	-8.4%	-4.3%
Housekeepers/Housewives	.	.	.
Unemployed	.	-2.9%	-12.5%
Base: Not in the labor force			
Agriculture			
Tourism	.	-1.2%	.
Other services	.	.	-2.2%
Industry	.	.	.
Public sector	.	+27.7%	+36.9%
Unidentified	.	.	.
Base: Did not borrow money for relief from COVID-19			
Borrowed money	-28.0%	-32.2%	-39.6%
Base: Formal workers			
Informal workers	.	.	.
Base: Did not go back home			
Went back home	.	.	.
Base: Did not receive training			
Received training	.	.	.
Base: Did not receive any government support			
T1: Received 5,000 baht/month for 3 months	-14.2%	-9.9%	
T2: Received severance pay from Social Security Fund	-4.7%	.	
T3: Received 5,000 baht/month for 3 months (farmers)	+10.7%	.	
T4: Received 500 baht x 7 months (Village Health Volunteers)			
T5: Received 3,000 baht (elderly people)		.	
T6: Received other financial assistance		.	

Note: Positive results means a higher chance of survival compared with the base variable; while negative results mean a lower chance of survival compared with the base variable. (.) indicates that this regressor was not selected as the significant factor affecting survival. A blank cell means there are no data or information was not collected during that period. The Lambda value used to reduce model errors for this model is 0.032.

Annex Table 3: The LASSO regression model's estimation of MSMEs' chance of survival in different rounds of the survey

Variable	First period	Second period	Third period
Base: Small MSME			
Micro MSME	.	.	.
Number of employees before COVID-19 (for each additional person)	.	.	+1.0%
Number of female employees before COVID-19 (for each additional person)	.	+0.1%	.
Number of informal workers before COVID-19 (for each additional person)	.	.	.
Base: Total assets less than 3 million baht before COVID-19			
Assets 3–60 million baht	.	.	.
Assets 61–100 million baht	.	+2.8%	.
Base: Annual sales less than 3 million baht before COVID-19			
Sales 3–60 million baht	.	.	.
Sales 61–100 million baht	.	.	.
Base: Owner is female			
Owner is male	.	.	.
Base: Owner's age is 15–24 years old			
Age 25–34	.	.	.
Age 35–44	.	.	-5.8%
Age 45–59	.	.	.
Age 60+	.	.	.
Base: Bangkok			
Central	+19.5%	+13.2%	+71.7%
Northeast	.	.	+7.4%
North	.	.	-8.0%
South	.	+12.4%	+38.9%
Base: Rural			
Urban	.	.	+1.7%

Variable	First period	Second period	Third period
Base: Non-tourism			
Restaurant related to tourism	.	+7.4%	+34.8%
Hotel & accommodation	-2.9%	.	-6.3%
Travel agent, tour guide, or tourist transporter	-11.6%	.	-16.4%
Other business in the tourism sector	.	.	.
Base: No change in sales/revenue			
Sales/revenue increased because of COVID-19	+30.7%	.	+41.9%
Sales/revenue decreased because of COVID-19	.	-0.3%	-12.3%
Base: High risk			
Not at risk	+100.0%	+126.2%	+114.4%
Low risk	+73.9%	+94.3%	+77.1%
Moderate risk	+35.2%	+56.9%	+53.9%
Business has already closed permanently	-534.3%	-369.4%	-426.8%
Base: Own business premises			
Rent business premises	-28.0%	-26.0%	-14.2%
Base: Business does not import			
Import	.	.	-7.9%
Base: Business does not export			
Export	.	.	.
Number of laid-off employees (if let go 1 more person)	-0.04%	-1.3%	-2.6%
Number of laid-off female employees (for each additional person)		.	.
Number of laid-off informal workers (for each additional person)	.	.	.
Number of employees expected to let go within 2 months (for each additional person)	-0.5%	-0.5%	-2.2%
Base: Reduced working hours to minimize layoffs			
No change/working as usual	+40.3%	+39.1%	+42.6%
No reduction in working hours, but already laid off some/all employees	.	.	+42.1%
No reduction in working hours because the business is (temporarily) closed	.	-9.4%	-0.2%

Variable	First period	Second period	Third period
Base: Business has not received a soft loan			
Business received a soft loan	+2.5%	.	+4.3%
Base: Business activities have not changed/adjusted			
Operate with social distancing e.g. delivery or work from home	.	.	+18.2%
Added new products/services in demand during COVID-19	.	.	-8.0%
Added online marketing or social media	+2.0%	.	+11.3%
Reduced employees' salaries to keep them all	.	-9.5%	-4.8%

Note: Positive results means a higher chance of survival compared with the base variable; while negative results mean a lower chance of survival compared with the base variable. (.) indicates that this regressor was not selected as the significant factor affecting survival. A blank cell means there are no data or information was not collected during that period. The Lambda values used to reduce model errors for this model were 0.02946, 0.03782, and 0.01837 for the first, second, and third periods, respectively.



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