The interplay of labor and capital perspectives on formalization approaches: motorcycle taxi drivers in Bangkok

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ABSTRACT

Motorcycle taxi drivers (MTDs) are classified as self-employed informal workers. The interplay between formality and informality is examined in this article from labor and capital perspectives on formalization approaches. Data was collected by questionnaire survey and semi-structured interview methods and analyzed. Results revealed significant overlap and informality concealed within formality, as well as stakeholder illegal practice in occupational registration and social assistance programs as well as factors affecting short-term cash transfer programs during the Novel Coronavirus 2019 (COVID-19) pandemic. These findings suggest that 1) The Bangkok Metropolitan Administration (BMA) should be held accountable for responses caused by its urban transportation network; and 2) government agencies should address institutionalized corruption in the motorcycle taxi trade as an underlying cause of unproductive means-testing in providing social assistance during a pandemic.

1. Introduction

In 2020, of Thailand's 69 million population, 37.9 million were employed. Of these, 20.4 million were informal workers and 17.5 million formally employed (National Statistical Office & Ministry of Digital Economy and Society, 2020). Motorcycle taxi drivers (traditional motorcycle drivers; MTDs) are often referred to as "own-account" or "self-employed" in the informal economy due to their status as independent contractors and passenger transport operators (ILO, 2012, 2018). Few drivers have other occupations that include employee-employer relationships. According to the Women in Informal Employment: Globalizing and Organizing (WIEGO) survey of informal workers in Thailand, 42.3 percent of MTDs are employed, while 57.7 percent are self-employed (Poonsab et al., 2019).

Since the COVID-19 outbreak of February 2020, MTDs have been particularly vulnerable informal workers, insofar as transportation demand has decreased due to teleworking and online education, as well as competition from new ride-hailing apps (WIEGO, FIT, & HomeNet Thailand, 2021). Research has indicated that drivers earn less than the minimum wage, resulting in job insecurity (Tambunlertchai et al., 2018; Nirathron et al., 2021). This is consistent with findings of Komin et al. (2021), who discovered that driver average monthly income decreased by 62 percent from 13,693 to 5,208 baht after the first COVID-19 pandemic wave.

According to data in Table 1, in 2020 there were 84,889 MTDs and 5,564 motorcycle taxi stations (Department of Land Transport (DLT), 2021). A comparable challenge occurred almost a decade ago, when an average of 4–6 million trips by 200,000 licensed and unlicensed drivers were commercialized (Sopranzetti, 2014) when MTDs were expected to bolster the profession (Orleans Reed et al., 2017).

Traditional and ride-hailing MTDs significantly connect people, residences, and communities in cities. The occupation is constrained by the dynamic natures of urban mobility and technology, as well as lack of efficient governance, legal business requirements, and digital infrastructure (Sanit and Ratanawaraha, 2020). Certain MTDs supplement their income by occasionally delivering food and parcels. In Thailand, Vietnam, and Indonesia, where conflict between formality and informality is debated, a diverse range of occupational statuses have emerged for the future of work (Turner, 2020; Kesuma, Lubis and Nurbani, 2021).

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1 WIEGO is a global network dedicated to improving working conditions for the working poor, especially women in the informal economy. In addition, WIEGO collaborates with Thailand's informal worker networks, including HomeNet Thailand and the Federation of Informal Workers of Thailand (More information is available at https://www.wiego.org/about-us; last accessed 18 December 2021).

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The purpose of this article is to consider the impact of labor platforms on MTDs and to make policy recommendations for establishing a social protection system. This is accomplished through examining the interaction of informality and formality among motorcycle taxi drivers, as well as occupational adaption based on formalization. The hypothesis being tested is that the labor platform context affects access to social protection. To test this hypothesis, a questionnaire survey and in-depth interview will be used to describe formality and informality of responses to research questions.

2. Literature review

The literature review discusses the employment status of motorcycle taxi drivers, occupational registration, and formalization approaches based on the theory of change (ILO, 2021).

2.1. Motorcycle taxi driver employment patterns and status

Thai research on informal workers adheres to the WIEGO definition of employment status for four occupational categories: home-based and domestic workers; street vendors; and motorcycle taxi drivers. Waste pickers are not included, as they are in international studies despite significance for transportation workers in Thailand due to their critical role in urban mobility (Orleans Reed et al., 2017), as well as motorcycle taxi drivers, classified as informal workers due to lack of employers as defined by labor regulations.

MTDs are, almost entirely, independent contractors. Section 5 of the Labor Protection Act, B.E. 2541 (1998), the Labor Relations Act, B.E. 2518 (1975), and the Social Security Act, B.E. 2533 (1990) define an employee as a person who agrees to work for an employer in exchange for wages. As a result, drivers are not considered employees, since their job requires them to accept passengers on a first come, first served basis, a practice known as on-demand service. This is in contrast to other types of transportation workers, such as delivery partners, platform businesses that are not responsible for subcontracting arrangements (ILO, 2016).

The National Statistics Office (NSO) and the Ministry of Labor (MOL) applied the principle of separating formal and informal work and employment, according to the International Conference of Labor Statisticians (ICLS) report; government agencies do not recognize MTDs as formal workers. In this sense, app delivery partners are classified as informal workers outside the public sector labor administration system (ILO, 2018). However, MTDs are dissimilar to app delivery partners in those motorcycle taxi station owners are prohibited from brokering passenger services through apps (Teerakowitkajorn and Tularak, 2020).

2.2. Registration and services for motorcycle taxi drivers

According to Bangkok Metropolitan Administration (BMA) Announcement, B.E. 2563 (2020) setting locations for motorcycle taxi stations and criteria for issuing BMA motorcycle taxi driver licenses, drivers must register with the DLT to obtain a public driving license (see Figure 1). Afterwards, MTDs must contact owners, committees or members at stations, insofar as close working relationships preclude certain applicants. The Motorcycle Taxi Committee will then update lists at the district office City Law Enforcement Section. Finally, transportation committee officials, police officers, armed troops, and city law enforcement officers determine the establishment of motorcycle taxi stations as well as station and passenger services member identification (DLT, 2020).

Some drivers rent motorcycle taxi vests before undergoing a criminal background check by the Royal Thai Police due to lack of funds or to obtain a job. Because of the requirement that applicants contact motorcycle taxi station owners before area district offices, legal procedures may foster institutionalized corruption among government officials and influential stakeholders. The obligatory purchase of a motorcycle taxi vest is deemed a type of capital asset. Registered drivers compensate government officials and influential people with protection fees and other fines. Instead, government agency conduct and procedures should be accountable and transparent (Kasemsukworarat, 1990; Phun et al., 2019; Sengers, 2016; Soprantzetti, 2021).

Passengers, platform providers, delivery partners, and food shops or street food vendors are seldom involved in multisided relationships in ride-hailing apps for food delivery and passenger services (Risak, 2018; Schmidt, 2017). According to Bajwa et al. (2018), in addition to previous participants, platform stakeholders include the community, trade unions, civic society, and the disrupted industry. As a result, a significant number of MTDs (about 100,000) register with the DLT, yet receive little attention from related government agencies and actively oppose the platform company’s passenger services.

Political, as well as business, conflicts occur when company directors are nominated during a phase when motorcycle taxi driver issues cannot be resolved through company policy and decision-making. On one occasion, MTDs filed complaints about Grab Bike Thailand to the DLT, the Department of Business Development, and the Ministry of Digital Economy and Society in the Central Administrative Court declaring: 1) companies providing motorcycle taxi services without establishing motorcycle taxi stations indirectly support unregistered motorcycle taxi services; 2) ride-hailing drivers were being permitted to pick up passengers with private licenses and black-on-white plates; and 3) driving licenses require the use of a yellow license plate to indicate the driver’s license personal identification number details. These factors violated Section 5 of the Vehicle Act, B.E. 2522 (1979), as well as Sections 23/1 and 49 of the Vehicle Act (Administrative Court, 2020).

2.3. Formalization approaches for motorcycle taxi drivers

The Thai government should explore alternative formalization approaches as a theory of change over the long-term (ILO, 2021), since informality leads to poverty and crime in developing countries (Loayza, 2018). Occupational adaptability analysis examines the direction of ILO Recommendation No. 204 on transitioning from informal to formal economy through formalization approaches (ILO, 2014; Rogan et al., 2017; Unni, 2018). These policy recommendations for ILO member states specifically emphasize MOL responsibilities for informal workers (Department of Labor Protection and Welfare, 2018).

Approaches to formalization consider interaction between actors and structures. Welfare provision is the responsibility of state-formal/informal provisions and non-state formal/informal provisions (Dafuleya, 2015). However, NGOs and trade unions may occasionally be more significant than government agencies due to expertise in local problems and the fact that government agencies never assist MTDs in regular or emergency situations. Researchers and non-governmental groups promote financial literacy to enhance savings behavior; others underline state participation formalized through voluntary membership in the National Savings Fund (Tambunlerthchai et al., 2018).

### Table 1. Number of MTDs and stations.

| Year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|------|------|------|------|------|------|------|------|
| Drivers | 88,601 | 105,894 | 99,047 | 87,179 | 91,852 | 84,547 | 84,889 |
| Stations | 5,335 | 5,445 | 5,421 | 5,800 | 5,670 | 5,575 | 5,564 |

Source: DLT (2021).
Following the Control of Occupational Diseases and Environmental Diseases Act, B.E. 2562 (2019), MTDs encounter health and employment risks from ailments. Nirathron et al. (2021), focus mainly on elderly drivers and self-health care, while state welfare agencies provide workers' compensation. According to the approach outlined in ILO Recommendation No. 204, registering with of formal systems such as the National Savings Fund and health care verification with the district office area amount to formalities (ILO, 2014).

To clarify formalization under Prayut Chan-o-cha’s prime ministership, Sopranzetti (2014, 2021) emphasizes the political regime and grassroots resistance to motorcycle taxi driver structural dominance. The Thai government used armed troops to legitimize the reception of public driving licenses and motorcycle taxi services by unregistered drivers. Investigations of motorcycle taxi station owners restrict driver autonomy. When stations are registered, membership increases when authority is transferred from previously influential stakeholders to newly licensed station associates, who may include police officers, military troops, and local politicians.

Formalization approaches should be technologically driven in the age of platformization. For example, the Ministry of Finance uses PromptPay to facilitate financial transactions, serving as a mechanism for the Thai government to perform means-testing through periodic and lump-sum social assistance programs (Chacaltana et al., 2018; Bhattarai, 2018). The shift of informal workers to the labor administration system does not entail formality of contractual relationships. Therefore, the formalization approach illustrated in Figure 2 includes occupational registration, expanding social security coverage, personal income tax payment, new access to public services, and work from ride-hailing apps (ILO, 2014).

3. Methodology

The Committee for Research Ethics (Social Sciences), Mahidol University, approved the research under MUSSIRB No. 2021/034 (B1). In data analysis based on case studies interviewed through content analysis, both labor and capital perspectives on formalization emphasize the relevance of interplay between formality and informality. More precisely, quantitative and qualitative research frameworks apparently exist (see Figure 3).

3.1. Quantitative research

MTDs in six areas of the draft Bangkok city plan (Department of City Planning, BMA, 2020), divided into area 1 (cultural preservation and tourism promotion), 10,374 population, area 2 (business and commercial) 29,602 population, and areas 3–6 (residential and agricultural/non-agricultural), 44,571 population, for a total population of 84,547 (DLT, 2019). Sample sizes were determined by Taro Yamane formula, considering population size with a margin of error of under five percent (Yamane, 1967). Data was collected 398 samples of a total of 400, of which an undetermined number of drivers rented motorcycle taxi shirts for part-time work and initial employment.

50 samples from cultural preservation and tourism promotion areas, 140 from business and commercial areas, and 210 from residential areas, comprising 50 BMA districts, provided data by questionnaire across three BMA areas. Participant criteria did not limit registration, and potential samples with and negative feelings about cooperating with the research process were excused.

The five-part questionnaire included socioeconomic characteristics; work and occupation; primary and secondary employment income; social protection and welfare; and labor platform impact on occupational adaptability. This article will focus exclusively on the single aspect of social protection. The questionnaire was assessed by three item objective congruence (IOC) specialists for question screening validity and reliability testing by Cronbach’s alpha with 30 samples for an acceptable dependability value of .846.

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2 PromptPay is a financial transaction and electronic payment service available through commercial bank applications. This system is linked to each individual's national identification number or mobile phone number, as well as to their bank account. During the COVID-19 pandemic in Thailand, smartphones were used for formalization through support regulations, and e-payment by apps.
The research then focused on the topic of social protection and welfare to examine welfare program access through descriptive and inferential statistical analysis, especially Pearson’s chi-squared test. Questionnaire data usually made clear social protection deficits and platformization impacts, while semi-structured interviews offered profounder insights and commentary (see Section 5).

3.2. Qualitative research

Semi-structured interviews with MTDs explored the effect of ride-hailing apps and social protection gaps, as complex situations that cannot be solely explained by quantitative data. 15 case studies were chosen based on varied MTS work and income characteristics, such as sole source of income; primary source of income with a supplementary second job; ride-hailing driver primary source of income with MTD work as supplement; owner of a motorcycle taxi station; and other statuses as selective criteria for case studies. The Motorcycle Taxi Drivers Association of Thailand\(^3\) and the Phuen-Thae-Chao-Win Club\(^4\) provided guidance on distinctive characteristics of case studies.

4. Results

Challenges linked to law enforcement and social protection gaps became evident from two approaches: motorcycle taxi driver registration and social protection programs. The chi-squared test indicated a statistical significance between independent and dependent variables, with some influential factors highlighted as well as case studies explaining and expanding on the findings.

4.1. Formalization through occupational registration

Motorcycle taxi registration requires DLT-issued public driving licenses and membership in a motorcycle taxi station to pick up passengers, providing access to the BMA by obtaining DLT yellow plates. However, illegal drivers who hire motorcycle taxi shirts for driving services retain an undetermined status due to control by miscreants of certain areas of roadway or alleys. MTDs are classified in Table 2. A driver's license and yellow license plates are required for 75.5 percent of registered legal drivers. 9.3 percent of unregistered illegal drivers have a public driver’s license and black-on-white license plates, while 15.3 percent have private driver’s licenses and black-on-white license plates.

Nonetheless, case studies show that the MTD occupation has an illegal side with complex involvement of unregistered drivers, according to owners and members of motorcycle taxi stations. After the BMA announcement in 2020, MTDs have rented or purchased professional vests without holding public driving licenses. To resolve this issue, registration should begin with a call to the BMA district office, rather than dealing with motorcycle taxi station committees and members.
Case studies demonstrate individual informal legal statuses resulting from ownership by government officials and other stakeholders of professional vests required for entry into the occupation. The price of a vest is determined by area physical geography and distinctive features. Drivers cannot afford to purchase outright such expensive vests as illegal assets, and most pay in monthly installments. Vests for alleys that straddle major roads or located near landmarks such as Sukhumvit, cost between 200,000 and 300,000 baht. Other alleys or residential streets cost less, between 50,000 and 80,000 baht.

4.2. Formalizing social welfare schemes and enterprise measures

Approaches to formalization were examined, including social welfare programs and enterprise measures. In Table 3, descriptive data and crosstab analysis of MTD registration variables illustrate social protection deficiencies in accessing social welfare programs and other forms of assistance. Most MTDs, 7.3 percent, possess rights under Section 33 of the Social Security Act (SSA) or government officials.

Note: Seven of twenty items in Table 3 were selected to illustrate the effect of demographic characteristics, occupation, job, and income on social protection programs.

Table 2. Motorcycle taxi drivers’ registration.

| Motorcycle taxi drivers’ registration | N  | Percent | Occupational registration | Legal status | Practices |
|--------------------------------------|----|---------|---------------------------|--------------|-----------|
| Black-on-white plates                | 61 | 15.3    | Unregistered              | Illegal      | Informality |
| Total                                 | 400| 100     |                           |              |            |

Table 3. MTD survey data on access to social protection.

| Do you have any items? | Answer       | MTD (N = 400) |
|------------------------|--------------|---------------|
|                        | Yellow plates| Black-on-white plates |
| Social insurance 6     | Yes          | 85 (21.3%)    | 25 (6.3%) |
| - Section 33           | 21 (5.3%)    | 8 (2%)        |
| - Section 39           | 42 (10.5%)   | 11 (2.8%)     |
| - Section 40           | 22 (5.5%)    | 6 (1.5%)      |
| No                     | 217 (54.3%)  | 73 (18.3%)    |
| National Savings Fund 7| Yes          | 78 (19.5%)    | 20 (5%)   |
| No                     | 224 (56%)    | 78 (19.5%)    |
| Public Welfare Card 6  | Yes          | 78 (19.5%)    | 20 (5%)   |
| No                     | 224 (56%)    | 78 (19.5%)    |
| Ride-hailing apps 6    | Yes          | 29 (7.3%)     | 5 (0.8%)  |
| No                     | 273 (68.3%)  | 95 (23.8%)    |
| Rao-Chana program      | Yes          | 251 (62.8%)   | 69 (17.3%)|
| No                     | 51 (12.8%)   | 29 (7.3%)     |
| Rao-Ruk-Gun program 10 | Yes          | 13 (3.3%)     | 4 (1%)    |
| No                     | 286 (71.5%)  | 89 (22.3%)    |

Note: Seven of twenty items in Table 3 were selected to illustrate the effect of demographic characteristics, occupation, job, and income on social protection programs.

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5 Social Security Act, B.E. 2533 (1990), is Thailand’s employment and labor legislation, divided into three sections: (1) Section 33 – insured person, for formal workers who have employment relationships with employers; (2) Section 39 – insured person, for informal workers who previously benefited from Section 33 of this law but have opted out of the system and choose to register voluntarily; and (3) Section 40 – insured person, for informal workers who are self-employed and opt to register voluntarily.

6 Public welfare card is a social assistance program mean-tested for assets and income under 100,000 baht or joblessness in 2016; however, the program lacks retesting due to wrong targeting and welfare schemes include cash transfers of 200- or 300-baht, transport fee subsidies, and gas discount.

7 National Savings Fund focused on 20.4 million self-employed people with 2.4 million members making voluntary contributions. The goals are promoting saving behavior and reducing inequality gaps for informal workers, who receive pensions after age sixty for income security until old age, to prepare for Thailand’s transition to a super-aged society by 2031.

8 Between March and April 2021, data collection from MTDs revealed that Thailand’s ride-hailing services are led by six enterprises: Grab, Lalamove, Foodpanda, GoJek, LINE Man, and Robinhood. Both Grab and GoJek provide passenger services, but because Grab does not require traditional MTDs to deliver by app, this platform business does not comply with the Vehicle Act, BE 2522 (1979), the subject of a current dispute with the DLT and the BMA.

9 No One Left Behind program is short-term of cash transfers assistance three months and pay 5,000 baht per month for informal workers during 24 March to 30 June 2020 and set conditions of reception rights resulting from lockdown regulations and lacking employment relationships under Section 33 of the Social Security Act (SSA) or government officials.

10 Rao-Ruk-Gun program provided short-term cash transfer assistance totaling 6,000 baht during the COVID-19 pandemic second wave from 21 February to 30 June 2021, linking e-payment through PromptPay. Program conditions included insured status under Section 33 of the SSA, not possessing the Public Welfare Card or enrolled in the Rao-Chana program, and with bank savings of under 500,000 baht.
Social Security Act, while the remaining 2 percent of samples were unregistered drivers, including workers with permanent employers. While most drivers were covered under Sections 39 and 40, 20.3 percent were registered voluntarily, with many voluntarily insured. Although 4.3 percent of drivers were unregistered, this may be due to accessing short-term support measures such as cash transfers by the No One Left Behind and Rao-Ruk-Gun programs during the COVID-19 pandemic.

24.5 percent, or about one-quarter of MTDs, are served by the public welfare card. Unregistered drivers account for 24.6 percent who were affected by emergency measures during the COVID-19 pandemic, especially the No One Left Behind program offering monthly cash transfers of 5,000 baht for three months. 75.6 percent of MTDs qualified for this program, compared to 62.8 percent of registered drivers and 17.3 percent of unregistered drivers. According to Ministry of Finance occupational status criteria, unregistered drivers were unable to select this occupation as an option to register for cash transfer programs.

Similarly, the Rao-Ruk-Gun program was a 4,000 baht cash transfer with an additional 2,000 baht for those covered under Section 33 of the Social Security Act, by comparison to the Rao-Chana program, a 7,000 baht transfer with an additional 2,000 baht for those uncovered under Section 33, pertaining to virtually all MTDs. Indeed, MTDs enrolled in the Rao-Ruk-Gun program at a rate of 4.3 percent, which can be broken down in two ways based on case studies: 1) 3.3 percent as registered drivers with other jobs in employee-employer relationships unable to meet household expenses or repay informal debt; and 2) 1 percent of the total as unregistered drivers to provide additional income by renting a driving vest after taking leave from permanent employment.

However, only 8 percent of MTDs used ride-hailing apps for passenger transport and food delivery. Hybrid taxi drivers accounted for over eight percent of motorcycle taxi drivers, but platform providers do not reveal driver statistics. Although they wait for assignments from platform-based application algorithms, riders may be unable to park at motorcycle taxi station. Government agencies face a dilemma: the National Savings Fund has operated since 2015, yet MTDs account for fewer than one percent of those signed up, due to unawareness of the fund, formal and informal debt, and financial illiteracy, according to case studies.

### 4.3. Factors affecting formalization barriers

MTDs encounter impacts in the context of digital platforms and ride-hailing apps. Taking into account Table 3 for registered and unregistered passenger services, professional barriers to formalization existed throughout the COVID-19 pandemic. Table 4 summarizes research findings on the impact of motorcycle taxi driver registration on social assistance and enterprise programs. The chi square test was used to evaluate the hypothesis that independent variables (driving licenses and vehicle plates) influenced dependent variables (social assistance programs and enterprise measures). Results revealed that these schemes and measures were effective at a .05 level of statistical significance.

| Table 4. Social assistance programs and enterprise measures. |
|-------------------------------------------------------------|
| Pearson's chi-squared test                                   |
| Independent variables                                       |
| Ride-hailing apps                                           |
| No One Left Behind program                                  |
| Rao-Ruk-Gun program                                         |
| $\chi^2$ | p-value | $\chi^2$ | p-value | $\chi^2$ | p-value |
| Driving licenses                                           | 3.957 | .047*     | 4.067 | .044*     | 7.760 | .021* |
| Vehicle plates                                              | 4.302 | .038*     | 7.464 | .006**    | 6.373 | .041* |
| **Note: Level of Significance:** *p < .05; **p < .01; ***p < .001.** |

Table 5. MTDs from labor and capital perspectives.

| Approaches to formalization |
|-----------------------------|
| Motorcycle taxi service registration (1) | MTDs registered yellow plates 75.5 percent according to the BMA Announcement and the Land Transport Act, B.E. 2522 (1979). However, unlawful practices by government officials, such as collecting protection fees and disbursing interests, together with corruption to purchase vests created informality within formalized policy implementation (Kasemsukworarat, 1990; Phun et al., 2015; Sengers, 2016; Soopranzeeti, 2021). |
| Social insurance (1) | MTDs registered under Section 39 or 40 are designated as informal workers, amounting to 20.3 percent, insofar as this job category is deemed self-employment. 7.3 percent of drivers are registered under Section 33 and employed by a different private firm, categorized as formal workers under the Ministry of Labor administrative system compared to formal employment as defined by the National Statistical Office, including in Section 39 and 40. In this way, classification of three sections of social insurance betrays overlapping formalization (Department of Labor and Welfare, 2018; Nguyen & Simoes da Cunha, 2015; National Statistical Office and Ministry of Digital Economy and Society, 2020). |
| National savings fund (2) | The National Savings Fund is mostly unknown to motorcycle taxi drivers. Only 1.1 percent of drivers are enrolled in a voluntary savings and planning option for future old age insurance. It is associated with state welfare provisions, such as a social security fund, and with personal income tax, with tax refunds disbursed after tax payment (Tambunlertchai et al., 2018; Niranthon et al., 2021). |
| Ride-hailing apps (2) | An estimated 8.1 percent of MTDs use ride-hailing apps. Platform providers are not held responsible for employee-employer relationships since these are classified as delivery partners rather than employees. Furthermore, drivers using apps as subordinators have shifted from stakeholders to platform companies (Fred, 2020; Soopranzeeti, 2021). Unlike other nations during the COVID-19 pandemic, Thailand and its government have not actively promoted platform registration (Spooner and Wheligan, 2020). Because MTDs are not a target group for the new business model and an oversupply of ride-hailing app services exist, conflict resolution is voluntarily ignored (Administrative Court, 2020). |
| Public welfare card and short-term cash assistance (2) | One-quarter of all drivers received public welfare cards due to the Ministry of Finance’s central role in formalization through National I-payment (Chuwatana et al., 2018; Bahtana, 2014; BLO, 2015), with limited registration availability through the government database system. The government assists those formerly linked with the public welfare card database. For example, short-term assistance programs such as No One Left Behind, Rao-Chana, and Rao-Ruk-Gun established specific criteria and means-testing methods based on occupational status, unemployment, social insurance, income, assets, and savings. |

**Note:** (1) Labor perspective and (2) Capital perspective on formalization.
Results were analyzed by chi-square test, indicating significant relationships (see Table 4) which omits other social protection programs listed in Table 3, lacking a statistically significant relationship at .05.

- An independent chi-square test revealed a significant relationship between driving license and ride-hailing apps, \( \chi^2 (1, N = 400) = 3.957, p = .047 \), and between vehicle plates and ride-hailing apps, \( \chi^2 (1, N = 400) = 4.302, p = .038 \).

- An independent chi-square test showed a significant relationship between driving license and No One Left Behind program, \( \chi^2 (1, N = 400) = 4.067, p = .044 \), and between vehicle plates and No One Left Behind program, \( \chi^2 (1, N = 400) = 7.464, p = .006 \).

- An independent chi-square test pointed out a significant relationship between driving license and Rao-Ruk-Gun program, \( \chi^2 (2, N = 400) = 7.760, p = .021 \), and between vehicle plates and Rao-Ruk-Gun program, \( \chi^2 (2, N = 400) = 6.373, p = .041 \).

Table 3 outlines that occupational registration is a mere formality. The Thai government should have formalize MTDs by centralizing PromptPay during the COVID-19 pandemic first wave. PromptPay was integrated with the National E-payment system to monitor financial transactions and may be required for formalization in personal income tax.

The results of the significant relationship between vehicle plates and the No One Left Behind program exemplify the DLT and the BMA problem with occupational registration policy formulation and implementation. For example, the Ministry of Finance determined that 7.3 percent of unregistered drivers are affected by occupational status criteria leaving them unable to enroll by online registration options. This statistic may be extrapolated in two ways: 1) insurance under Section 33 of the SSA, and 2) only 12.8 percent of registered drivers in receipt due to system issues or missing criteria. Samples were aware of causes for registration failure and provided explanations, such as lacking a smartphone, internet connection, or technical knowhow.

One significant problems for policymakers and the government is obliviousness to individual concerns. According to case studies, some MTDs work several jobs, earning income from diverse sources. They must generally seek employment in similar jobs through personal contacts or food delivery apps. These factors significantly affect MTD registration. By contrast, MTDs enrolled in the Rao-Ruk-Gun program were ineligible for the No One Left Behind program due to their employment being covered under Section 33, except those who left their jobs after June 2020 and worked exclusively as MTDs or in other informal employment.

Finally, chi-squared tests demonstrated that difficulties were posed for means-tested methods used by MTDs, as well as establishing criteria for the No One Left Behind and Rao-Ruk-Gun programs during the COVID-19 pandemic. Government agencies overlooked unregistered drivers failed to account for hybrid statuses in case studies involving MTDs. In this way, Thailand’s social protection policy fell short of universal coverage, since limiting driving licenses and vehicle plates to influential motorcycle taxi station owners and government officials served their own interest; reforming related laws and procedures should be prioritized.

5. Discussion

This section examines previous findings in light of ILO Recommendation No. 204 (ILO, 2014), serving as an overarching theory of change for occupational groups and industrial sectors undergoing formalization (ILO, 2021). These include formal and informal economies receiving legal protection and social security. This study prepared for the discussion in Table 5 by using perspectives on labor and capital (Unni, 2018) and the transition to technological formalization (Chacaltana et al., 2018). In addition, the public sector may use big data and blockchain technology to build e-payment and digital infrastructure. In addition to industrial data management practices, financial app interaction and protection of welfare beneficiary personal information are at stake (Wang et al., 2020; Zhang et al., 2020).

6. Conclusion

MTDs straddle the line between formal and informal occupations. ILO Recommendation No. 204 defines formality with a broader scope than formal employment through formalization approach components, including public license registration, motorcycle taxi service registration, passenger transport or food and parcel delivery application registration, and national e-Payment transactions (ILO, 2014).

The formality of MTDs is concealed by their informality, since 24.5 percent, or one-quarter, are not registered motorcycle taxi services, as a result of two factors:

- First, institutionalized corruption among street-level government officials, including police officers and city law enforcement officers, paying rent and purchasing interests to local influential people. These individuals were unsure of their status as motorcycle taxi station owners and members during the Prayut Chan-o-cha era of motorcycle taxi registration reform. As a result, it is a highly informal occupation hiding illegal practices within its territory.

Secondly, no one receives social assistance, and some workers are excluded from welfare programs. Another issue is that the Thai government and Ministry of Finance have concentrated on formalization policies while overlooking the fact that MTDs lack smartphones, internet access, and technological ability. As a result, this occupation is societally stigmatized and lacks social support among community members.

Informality existing within the formality of the motorcycle taxi occupation reflects politics, and public policy apparently directly affects job enrollment. These findings suggest that 1) the BMA should be decentralized and held accountable as the main player due to its urban transportation boundaries and legal registration, with the DLT and local police stations in each location equipped with facility management and legal policies; and 2) the approach to formalization should prioritize means testing in short-term cash transfer programs for informal workers and should extend to universal assistance, regardless of beneficiary circumstances. This would address the underlying motive for occupational registration and include a flexibility component for part-time motorcycle taxi drivers. Furthermore, government entities should resist releasing these problems to discourage authorities from abusing them with protection fees or other onerous fines.

Declarations

**Author contribution statement**

Kritsada Theerakosonphong: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Somsak Amornsiriphong: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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**Data availability statement**

Data will be made available on request.

**Declaration of interests statement**

The authors declare no conflict of interest.
Additional information

This article used statistical data from the dissertation titled "Precarity and Informality in the Labour Platform: The Social Protection Recommendation for Motorcycle Taxi Drivers" to analyze and discuss both labor and capital perspectives through formalization approaches for updating new issues of ride-hailing apps and the COVID-19 pandemic after doctoral graduation.

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