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Evolving Informal Remittance Methods of Myanmar Migrant Workers in Thailand^{*}

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Abstract: We shed light on diverse informal remittance methods of Myanmar migrant workers in Thailand. Based on the questionnaire survey of migrant workers, we examine the determinants in their choice of informal remittance methods. The empirical results indicate that the accessibility of payment points in Myanmar is an important determinant; migrants sending remittances to town can choose potentially more efficient operators who employ bank branches as payment points. On the assumption that informal operators' use of bank branches stimulates competition among them, we argue that expanding branch network of Myanmar banks adds to efficiency of the informal remittance market.

Keywords: migrant worker remittances, informal remittance methods, Myanmar *JEL Classification*: E26, O16, O17

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1. Introduction

Remittances of migrant workers have been an important source of foreign exchange in Myanmar. Among Myanmar migrant workers, Thailand has been the most common destination. According to an estimate by Huguet *et al.* (2011), there were 2.07 million Myanmar migrant workers in Thailand as of end 2010, of which 39 percent were registered and 61 percent were of irregular status.¹ Furthermore, the survey in 2007 by Jampaklay and Kittisuksathit (2009) shows that the median of Myanmar migrant workers' remittances was THB 15,000 per annum, or about USD 440.² The estimated sum of Myanmar workers' remittances from Thailand alone amounts to about USD 910 million, equivalent to 14 percent of Myanmar's total exports in 2007.³

The existing studies illustrate that the majority of Myanmar migrant workers in Thailand used informal remittance methods (Turnell *et al.* 2008; Jampaklay and Kittisuksathit 2009). Historically, in the face of the multiple exchange rate system and the restrictions on current account transactions by the Myanmar authorities, formal remittance channels had not been a viable option for migrant workers. Despite the bold reforms on exchange rate policy in April 2012 and subsequent deregulation on current account transactions, remittances by informal methods remain widespread.

Informal remittance methods have been evolving along with the development of Myanmar's banking sector. Informal money transfer operators make use of bank branches as the interface with remitters and recipients. Many migrant workers transfer funds from branches and automated teller machines (ATMs) of Thai banks to the accounts of informal operators in Thailand, and some of these operators make payments

¹ Huguet *et al.* (2011) report that as of end 2010, there were 1,513 workers who had entered Thailand from Myanmar via the formal recruitment scheme (Memorandum of Understanding between the Myanmar and Thai governments) and 812,984 registered workers who had been irregular status, but were granted work permits through the Nationality Verification process. In addition, there were estimated 1,444,803 irregular workers from Thailand's three neighbouring countries, Cambodia, Lao PDR, and Myanmar. According to the proportion of Myanmar migrant workers in the Nationality Verification process, we consider 87.2 percent of these irregular workers were Myanmar nationals.

 $^{^{2}}$ The median of the remittances was also THB 15,000 per annum in the 2002-03 survey of Myanmar migrant workers by Turnell *et al.* (2008).

³ According to *Selected Monthly Economic Indicators* by the government of Myanmar, total export in fiscal year 2007 was USD 6,401.7 million.

to the recipients at branches of Myanmar banks. Thus, banks are effectively incorporated into informal remittance channels.

An objective of this paper is to shed light on informal remittance methods. This is a neglected area in the existing studies of workers' remittances where informal channels are treated as marginal ones. Based on the questionnaire survey of Myanmar migrant workers in Thailand, we investigate migrant workers' choices of informal remittance methods. On the assumption that the degree of competition would differ among various informal money transfer operators, we examine what attributes of migrants are associated with their choice of potentially less efficient methods. By identifying migrant workers' constraints in their choice of remittance methods, we aim to offer a remedy to alleviate such constraints.

The remainder of this paper is structured as follows. Section 2 reviews the literature on remittance channels. Section 3 overviews the channels of migrant workers' remittances in Myanmar. Section 4 describes the data of the questionnaire survey on Myanmar migrant workers in Thailand, showing that informal money transfer operators use banks both in Thailand and in Myanmar. Section 5 presents the empirical results on migrant workers' choice of remittance methods. Section 6 offers concluding remarks.

2. Review of related literature

2.1. Varieties of remittance channels

Remittances of migrant workers to their home countries are a potential instrument for development and alleviation of poverty in developing countries.⁴ According to the World Bank (2014), recorded migrant workers' remittances in 2013 amounted to USD 404 billion, which surpassed capital flows of private debt and portfolio equity to developing countries or official development aid. Furthermore, the total volume of remittances is almost certainly larger than the recorded figure considering unrecorded flows via informal channels.

⁴ Adams and Page (2005) find the positive impacts of remittances on economic growth and poverty reduction.

The existing empirical studies provide evidence that migrant workers' remittances lead to financial development, which is conducive to economic growth. Apart from cross-country panel data analyses on remittances and financial development, ⁵ Demirguc-Kunt *et al.* (2011) find that remittances stimulated expansion of the bank branch network and growth in deposits through investigating municipality-level data of the migrant worker population in Mexico. As for the mechanisms whereby remittances lead to growth in the banking sector, Demirguc-Kunt *et al.* emphasise that the remittance flows through banks provide opportunities for them to offer other financial services to those unbanked recipients who visit them to collect remittances.

Remittances are negatively elastic to transaction costs (Gibson *et al.* 2006; Yang, 2011). By reducing transaction costs of remittances, we can expect an increase in migrant workers' remittances to developing countries. In this regard, how to guide migrant workers to efficient remittance channels is an important policy issue.

There is growing literature on channels of migrant worker remittances, in which the focus is to identify obstacles against migrant workers choosing efficient remittance methods. In the literature, remittance channels are classified into three groups, namely (1) formal financial institutions including banks and credit unions, (2) non-bank money transfer firms (MTFs), and (3) informal channels. The first and second groups are formal channels.

MTFs are firms specialising in remittances and they are not always regulated by the financial institution laws in sending or receiving countries. According to the survey of central banks in 40 countries by de Luna Martinez (2005), MTFs are not subject to reporting requirements in 62 percent of the surveyed countries, and thus workers' remittances through MTFs are not recorded in the balance of payment statistics unless MTFs themselves use banks for international settlements. MTFs have extensive networks of commission agents in both sending and recipient countries, and they often employ banks as commission agents in many countries, including Thailand and Myanmar. Globally well-established MTFs include Western Union and MoneyGram.

We cannot postulate that the formal financial institutions are always the most economical channel for migrant workers' remittances. Freund and Spatafora (2008)

⁵ These include Giuliano and Ruiz-Arranz (2009) and Aggarwal, et al. (2011).

argue that financial regulations and foreign exchange controls can increase the transaction cost of remittances in formal channels, giving rise to informal channels. As for the remittance market for Latin American migrant workers in the United States where MTFs were dominant, formal financial institutions have been increasing their market share by reducing service charges (Amuedo-Dorantes, *et al.* 2005). In contrast, El-Qorchi, *et al.* (2003) report that informal remittance services called *hundi* and *hawala* are widespread in some Asian countries. Siegel and Lucke (2009) document that the transaction costs of remittances for migrants are cheaper in informal channels than in formal channels for remittances to Moldova.

In relation with the size of remittances, banks tend to be economical for a large remittance whereas MTFs are more economical for a small remittance (Gibson *et al.* 2006; Kosse and Vermeulen, 2014). Remittance costs consist of two main components, namely up-front fixed fees and exchange rate margins. While banks set narrower exchange rate margins, they tend to set higher up-front fixed fees compared with those of MTFs and informal money transfer operators. As a result, banks are more costly for smaller transactions. Overall, relative transaction costs of various remittance channels depend on size of remittances.

2.2. Choice of remittance channel

Apart from transaction costs, the existing studies consider factors that affect migrant workers' choice of remittance methods, including: (1) accessibility of the payment points in recipient countries; and (2) attributes of migrant workers such as legal status, educational attainment and financial literacy. For example, Gibson *et al.* (2007) exemplify the case of migrant worker remittances from New Zealand to Tonga, where a 10-percentage-point spread exists in remittance costs between various formal channels. This suggests that factors other than the remittance costs influence migrant workers' choice of remittance channel.

First, as for accessibility, the limited network of formal financial institutions in rural areas is often stressed in the existing studies. According to the study of Mexican migrant workers in the United States by Amuedo-Dorantes and Pozo (2005), those migrants sending remittances to rural areas, where formal financial institutions are not available, tend to use MTFs. Karafolas and Sariannidis (2009) argue that the branch

network expansion of the Italian and Greek banks in Albania led to an increase in bank remittances of Albanian migrant workers from these countries.

Second, various attributes of migrant workers are found to be influential on the choice of remittance channel. Kosse and Vermeulen (2014) show migrants with higher educational attainment tend to avoid informal channels for the case of migrants in the Netherlands. Amuedo-Dorantes and Pozo (2005) and Siegel and Lucke (2009) find that migrants of irregular legal status do not use formal remittance channels for the cases of Mexican and Moldovan migrants, respectively.

As for the speed of remittance services, the situation differs from one country to another. In general, MTFs offer instant payment services. In MTFs' operations, the flow of funds and the flow of information on remittance are not concurrent. As soon as the originating point agent transmits the remittance instruction message to the payment point agent via the MTF's headquarters, the agent in the payment point offers an instant payment to the beneficiary using its own working capital. In contrast, for wire transfer by banks, the flow of funds and the flow of information are concurrent, so that it takes longer for recipients to receive payments. However, for remittances from Thailand to Myanmar, as we will show, banks and informal money transfer operators also offer instant payment services.

3. Background of Myanmar migrant remittances from Thailand

3.1. Remittance methods of Myanmar migrant workers

Historically, the formal channels of remittances have not been common among Myanmar migrant workers. Prior to the foreign exchange policy reform in 2012, the formal financial institutions had not been convenient for two reasons. First, state banks had monopolised international banking operations. The state banks that engaged in international settlements were the Myanma Foreign Trade Bank and the Myanma Investment and Commercial Bank, and their outlets were only three offices for the whole nation. Second, under the multiple exchange rate system, state banks did not deal with conversion of foreign exchange at a competitive exchange rate. Instead, the recipients had to withdraw the remitted funds in foreign exchange certificates (FEC) that could be traded in the informal foreign exchange market only at a considerable discounted price compared with dollar notes.⁶

The recorded remittance flows to Myanmar from all over the world have been as low as around \$130 million per annum in the late 2000s (World Bank 2011). Myat Mon (2010) documents that the migrant workers recruited by the Myanmar government agencies were required to remit between 30 and 50 percent of their wages earned abroad to their families at home via a state bank. Thus, such remittances would account for a large portion of the above-mentioned sum.

As for remittances of Myanmar migrant workers in Thailand, the existing studies show that informal remittances are widespread. According to Jampaklay and Kittisuksathit (2009), 98.3 percent of their survey respondents used the informal channel including brokers, relatives and friends. While the remainder answered that they had sent remittances via banks, their answers might refer to money transfer via money transfer operators' accounts in Thailand rather proper international money transfer by banks. Similarly, in the survey by Turnell *et al.* (2008), 6 percent of respondents answered that they used banks, although this does not necessarily refer to international transfer by banks.

Since the foreign exchange policy reform in 2012, formal channels have become more viable options than before. In September 2012, international MTFs (MoneyGram and Western Union) started remittance services to the country using Myanmar private banks as commission agents. As for remittances from Thailand to Myanmar, Western Union sets a step-wise up-front fixed fee starting from THB 160 (about USD 5) for remittance amount up to THB 50,000 (about USD 1,536), and THB 320 (USD 10) for the amount up to THB 100,000 (USD 3,072).⁷ In addition, Myanmar private banks tied up with Thai banks on their own terms and started inward remittance services in April 2013 targeting migrant workers. The flat fixed fee is THB 200 for remittance amounts up to THB 100,000 per day from some Thai banks.⁸

⁶ See Kubo (2014) for details of foreign exchange regulations and the structure of market for foreign exchange.

⁷ Western Union offered a waiver of the fixed fee for remittances up to THB 10,000 temporarily for the period from January to April 2015.

⁸ The up-front fees are charged by Thai banks. The Thai banks also offered temporarily waiver or

Despite developments in formal remittance channels, the use of banks and MTFs appears to be still uncommon among Myanmar migrant workers in Thailand. Theingi and Hla Theingi (2014) argue that Myanmar migrant workers in Thailand prefer informal methods due to several reasons, such as their legal status in Thailand, the language barrier, and convenience for recipients. As for legal status, some migrant workers do not possess valid passports which are a requisite for remittance via MTFs and banks. In addition, communication in the Thai language and filling up forms in English at bank branches can be a deterrent. Finally, accessibility for recipients in terms of geographical distance and formality is also a concern, since MTFs' service points are still limited to branches of Myanmar banks.

3.2. Myanmar's informal money transfer operators

It is an interesting evolution of informal remittance methods that some money transfer operators make use of banks as an interface with their customers. We first illustrate the flow of funds in informal channels and the characteristics of informal money transfer operators. We then discuss implications of the use of banks by informal money transfer operators on the efficiency of the informal remittance market.

Drawing on Orozco (2004: 6) and De Luna Martinez (2005: 6), we illustrate the remittance market by decomposing the steps of remittance into three phases presented in Figure 1. The first phase is the originating points in Thailand, where a remitter deposits funds with a money transfer operator. Typical originating points include ATMs and bank windows of Thai banks, from which a remitter transfers funds to the money transfer operator's account in a Thai bank. Another common originating point is shops of money transfer operators in Thailand. There are also cases where an agent of a money transfer operator comes to the houses and workplaces of remitters to collect funds.

reduction of the transfer fee.

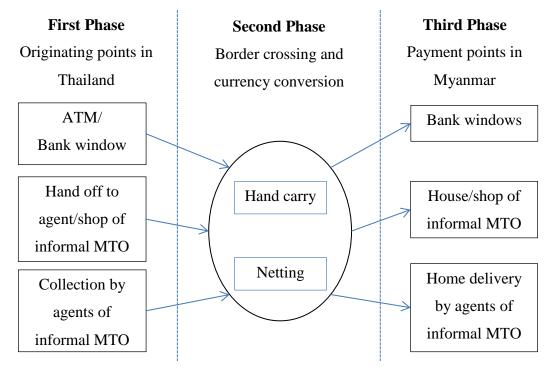


Figure 1: Decomposition of Remittance Processes of Myanmar Migrant Workers

Note: MTO refers to money transfer operator. *Source*: Author.

In the second phase the funds are transferred across the Thai-Myanmar border and converted from Thai baht to Myanmar kyat in the informal market for foreign exchange. Agents of operators withdraw funds at the Thai bank branches in the border town of Mae Sot, and carry funds across the border to Myawaddy, the border town in the Myanmar side. Mae Sot-Myawaddy is a major economic corridor between the two countries.⁹ Apart from the hand carrying of funds across border by agents of money transfer operators, a common option is "netting", which we will illustrate in some detail later.

The third phase is the payment points in Myanmar, where the beneficiary receives payment. These include bank windows, houses/shops of money transfer operators, and home delivery. When informal operators use bank branches as the payment points, their agents transfer funds from branches of Myanmar banks in the border area to the branches in a town where the recipient lives. In Myanmar, even unbanked individuals

⁹ Other border points, though smaller scale, between Thailand and Myanmar are Mae Sai -Thachileik in the north and Ranong - Kawthaung in the south.

can receive remittances at bank windows with their identification cards (National Registration Card) as the beneficiary identification code.

We classify informal money transfer operators into three types according to the ownership of outlets at the originating and payment points. The first type operators run outlets in both originating and payment points. This category includes Burmese ethnic general shops in Thailand where migrant workers order money transfers. Such shops have outlets in Myanmar run by their family members, where the recipients receive payments. Furthermore, sometimes the migrant worker him/herself turns into an operator. He or she receives funds from friends and colleagues from the same village, and his/her family in Myanmar plays a role as a payment outlet.

It is a common feature for informal operators that they do not transport currencies each time for serving customers, but their outlets in Myanmar maintain working capital from which payments are made immediately to the recipients. In this regard, their operation is quite similar to those of MTFs. The operators periodically replenish funds from Thailand to Myanmar.

In general, a key for speedy money transfer services is the transmission of information on remittances rather than the transport of funds across the border (Orozco 2004). As long as the information concerning remitter, recipient, and the remitted amount is transmitted from the originating point in Thailand to the payment point in Myanmar, the operator can provide an immediate disbursement using his/her working capital at the payment point. Myanmar's poor telecommunication infrastructure had been an obstacle to money transfer services. ¹⁰ Recent improvements in telecommunication infrastructure, especially the diffusion of mobile phones, may give an impetus to the entry of small-scale operators into the remittance market.

The second type operators do not have their own outlets in the payment points, but rely on the network of money transfer operators that connects them to the payment points. That is, an operator in the originating point (hereafter Operator X) receives

¹⁰ In November 2014, we interviewed a Thai business man, married to a Myanmar migrant, who ran a Burmese ethnic general shop in Surat Thani province and had been operating a money transfer business for two decades. He had branch shops in Myeik and Kawthaung in Myanmar. For transmission of remittance information between the originating and payment points, he invested in costly satellite communication systems in the 1990s. Nowadays, the transmission of remittance information between.

deposit from a remitter, and another operator in the payment point (hereafter Operator Y) makes a payment to the recipient. While these two operators do not have capital ties, they are linked by a network of mutual trust. When Operator X receives funds from a remitter, it first transmits the instruction to Operator Y to make a payment to the recipient from Y's working capital and charges the remittance amount to X's account. Later Operator X settles the liability to Operator Y. Sometimes Operators X and Y are intermediated by middlemen. The second type operators have to maintain relationships, direct or indirect, with the operators in the payment points through the network.

The network of informal money transfer operators accommodates two-way money transfers from Myanmar to Thailand, as well as from Thailand to Myanmar, which allows them to offset money transfers in opposite directions. Money transfers from Myanmar include payments for smuggling imports of Thai consumer goods to Myanmar. For example, Operator X in Thailand transfers funds for Myanmar migrant workers to their families in Myanmar, while Operator Y in Myanmar transfers funds for Myanmar importers to their Thai suppliers. In such a case, Operators X and Y can swap their liabilities; Operator X makes payments to Myanmar importers' suppliers in Thailand, and Operator Y makes payments to migrant workers' families in Myanmar. This is "netting" shown in Figure 1. In this case, there is no need to carry currencies physically across the Thai-Myanmar border. Furthermore, "netting" allows money transfer operators to economise on their working capital. Such a network of operators and money transfers using "netting" are called *hundi* in Myanmar.

The third type operators do not use the network of operators for payments to recipients, but instead make use of the financial infrastructure of the bank branch network in Myanmar. Once their agents bring in funds into Myanmar, they undertake inter-branch bank transfers from the branches of Myanmar banks to the neighbouring branches of the recipients. The third type operators do not have to rely on the direct/indirect relationship with other operators in the payment points.

Expansion of Myanmar's bank branch network in recent years is considered to have facilitated money transfer of third type operators. Table 1 compares the commercial bank branch networks of the selected Southeast Asian countries. Myanmar's bank branch network had been the sparsest among these countries.¹¹ Nonetheless, since 2011, deregulation of bank branch opening has led to a sharp increase in branches of the private commercial banks that engage in domestic money transfers more actively than the state banks.¹² For example, KBZ Bank, the largest private commercial bank in Myanmar, aggressively expanded its branch network from 59 in March 2012 to 127 in November 2013 (Zaw Lin Htut 2013), and further to 300 in November 2014 (Eleven News Media 2014).

		Sciected	our lieuse i				
Country Name	2006	2007	2008	2009	2010	2011	2012
Cambodia	2.3	3.0	3.1	3.9	4.0	4.2	4.4
Lao PDR						2.5	2.7
Myanmar	1.4	1.4	1.5	1.5	1.5	1.7	1.9
Thailand	9.2	9.8	10.4	10.9	11.2	11.5	11.8
Vietnam			3.3	3.3	3.2	3.6	3.2

Table 1: Commercial Bank Branches per 100,000 Adults in Selected Southeast Asian Countries

Source: World Development Indicators database, World Bank. Available at: <u>http://data.worldbank.org/indicator/FB.CBK.BRCH.P5/countries?display=default</u>

The third type operators also take various forms. By using bank accounts of Thai banks as an interface with migrant workers, they do not have to possess any outlets in the originating points, either.¹³ They can also use "netting" to transfer funds across the border, which allows them to save on the labour of agents to carry funds physically across the border. In addition, they also offer speedy money transfer services using their own working capital.

¹¹ As of March 2013, there were 1,003 bank branches, of which about half were those of state banks, namely Myanma Economic Bank and Myanmar Agricultural Development Bank (Foerch *et al.* 2013).

¹² Turnell (2014) offers an overview of Myanmar's banking system.

¹³ In an interview of Myanmar migrant workers in Bangkok in August 2014, some migrant workers reported that there were third type operators residing in Myanmar who advertised their remittance fees and exchange rates via short message services (SMS) of mobile phones. Such operators could be accessed by e-mails, and they instructed remitters to deposit money to their Thai bank accounts, guaranteeing instant money transfers to the branches of Myanmar banks that the remitters designated.

Among three types of operators, the third type could be exposed to competition most, while the first type could be least. As for remittances to branches of Myanmar banks as the payment points, any type of operators can deal with them. In contrast, those who own the outlets where other operators do not have any can monopolise the local remittance market. Similarly, those who are linked with operators in isolated areas through the network could be exposed to less competition.

It remains to be proved whether or not the total transaction cost is cheaper with the third type operators (branches of Myanmar banks as the payment points) than other informal methods. A large portion of the transaction cost is embedded in exchange rate margins, on which precise data are not available. Thus, we cannot verify that remittances using branches of Myanmar banks are more efficient than others.

Nonetheless, the use of bank branches as the payment points may have extra merits for the economy. As Demirguc-Kunt *et al.* (2011) argue, the remittance flows through banks provide opportunities for them to offer other financial services to those unbanked recipients who visit them to collect remittances, leading to financial development. In this regard, we examine what attributes of migrant workers lead them to choose bank branches as the payment points.

4. Data

We conducted a survey of Myanmar migrant workers in Thailand during the period from August to November 2014 in order to examine their remittance behaviour. We undertook interviews with migrant workers with the assistance of non-governmental organisations (NGOs) in each survey area that support migrants' human rights. The NGOs operate various training programmes for migrant workers. We held interviews with migrant workers when they attended such training programmes, so that we could collect samples of migrant workers from more diverse workplaces than we would do sampling at migrants' workplaces. In this survey we interviewed 154 migrant workers.

As for the design of the sampling of the survey, we took into consideration the geographical and occupational distribution of the Myanmar migrant workers. Concerning geographical distribution, the Department of Employment of the Thai

Government periodically reports statistics on registered migrant workers by province. As for occupational distribution, Huguet *et al.* (2011: 12) reported the number of migrant workers by job type based on the official data as of December 2009; major occupations included agriculture, construction, domestic work, and factories (food processing and garments).

Accordingly, we collected samples in three areas where Myanmar migrant workers were densely populated, namely Bangkok, Samut Sakhon, and Surat Thani. In Bangkok, the major occupations of migrant workers included construction, domestic work, factories, and services. Samut Sakhon is a province in the suburbs of Bangkok where factories, especially food processing, employ a large number of migrant workers. Surat Thani is a province in the southern region where the agricultural sector, especially rubber and palm plantations, employ migrant workers.

The survey questionnaire covered attributes of migrant workers including demographic characteristics, legal status in Thailand, economic status, and duration of stay in Thailand, as well as remittances. Questions on remittances included modes of remittances (banks, MTFs, and informal money transfer operators), and originating and payment points (banks or others). Table 2 provides descriptive statistics of the survey.

Out of 154 migrant workers interviewed, 124 migrant workers sent remittances to Myanmar; all of them used informal channels. Among them, 33.3 percent answered that they used banks, 13 percent a relative/acquaintance, and 53.7 percent an informal money transfer operator. However, answers to other questions in the survey confirmed that none of them used banks for international wire transfer; those who answered that they used banks in fact deposited money into the account of an informal operator or a relative/acquaintance.

Sixty-six percent of those who sent remittances used Thai banks as the originating point of remittances. These refer to money transfers from ATMs or bank windows of Thai banks to the accounts of informal money transfer operators or friends/acquaintances at Thai banks. Compared with the common use of banks as the originating point, only 28 percent of their beneficiaries received money at banks in Myanmar. We can associate this gap with the underdeveloped bank branch network in Myanmar (Table 1).

iable Name	Description	Observations	Mean	Median
Bank sending	Dummy indicating the use of bank window or ATM in Thailand for sending funds	124	0.6613	
Bank receipt	Dummy indicating the use of bank window in	101		
•	Myanmar for receiving funds	124	0.2823	
Remittance frequency	Frequency of remittances per annum, times	124	6.5323	
Remittance size	Average size of remittance per time, baht	85	10895	680
Annual amount remitted	Sum of remittances per annum, baht	85	52225	4200
Destination of remittances (Pla	ce of origin of migrant)			
Yangon	Geographic dummy	124	0.2016	
Shan	Geographic dummy	124	0.0645	
Kayin	Geographic dummy	124	0.2500	
Mon	Geographic dummy	124	0.0565	
Tanintharyi	Geographic dummy	124	0.0081	
Others	Geographic dummy	124	0.2258	
Remittances sent to town	Dummy indicating remittances to a town	124	0.1774	
Monthly wage				
Less than Baht 5000	Wage level dummy	154	0.0887	
Baht 5000-8000	Wage level dummy	154	0.1774	
Baht 8001-10000	Wage level dummy	154	0.4758	
More than Baht 10,001	Wage level dummy	154	0.2500	
Documented worker	Dummy indicating worker with work permit	154	0.8952	
Male	Gender dummy	154	0.5323	
Age				
15-18 years old	Age dummy	154	0.0242	
19-25 years old	Age dummy	154	0.5000	
26-35-years old	Age dummy	154	0.3629	
36-45 years old	Age dummy	154	0.1129	
Education				
No fomal education	Education attainment dummy	154	0.0726	
Primary	Education attainment dummy	154	0.2177	
Lower secondary	Education attainment dummy	154	0.3548	
Higher secondary	Education attainment dummy	154	0.2903	
Tertiary	Education attainment dummy	154	0.0645	
Work category				
Agriculture	Industry dummy	154	0.1210	
Fishery	Industry dummy	154	0.0242	
Construction	Industry dummy	154	0.0565	
Domestic work	Industry dummy	154	0.2581	
Services	Industry dummy	154	0.0806	
Factory	Industry dummy	154	0.3145	
General labor	Industry dummy	154	0.1371	
Work area			0 5700	
Bangkok	Work area dummy	154	0.5726	
Samut Sakhon	Work area dummy	154	0.2258	
Surat Thani	Work area dummy	154	0.2016	
Duration of stay in Thailand	Duration durante	454	0.0404	
less than 1 year	Duration dummy	154	0.0484	
1-3 year	Duration dummy	154	0.2500	
4-5 year	Duration dummy	154	0.2581	
6-10 year	Duration dummy	154	0.3387	
More than 10 year	Duration dummy	154	0.1048	

Table 2: Survey Results

Source: Survey of Myanmar migrant workers in Thailand, 2014.

As for the frequency and size of remittances, the median of remittance frequency is six times per annum, and the median of the sum of remittances is THB 42,000 per annum.¹⁴ The median of the amount remitted per remittance is THB 6,800. For this size of remittance, the bank's up-front fixed fee of THB 200 amounts to just 2.9 percent. While formal institutions are not yet common, their fixed fees are not so large relative to the size of remittances.

As for the destination of remittances (place of origin of migrant), 25 percent sent remittances to Kayin State. Places of origin of Myanmar migrant workers are considerably different from one Thai province to another. In the previous large scale survey by IOM and ARCM (2013), 14.5 percent of respondents sent remittances to Kayin State, compared with Mon State (26.7 percent), Shan State (19.0 percent), and Tanintharyi Division (16.2 percent). Their survey locations included Thai border provinces where migrants from Myanmar's border states concentrate. According to the 2014 population census of Myanmar, Kayin State is the fifth-smallest among 15 states/divisions, accounting for 3.1 percent of total population of the country. While migrant workers from Kayin State could be over-represented in our sample, we conjecture that the state's geographical proximity to Thailand and the important Myanmar-Thai economic corridor lying there would make it a major source of migrant workers.

We now look at the correlation of variables in Table 3, with particular focus on the uses of banks as the originating and payment points. Here we treated the categorical variables of education, monthly wage, and duration of stay in Thailand as discrete variables. First, two dummy variables for the use of banks as the interface with informal money transfer operators at the originating and payment points are not correlated with each other. That is, those migrant workers whose beneficiaries receive funds at branches of Myanmar banks do not necessarily deposit funds to informal operators via Thai banks. In fact, during the survey, some migrant workers stated that they entrusted funds to their friends who deposited the funds to the account of an informal operator.

¹⁴ Only 85 respondents answered the amount of remittances.

Variable name	Bank sending	Bank receipt	Remittance sent to town	Remittance frequency	Remittance size	Annual amount remitted	Monthly wage	Education	Duration of stay in Thailand	Work category- Agriculture	Remittance destination- Kayin State
Bank sending	1.0000										
Bank receipt	0.0324 [0.7212]	1.0000									
Remittance sent to town	0.0201	0.3185 [0.0003]	1.0000								
Remittance frequency	0.0190	0.1073 [0.2354]	0.0990 [0.2741]	1.0000							
Remittance size	0.1492	-0.0506 [0.6459]	-0.1084 [0.3236]	-0.3655 [0.0006]	1.0000						
Annual amount remitted	0.1640 [0.1336]	-0.0718 [0.5138]	-0.1504 [0.1696]	0.2277	0.6094 [0.0000]	1.0000					
Monthly wage	0.1276	0.0329	-0.0162 [0.8585]	-0.0165 [0.8559]	0.2029	0.1205 [0.2751]	1.0000				
Education	0.0228	0.0353	0.2213	0.0650 0.4731	-0.0953 [0.3854]	-0.0609	-0.0058 [0.9430]	1.0000			
Duration of stay in Thailand	0.1023	0.0157	-0.1261 [0.1629]	0.0973	0.0637	0.0267	0.3635	-0.1207 [0.1347]	1.0000		
Work category-Agriculture	-0.0480	0.0421	-0.1075 [0.2345]	-0.0570 [0.5298]	0.2717 [0.0119]	0.0002	-0.1010 [0.2127]	-0.3231 [0.0000]	0.1833 [0.0224]	1.0000	
Remittance destination- Kayin State	0.3345 [0.0001]	-0.2793 [0.0017]	-0.2194 [0.0144]	-0.0119 [0.8953]	0.1056 [0.3361]	0.2485 [0.0218]	0.0668 [0.4104]	-0.0422 [0.6019]	0.0303 [0.7080]	-0.2397 [0.0027]	1.0000

Table 3: Correlation Matrix

Note: Figures in [] refer to significance level. *Source:* Same as Table 2.

Destination of remittances is significantly correlated with the use of banks as the payment point. The dummy variable for Myanmar bank branches as the payment points is positively correlated with the dummy variable for remittances sent to town, and negatively correlated with the dummy variable for remittances to Kayin State.

Furthermore, migrant workers in the agricultural sector, who reside in rural areas in Thailand, appear to have peculiar remittance behaviour. The dummy variable for migrant workers in agricultural sector is negatively correlated, although not statistically significant, with the dummy variable for the use of banks as the originating points of remittance. As they reside in rural areas, they might have poorer access to banks in Thailand. Furthermore, their frequency of remittance is lower, although not statistically significant, and they send more in each remittance. Overall, migrant workers in rural areas in Thailand appear to have, to some extent, difficulty in access to remittance channels.

Remittance frequency is not correlated with the uses of banks as the originating and payment points. If the use of banks in informal remittances improved the convenience of remittance, these would be positively correlated with remittance frequency. This appears not to be the case in our sample. Apart from that, it is not surprising to see the negative correlation between remittance frequency and remittance size. Conversely, the annual amount remitted is positively correlated with both remittance frequency and remittance size.

Finally, educational attainment and duration of stay in Thailand are not significantly correlated with the use of banks.

5. Empirical analysis

5.1. Hypothesis

We empirically examine the factors accounting for migrant workers' choice of remittance methods. Drawing on the existing empirical studies reviewed in Section 2, we set out the hypotheses on determinants of their remittance operator choice. We summarise the hypotheses in Table 4. In this table, a positive sign signifies the hypothesis that the relevant attribute of migrants is positively associated with their choice of the money transfer operators using branches of Myanmar banks as payment points.

	Myanmar bank
Migrant and remittance characteristics	branches as
	payment points
Remmitances sent to towns	+
Border area (Kayin State) as destination	-
Longer experience in Thailand	+
Higher educational attainment	+

Table 4: Hypothesized Choice of Informal Remittance Channels

Source: Author.

First, regarding the accessibility of payment points, since the network of bank branches is concentrated in large cities in Myanmar, payments at bank branches would be more likely for remittances sent to town than those to villages.

Second, we examine if the first and second type operators are more common when the payment points are Kayin State. This state is connected to Thailand by the Mae Sot -Myawaddy busy corridor, as well as having a high proportion of households sending migrant workers to Thailand. As a result, the outlets of money transfer operators would overlap, leading to competition among money transfer operators and lower remittance fees.

Third, migrant workers with longer years of experiences in Thailand would have broader knowledge about remittance methods that would help them to find cheap operators. As long as the third type operators are cheaper, experienced migrants would tend to choose them.

Fourth, educational attainment and proficiency in information technology would be associated with the use of the third type operators. The third type operators employ information and communication technology (ICT) such as e-mails for communication with migrant workers; and the remittance fees and exchange rate are quoted through email communication. Communication with this type of operators might require proficiency in ICT, so that those with higher educational attainment would have better access to them.

5.2. Empirical results

We examine migrant workers' choices of remittance method by the Probit model. The dependent variable is the dummy variable of bank receipt, which takes the value of one if a migrant worker uses an operator whose payment points are branches of Myanmar banks, and zero otherwise. In addition to the hypotheses listed in Table 4, we also check if remittance frequency and remittance size are associated with the use of bank branches as the payment points.

Table 5 summarises the results of estimation. The coefficients on duration of stay in Thailand and education are not statistically significant. However, the two variables regarding the payment points are statistically significant and have an expected sign. Those migrants whose beneficiaries are in town are more likely to use the third type operators. In addition, when the destination of remittance is to Kayin State, migrants are less likely to use the third type operators. Finally, the coefficients on remittance frequency and remittance size are not statistically significant.

 Table 5: Results of Probit Regression of Remittance Method Choice Model:

 Use of Banks as Payment Points

Dependent variable:	1	Model 1		1	Model 2		1	Model 3		
Receipt at bank Estimation method	Probit			Probit				Probit		
Independent variables	Coefficient	S.E.	Marginal Effect	Coefficient	S.E.	Marginal Effect	Coefficient	S.E.	Marginal Effect	
Duration of stay in Thailand										
1-3 years	0.5248	0.729	0.1478	0.6111	0.746	0.1703	0.2100	0.839	0.0567	
4-5 years	0.3447	0.728	0.0971	0.4591	0.747	0.1279	0.4626	0.810	0.1248	
6-10 years	0.5993	0.715	0.1688	0.6607	0.728	0.1841	1.0070	0.811	0.2717	
More than 10 years	0.5792	0.773	0.1632	0.6223	0.783	0.1734	0.7947	0.882	0.2144	
Education										
Primary	0.2703	0.581	0.0761	0.2196	0.575	0.0612	0.9822	0.871	0.2650	
Lower secondary	0.2729	0.571	0.0769	0.2429	0.562	0.0677	1.3507	0.901	0.3644	
Higher secondary	0.1074	0.579	0.0303	-0.0006	0.579	-0.0018	0.9631	0.875	0.2599	
Teriary	-0.0540	0.743	-0.0152	-0.0464	0.734	-0.0129	1.5113	1.099	0.4078	
Remittances sent to town	0.9034 ***	0.327	0.2545	0.8687 ***	0.329	0.2420	0.8533 *	0.437	0.2302	
Destination Kayin State	-1.1998 ***	0.428	-0.3380	-1.2337 ***	0.437	-0.3438	-1.8303 ***	0.556	-0.4939	
Bank sending	0.3533	0.290	0.0995	0.3508	0.289	0.0977	0.4546	0.370	0.1227	
Remittance frequency				0.0360	0.035	0.0100				
Remittance size (in log)							0.2146	0.215	0.0579	
Constant	-1.4702 *	0.850		-1.7231 *	0.890		-4.1713 *	2.274		
Number of observations		124			124			85		
Log likelihood		-62.313			-61.773			-40.464		
LR chi2	LR chi2(11)	22.95		LR chi2(12)	24.03		LR chi2(12)	28.18		
Prob>chi2		0.0179			0.0201			0.0052		
Pseudo R-squared		0.1555			0.1628			0.2583		

Note: S.E. refers to standard errors. *** and * stand for statistically significant at the 1% and 10% significance levels, respectively.

Source: Author.

The empirical result suggests that the accessibility factor in the payment points exerts a statistically significant influence on migrants' choice of remittance methods. This result is in line with the finding of Amuedo-Dorantes and Pozo (2005) on Mexican migrant workers in the United States. This implies that those migrant workers sending funds to the rural areas where there are no bank branches may have fewer options in terms of remittance operators and potentially face a higher transaction cost for remittances. On the other hand, Kayin State, home of large number of migrant workers, may have a dense network of outlets of the first and second type operators.

Finally, we perform a supplementary analysis on the use of banks as originating points of informal remittances. Explanatory variables of the Probit regression include migrants' duration of stay in Thailand, education attainment, documentation status, and a dummy variable for the work area being Bangkok, and dummy variables for various work categories. Table 6 summarises the results of estimation. As expected, the coefficient on the dummy variable for the work area being Bangkok have better access to bank windows and ATMs. In contrast, the dummy variable of the work category being agriculture is not significant; its negative correlation with the use of banks as the originating points (in Table 2) may be due to the fact that migrant workers in agriculture reside other than Bangkok. The duration of stay in Thailand is not significant. As for educational attainment, while it is not statistically significant, it has a positive correlation with the use of banks as originating points of informal remittances.

The coefficient on the dummy variable of the work category being the manufacturing sector is negative and statistically significant, while the coefficients on other work category dummy variables are not significant. We interpret the results in relation with the nature of workplace of these jobs. Factories in Samut Sakhon province often employ Myanmar migrant workers in several hundreds. In such factories, informal money transfer operators provide competitive services including collection of funds by agents, so that migrants in manufacturing tend to use such services. In contrast, this is not the case for migrant workers in the services and domestic work sectors, whose workplaces are dispersed.

Independent variables Coefficient Duration of stay in Thailand -1.0723	Probit S.E. 0.798 0.795 0.775	Marginal Effect -0.2942 -0.2344
Estimation method Independent variables Duration of stay in Thailand 1-3 years -1.0723	S.E. 0.798 0.795	Effect -0.2942
Independent variables Coefficient Duration of stay in Thailand 1-3 years -1.0723	S.E. 0.798 0.795	Effect -0.2942
Duration of stay in Thailand 1-3 years -1.0723	0.798 0.795	Effect -0.2942
1-3 years -1.0723	0.795	
	0.795	
	0.1.00	-0.2344
4-5 years -0.8545	0.775	
6-10 years -1.2445		-0.3415
More than 10 years 0.0886	0.903	0.0243
Education		
Primary -0.2406	0.597	-0.0660
Lower secondary 0.1204	0.582	0.0330
Higher secondary 0.1849	0.600	0.0507
Teriary 0.4015	0.765	0.1102
Documentation 0.7431	0.535	0.2039
Work area-Bangkok 0.9674 ***	0.323	0.2654
Work category		
Agriculture 0.2826	0.513	0.0775
Domestic work -0.0381	0.424	-0.0105
Manufacturing -0.7491 **	0.355	-0.2055
Services 0.6544	0.738	0.1795
Constant 0.3305	0.854	
Number of observations	124	
Log likelihood	-61.042	
LR chi2 LR chi2(11)	36.68	
Prob>chi2	0.0008	
Pseudo R-squared	0.2310	

Table 6: Results of Probit Regression of Remittance Method Choice Model:Use of Banks as Originating Points

Note: S.E. refers to standard errors.

*** and ** stand for statistically significant at the 1% and 5% significance levels, respectively. *Source*: Author.

6. Conclusion

While the bulk of Myanmar migrant workers in Thailand send remittances home by informal methods, it is an interesting phenomenon that informal money transfer operators make use of the bank branch network for collecting and delivering funds. The expanding network of commercial bank branches in Myanmar has facilitated the operations of informal operators.

The use of the bank branch network by informal operators would lead to a more competitive informal remittance market. As informal operators do not need to have their own outlets or network, each of them can expand the service, which would in turn stimulate competition among them.

Based on the survey of Myanmar migrant workers, we examine the factors that account for migrant workers' choice of remittance methods. The empirical results suggest that the accessibility factor in the payment points in Myanmar exerts a statistically significant influence on migrants' choice. Migrant workers who send remittances to town tend to choose the potentially competitive operators using Myanmar bank branches as the payment points.

We argue that the expanding bank branch network in Myanmar is conducive to a more competitive informal remittance market. Furthermore, once Myanmar banks make the odds more even with informal operators, expansion of their branch network would help them to take in remittance business. It remains as the subject of future research to identify precisely the factors that deter migrant workers from using formal remittance channels.

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