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Do Non-Monetary Forms of Remittances Matter for Entrepreneurship Development? Evidence from Filipino Migrants in Japan

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This paper aims to significantly augment the current remittance literature by delving into the comprehensive impact of both monetary and non-monetary remittances on entrepreneurship development. Drawing on micro-level primary data collected from the Filipino migrants living in Japan, this study highlights that conceptualizing non-monetary remittances significantly matters in fostering entrepreneurial activities. The results underscore the transformative potential of non-monetary remittances, particularly in facilitating entrepreneurship where financial barriers might otherwise impede the initiation of economic activities. While monetary transfers are susceptible to being easily depleted and consumed by recipient households, tangible assets such as physical capital goods and intangible forms of support carry inherent and sustained value. Thus, the findings emphasize the transformative potential of remittances, not merely as transient financial injections but as enduring contributors to entrepreneurship development. In effect, the analysis reveals that financial backing from monetary remittances, when complemented by non-monetary support, reinforces households to meet immediate needs and provides opportunities to invest in business initiatives.

Keywords: Remittances; Entrepreneurship development; Non-monetary remittances

JEL Codes: O12, O15, L26, F24

1 Introduction

Remittances, defined as the repatriated earnings of migrant workers, play a crucial role

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in sustaining livelihoods and fostering economic stability within recipient households. In recent years, the relationship between remittances and entrepreneurship development has garnered increasing attention as scholars seek to understand the dynamics of this nexus. However, a notable gap exists in the literature, with much of the previous research predominantly focusing on the impact of monetary remittances on entrepreneurship development (Kakhkharov, 2019; Vaaler, 2013; Rivera & Reyes, 2011; Woodruff & Zenteno, 2001). While these studies have provided valuable insights into the financial aspects of remittances and their potential to increase the likelihood of self-employment, they inadvertently sideline the equally significant influence of non-monetary resources.

This study addresses this gap by presenting the first comprehensive attempt to model remittances used for entrepreneurship development, considering both monetary and non-monetary forms. Non-monetary remittances encompass physical capital goods such as used cars, agricultural machinery, computers, and intangible goods, including skills, expertise, and technical knowledge (Maphosa, 2007; Coffie, 2022; Apatinga et al., 2021). They are characterized by their intangible and tangible nature, serving as vital resources that support the well-being and development of recipients in ways that transcend financial assistance alone. By incorporating these elements, the study aims to provide a more holistic understanding of the mechanisms through which remittances contribute to entrepreneurship development.

Barrera et al. (2023) delve into this often-overlooked aspect through an earlier theoretical work, laying the foundation for this empirical research.¹⁾ Their theoretical findings underscore the importance of diversification in a migrant's remittance portfolio, advocating for an optimal balance between monetary and non-monetary remittances to maximize their impact on entrepreneurial activities. The theoretical model also highlights the indispensable role of a baseline level of monetary support for initiating entrepreneurial endeavors, as monetary remittances inject the necessary capital. Additionally, the model emphasizes the potential of non-monetary remittances to mitigate perceived risks associated with entrepreneurship, empowering migrants to invest with greater confidence.

To understand these dynamics and substantiate the theoretical framework of Barrera et al. (2023) comprehensively, this empirical study employs micro-level primary data collected from the Filipino migrants residing in Japan. The choice of the Filipino diaspora as the focal point is significant due to their unique experiences in the context of transnational practices. Additionally, the migration corridor between the Philippines and Japan is distinctive due to their close geographical proximity, facilitating not only the movement of people but also the exchange of goods, knowledge, and skills.

Thus, this paper aims to significantly augment the current remittance literature, delving into the comprehensive impact of both monetary and non-monetary remittances on entrepreneurship development within the Filipino diaspora in Japan. It poses a crucial question:

To what extent do non-monetary remittances significantly influence the likelihood of business entrepreneurship? This study rigorously tests the independent and combined impacts of these two distinct forms of remittances on the likelihood of entrepreneurial ventures. By probing into this complex relationship, the study seeks to uncover nuanced insights that transcend the traditional monetary-centric perspectives, offering a robust understanding of how diverse remittance forms collectively shape entrepreneurial endeavors.

The remainder of the paper is organized as follows. The next section presents the analytical framework that discusses related literature, hypotheses development, and empirical specification. Section 3 describes the contextual information relevant to the empirical foundations of this analysis. Section 4 presents and discusses the results of empirical estimations. Finally, Section 5 concludes.

2 Analytical Framework

This section discusses the study's analytical framework, drawing insights from existing theories and literature, formulating hypotheses, and outlining the empirical specifications.

2.1 Theory and Previous Literature

Acknowledging entrepreneurs' vital contributions to economic development, it is equally crucial to understand the factors that hinder them from making sound decisions in entrepreneurship and investment (Panda & Dash, 2015). As scholars and policymakers delve into the intricacies of entrepreneurship, a dual framework distinguishes between financial and non-financial constraints. This dichotomy serves as a comprehensive lens to understand the myriad challenges entrepreneurs face in establishing and expanding sustainable businesses.

The prevailing focus within academic literature tends to gravitate towards financial constraints, and understandably so, given their palpable impact on the operational dynamics of businesses. Several studies highlight the perennial struggle faced by entrepreneurs, encompassing challenges such as the lack of start-up capital, restricted access to formal credit facilities, and liquidity constraints (Nwibo & Okori, 2013; Labich & de Llosa, 1994; Cook, 2001; Bitzenis & Ersanja, 2005). The weight of these financial constraints can be monumental, potentially stifling entrepreneurial innovation and thwarting the realization of business potential.

Furthermore, a more nuanced perspective necessitates a shift towards recognizing the equally pivotal role of non-financial constraints in shaping entrepreneurial trajectories. These non-financial barriers, such as the lack of managerial skills and experience, inadequate education and training, and a limited personal network, can exert profound effects on

business initiation and growth (Solana et al., 2020; Martin & Staines, 2008; Lussier, 1996; Herrington & Wood, 2003). For instance, a lack of managerial expertise can impede effective decision-making and strategic planning. At the same time, limited education and training may hinder an entrepreneur's ability to adapt to dynamic market conditions.

This comprehensive understanding of constraints sets the stage for exploring the dynamics of entrepreneurial support from a notable source: remittances. While several studies have demonstrated the potential of remittances as a source of financing for businesses (Kakhkharov, 2019; Vaaler, 2013; Rivera & Reyes, 2011; Woodruff and Zenteno (2001), an intriguing disjuncture arises when examining the actual utilization patterns within recipient households. Contrary to the anticipated use of remittances for entrepreneurial endeavors, a substantial portion is directed toward consumption rather than starting a business (Amuedo-Dorantes & Pozo, 2006; Devkota, 2016; Tabuga, 2007; Tullao & Rivera, 2013). This incongruity prompts a recalibration of our perspective on remittances, urging us to consider not only their monetary value but also the non-monetary dimensions embedded within these cross-border transactions.

Traditionally, remittances are viewed as household income from migrants sent home to sustain livelihoods and foster economic stability (Yang, 2008). However, this financial context has an often-overlooked dimension of remittances involving non-monetary support. In the context of this research paper, non-monetary forms of remittances encompass a diverse range of contributions made by migrants to their families and communities in their countries of origin. Beyond currency transfers, non-monetary forms of remittances serve as a testament to the enduring bonds that link transnational families (McCallum, 2022). These valuable gifts cross borders not as banknotes but as material goods, skills, social connections, and emotional support.

A crucial dimension of diaspora remittances lies in transferring skills and knowledge, which is pivotal in driving developmental initiatives. In the study of Coffie (2022), the Ghanaian diaspora, possessing significant expertise in various fields, actively engages in partnerships and networking endeavors to leverage their professional skills to catalyze development projects. This study underscores the vital role of transferring skills and knowledge as a non-monetary remittance form. It exemplifies how the diaspora's expertise can be harnessed to address pressing development challenges, particularly in the context of skill and knowledge transmission within transnational families.

Moreover, several studies recognize migrants as sources of knowledge and skills that could be used for development in countries of origin (Coffie, 2022; Mueller, 2019; Dustmann & Kirkchamp, 2002; Nyberg-Sorensen, 2004). For instance, Dustmann and Kirkchamp (2002) present compelling evidence indicating that migrants returning to their home country can bring valuable skills and financial assets that contribute to economic development in their origin country through their after-return economic activities. The results show that approx-

imately half of the Turkish immigrants who returned to Turkey from Germany ventured into entrepreneurship upon their return.

Also, diaspora knowledge transfer may occur on a personal, more informal level through social remittances. That is, the exchange of ideas between a migrant and an individual or a group of individuals in the country of origin (Mueller, 2019). Migrants have the potential to stimulate entrepreneurship, drive innovation, and enhance capacity within their home countries, contingent upon their contributions. Various modes of migrants returning to their country of origin, whether permanently, temporarily, or through virtual means, can serve as avenues for knowledge transfer, thereby exerting a substantial influence on development initiatives.

Similarly, Schmalzbauer (2004) highlights that parents typically migrate to improve their family's economic well-being, providing economic prosperity and material comfort to their children and extended family members. In McCallum's (2022) study, the Filipino transnational families are examined, highlighting how love and care are shared through material exchanges and economic transactions. The study delves into gift-giving customs and the tradition of sending 'balikbayan boxes', revealing their profound role in establishing and perpetuating familial bonds and a sense of belonging across physical distances.

The tradition of 'balikbayan boxes' started in the 1970s when an influx of the Filipino workers came to the United States (Lawless, 2004). In Tagalog, a primary language spoken in the Philippines, the term "balikbayan" translates to "returning to one's homeland." For the countless Filipinos dispersed across the globe, sending a 'balikbayan box' often filled with clothes, food, sweets, and other gifts to their families in the Philippines serves as a means of reconnecting with their roots and homeland, albeit symbolically. In essence, it serves as a tangible manifestation of the link between the foreign land and the place of origin, a means of bestowing and fostering connections through the act of giving and sharing. According to the Door-to-Door Consolidated Association of the Philippines, at least 400,000 balikbayan boxes are sent monthly, surging significantly during the holiday season. Evidently, this cultural practice of sending material goods represents a longstanding tradition of non-monetary remittances often disregarded in the extensive body of remittance literature.

Despite the potential of non-monetary remittances to spur development in origin countries, research in this domain remains limited (Apatinga et al., 2021; Mata-Condesal, 2012). This previous researches represent a significant research gap, as the impact of non-monetary remittances, particularly on entrepreneurship development, within migrant-sending nations has yet to receive the comprehensive attention it deserves. The need for more studies in this domain underscores the need for a deeper investigation into the complex dynamics and potential transformative effects of non-monetary remittances on the development landscape.

As discussed in the previous section, Barrera et al. (2023) present the first attempt to model the relationship between monetary and non-monetary remittances and entrepreneurship development. The theoretical model is based on the seminal work of Stark (1995) and Le (2011), where the migrant's utility (U_m) also depends on the household's utility (U_h) which explains the familial relationship between the two agents and the altruistic behavior of the migrant towards the recipient. That is,

$$U_m = U(C_m^1) + \beta^m U(C_m^2) + U_h \quad (1)$$

where utility is denoted by U_i , $i = m$ (migrant), h (household) which is assumed to be increasing, concave, and twice differentiable, that is $U'(\cdot) > 0$, $U''(\cdot) < 0$, . In this equation, C_m^j is consumption of m at period j where $j = 1, 2$. Under this setup, migrant maximizes utility subject to constraints: $C_m^1 = y_m^F - R$ and $C_m^2 = y_m^O + \bar{I}$ where y_m^F and y_m^O are the migrant's income in the host and home countries, respectively. The key difference between this model and the related literature (Stark, 1995; Le, 2011; Osili, 2007; Rapoport & Docquier, 2005) is the assumption about remittances. In this model, remittances (R) is delineated between monetary (R_M) and non-monetary (R_N) forms given by the equation $R = R_M + R_N$. Furthermore, the model also assumes that non-monetary remittances are used solely for investment in a business. In contrast, only a portion of monetary remittances, represented by the parameter $\mu \in (0, 1)$, are also earmarked as capital for the business. In addition, \bar{I} represents the net profit from the business investment only accrued in the migrant's consumption function in the second period with the assumption of return migration.

Hence, maximizing the migrant's utility subject to constraints, Barrera et al. (2023) derive the optimal level of remittances and investment. The important implication of the model is that $\frac{\partial \theta^*}{\partial R_N} > \frac{\partial \theta^*}{\partial R_M}$, iff $\frac{\mu}{\mu + 1} > \alpha$ and $-\frac{U''(C_m^2)}{U'(C_m^2)} I > \frac{1}{\theta}$, where θ denotes return on investment. The important result of the analysis is that the marginal return on investment for non-monetary remittances is greater than that for monetary remittances under the conditions about risks and return. This result leads to an interesting implication that explains the relative 'scarcity' of non-monetary remittances used for investment purposes. The scarcity of capital goods sent by migrants and their direct involvement in managing the business through knowledge transfer can potentially create investment opportunities in the receiving country, leading to higher marginal returns on investment. When goods sent by migrants are scarce in the receiving country, they can become valuable resources that can be used to start or expand a business or to invest in other income-generating activities. Thus, the findings highlight the importance of a balanced approach to promoting entrepreneurship development, where monetary and non-monetary remittances are considered. This finding means that a certain level of monetary support is necessary to establish a foundation for entrepreneurship and that non-monetary support can enhance and amplify the im-

pact of monetary support.

Given these insights, a paradigm shift is imperative, transcending the myopic focus on the monetary aspect of remittances. While monetary transfers are susceptible to being easily depleted and consumed, tangible assets and intangible forms of support carry inherent and sustained value. This distinction underscores the transformative potential of remittances, not merely as transient financial injections but as enduring contributors to entrepreneurship development.

2.2 Hypotheses Development

Based on the theoretical findings highlighted in the preceding subsection, this study posits two central hypotheses:

H₁: Non-monetary remittances significantly affect the likelihood of entrepreneurship development.

The hypothesis suggests that these non-monetary resources are pivotal in encouraging and facilitating entrepreneurial activities. For instance, a migrant with specialized skills acquired abroad, such as advanced technical knowledge or expertise in a particular industry, can empower them or their family members to establish and manage businesses more effectively. Similarly, non-monetary remittances in the form of physical assets or equipment can reduce the financial burden of setting up a business, making entrepreneurship a more feasible option.

H₂: The combination of monetary and non-monetary forms of remittances significantly influences the probability of entrepreneurship development.

This hypothesis recognizes that entrepreneurship often requires capital (monetary) and knowledge or resources (non-monetary) for optimal outcomes. The idea is that monetary remittances provide the necessary financial foundation to start or expand businesses, while non-monetary resources enhance these ventures' quality, innovation, and risk management. Combining these two forms of remittances creates a more favorable environment for entrepreneurship development.

These hypotheses lay the foundation for the empirical analysis, which draws on primary data collected from the Filipino migrants in Japan to scrutinize the significance of non-monetary remittances in fostering entrepreneurship development.

2.3 Empirical Specification

This study's main objective is to investigate the significance of non-monetary and monetary remittances as a catalyst for entrepreneurship. Many prior studies examining the likelihood of entrepreneurship in migrant households have traditionally employed the Probit model, where an individual's entrepreneurial status is treated as an unknown dependent

variable (Devkota, 2016; Amuedo-Dorantes & Pozo, 2006; Kakhkharov, 2018). In this study, the key independent variables of interest are the forms of remittances, both monetary and non-monetary. However, to test the hypothesis that combining these two forms of remittances significantly influences the likelihood of entrepreneurship, an interaction term that represents the joint effect of these remittances is introduced.

In addition to the remittance variables, various demographic characteristics of the migrant are considered, such as age, average monthly income, marital status, highest educational attainment, and present occupation, which have been recognized in prior research (McCormick & Wahba, 2001; Mesnard, 2004; Reyes et al., 2013; McCoy et al., 2007; Osili, 2007; Kakhkharov, 2018). Additionally, the model incorporates the migrant's intention to return to the Philippines in the future as a control variable, recognizing the challenges often encountered by returning migrants in post-migration activities. This variable captures the migrants' decision-making process regarding the economic endeavors when they plan to pursue upon their return. In the theoretical model proposed in the theoretical paper (Barrera et al., 2023), the assumption of return migration in the second period underscores the migrant's inclination toward entrepreneurship to smoothen consumption between the two periods.

Furthermore, the model introduces the migrants' perception of the risk of potential business failure or losses. This variable holds significance in understanding how migrants make decisions in uncertain circumstances, a dimension often overlooked in prior studies. Thus, the study employs these additional variables and applies a Probit model to provide a more comprehensive and nuanced understanding of the interplay between remittances and entrepreneurship.

Overall, entrepreneurship is modeled as a function of monetary and non-monetary remittances, migrant's characteristics, return intention, and risk perception as follows:

$$\begin{aligned} \text{entrep}_i^* = & \beta_0 + \beta_1 mremit_i + \beta_2 nmremit_i + \beta_3 mremit_i * nmremit_i \\ & + \alpha X_i + \gamma return + \sigma risk + \varepsilon_i \end{aligned} \quad (2)$$

where

$$\text{entrep}_i = \begin{cases} 1, & \text{if } \text{entrep}_i^* > 0 \\ 0, & \text{otherwise.} \end{cases}$$

Entrep_i^* is the latent variable, and entrep_i is the observed variable. X_i is a vector of migrant characteristics that may affect the entrepreneurial decision; $mremit_i$ is the total remittances of the migrant in the last 12 months divided into three categories (1 if no remittance, 2 if less than 200,00 JPY, and 3 if more than 200,001 JPY); $nmremit_i$ is a dummy variable that equals 1 if the migrant sends non-monetary remittances and 0 otherwise; $return$ is a categorical variable that equals 3 if the migrant intends to return in the future,

Table 1. Descriptive statistics.

Variables	Description	Mean	Std. dev.	Min	Max
Dependent Variable					
Entrepreneurship	=1 if the migrant's household has business in the PH; =0 if otherwise	0.36	0.48	0	1
Independent Variables					
Non-monetary remittances	=1 if the migrant sends goods and shares knowledge and skills to household; =0 otherwise	0.66	0.48	0	1
Monetary remittances	=1 if the migrant does not send monetary remittances; =2 if migrant sends less than 200,000 JPY; =3 if migrant sends more than 200,001 JPY	1.88	0.67	1	3
Control Variables					
Age	=1 if 20-30 years old; =2 if 31-40 years old; =3 if 41-50 years old; =4 if 51-60 years old; =5 if 61 or over	2.16	1.01	1	5
Marital status	=1 if single; =2 if married; =3 if divorced; =4 if widowed; =5 if separated	1.71	0.75	1	5
University education	=1 if completed university education or higher; =0 if otherwise	0.604	0.490	0	1
Sex	=1 if female; 0=otherwise	0.625	0.485	0	1
Average monthly income	=1 if less than 200,000 JPY; =2 if 200,001 JPY-400,000 JPY; =3 if more than 400,001 JPY	1.40	0.62	1	3
Present occupation	=1 if unemployed/dependent/retired/student; =2 if skilled worker/technical intern; =3 if services/entertainer; =4 certified care worker; =5 self-employed/business; =6 skilled professional	3.121	1.90	1	6
Intention to return	=1 if without intention to return; =2 not yet decided; =3 with intention to return	2.26	0.73	1	3
Risk perception	=1 if migrant perceives that business investment in PH entails high risk; =0 if otherwise	0.44	0.50	0	1
N		323			

2 if the migrant is still undecided, and 3 if there is no intention to return; *risk* is a binary variable, taking the value of 1 if the migrant perceives that investing in a business involves high risk of possible losses and business failure and 0 otherwise; and the coefficient β_3 measures the impact of the combination of both forms of remittances to the likelihood of engaging in entrepreneurship.

Table 1 shows the summary statistics of the model. The first column shows the list of dependent and independent variables. Successive columns describe variables, mean, standard deviation, and minimum-maximum value. The survey data shows that a substantial proportion of respondents are married and aged 31 to 40. Moreover, most migrant respondents have attained a bachelor's degree and are presently employed in the manufacturing sector, with monthly earnings of less than 200,000 JPY.

While a significant number of respondents express an intention to return to the Philippines in the future, there is still a segment of individuals who remain undecided regarding their future. Additionally, nearly 44% of the migrant respondents perceive investing in a business as carrying a high risk of potential losses or business failure. This data offers valuable insights into the characteristics and attitudes of the surveyed migrant population, which can be crucial in understanding their entrepreneurial decision-making process dynamics.

3 Data and Sample Description

This section provides essential contextual information and outlines the data sources and methodologies used in this study. Understanding the background is crucial to appreciate the broader socio-economic landscape within which this research is situated.

3.1 Data Collection

Given the absence of a comprehensive list of the Filipino migrants in Japan, this study employs non-probability sampling techniques, specifically convenience and snowball sampling, to identify and recruit participants. A survey questionnaire is formulated and designed initially as a paper questionnaire but subsequently adapted into an electronic format using the Qualtrics platform. This electronic approach aims to streamline the survey process, enabling more data encoding efficiency and faster data transmission than traditional paper questionnaires.

The survey, composed of 39 questions, is divided into three sections: Personal Information of the Respondent, Remittance Behavior, and Business Ownership. The first section collects essential details about their lives before and during their time in Japan, exploring their prior occupations, professional backgrounds, the duration of their stay in Japan, their present occupation, the type of visa they hold, and their intentions regarding the future. The following part delves into remittance behavior, examining both monetary and non-monetary forms, which includes questions about the amount and frequency of remittances, motivations behind these transfers, the mode of transfer, and the intended purposes of remittances. It also explores non-monetary remittances, focusing on the types of goods sent, the mode of sending, and the purpose of these goods. Finally, the last section focuses on the migrants' business activities in the Philippines. It explores various dimensions of entrepreneurial activity, including the specific type of businesses, the sources of initial capital, the extent of their participation in business decision-making, and the applicability of skills acquired in Japan to their entrepreneurial activities. For respondents without current businesses, the survey solicits their intentions regarding potential future entrepreneurial en-

Table 2. Regional distribution of Filipino migrants in Japan vis-à-vis survey respondents.

Region	Population*	%	Sample	%
Hokkaido	1,991	0.73%	4	1.24%
Tohoku	7,782	2.87%	6	1.86%
Kanto	120,063	44.28%	86	26.63%
Chubu	81,183	29.94%	116	35.91%
Kansai	26,749	9.86%	81	25.08%
Chugoku	12,407	4.58%	13	4.02%
Shikoku	5,090	1.88%	3	0.93%
Kyushu and Okinawa	15,901	5.86%	14	4.33%
TOTAL	271,166	100%	323	100%

* Source: Ministry of Justice-Statistics on Foreign Residents Registered (2018).

deavors and the perceived obstacles and challenges that might impede them from making business investments in the Philippines.

3.2 Sample Description

This study employs micro-level primary data collected from the Filipino migrants residing in Japan. A total of 323 respondents participated in the survey, and their regional distribution is shown in Table 2. Although the study initially began with a snowball sampling method, the distribution of respondents indicates that it closely resembles random sampling, with most participants hailing from the Chubu, Kanto, and Kansai regions.

3.3.1 Monetary Remittances

In examining the monetary remittance behavior of the migrants, Table 3 reveals a predominant pattern: a majority (71.83%) of respondents send remittances monthly. This regularity in remittance activity is primarily driven by their desire to provide essential support and fulfill their financial obligations to their families residing in their home country. Regarding the preferred methods of sending remittances, it is evident that most respondents (38.38%) favor utilizing money transfer operators like Western Union, MoneyGram, and similar services. On the other hand, digital banking platforms or applications (17.96%) find limited usage among this demographic.

Lastly, the recipients of these remittances are predominantly immediate family members, such as parents (37.58%) and siblings (27.64%). These findings underscore the strong familial ties and the sense of responsibility these migrants hold towards their closest kin. Regarding the allocation of the remittances, they predominantly serve essential purposes. The funds are primarily directed towards meeting daily consumption needs (29.04%), contributing to expenses such as rent and other household utilities (15.20%), and ensuring access to education for family members (12.09%). This pattern underscores the migrants' commitment to improving their families' well-being and quality of life back home, extending beyond mere financial support.

Table 3. Migrant respondents' monetary remittance behavior.

Variable	n	%
Monetary remittance transfer		
Yes	232	71.83
No	91	28.17
Reasons for sending remittances*		
To benefit/help family and friends	192	63.58
For a sense of duty/fulfill obligation	61	20.20
To invest in a business	28	9.27
For my retirement/resettlement in the country	21	6.95
Recipient*		
Spouse	22	6.83
Son/Daughter	16	4.97
Father/Mother	121	37.58
Brother/Sister	89	27.64
Relatives	43	13.35
Non-relatives	19	5.90
Others, please specify (own account)	12	3.73
Mode of transfer*		
Hand carried by a relative or other individual	4	1.24
Through bank account	45	13.93
Through money transfer operator	124	38.39
Digital banking	58	17.96
Others, please specify	1	0.31
Frequency		
Monthly (at least once a month)	173	81.73
2-3 times a year	15	4.64
4-6 times a year	21	6.5
Once a year	1	0.31
Only on special occasions or emergencies	22	6.19
Household use of remittances*		
Consumption	149	29.04
Education	62	12.09
Rent/household utilities	78	15.20
Agricultural purposes	14	2.73
Start a business	11	2.14
Purchase of physical assets	31	6.04
Pay off debts	28	5.46
Health	47	9.16
Savings	43	8.38
Emergencies	36	7.02
Others, please specify	14	2.73

*Multiple responses

Source: Author's calculation based on field survey data (2023).

Table 4. Migrant respondents' non-monetary remittance behavior.

Variable	n	%
Sending non-monetary goods*		
Food/Medicine/Clothing/Shoes/Toys	169	56.71
Mobile phone/Tablet/Laptop/Computer/Accessories	83	27.85
Jewelry	27	9.06
Television/other electronics/appliances	12	4.03
Vehicle	4	1.34
Agricultural machineries	2	0.67
Automobile parts	1	0.34
Mode of sending*		
Hand carried by a relative or other individual	45	26.32
Through courier services (FedEx, DHL, UPS, etc.)	11	6.43
Through Japan Post (International Parcel Delivery)	11	6.43
'Balikbayan Box'	102	59.65
Others, please specify	2	1.17
Reasons for sending goods*		
For household consumption/use	172	86.00
To be used as capital to start/improve a business	10	5.00
Donation to community/Gift	18	9.00

*Multiple responses

Source: Author's calculation based on field survey data (2023).

3.3.2 Non-Monetary Remittances

Regarding non-monetary remittances, Table 4 demonstrates that a significant portion of respondents engages in sending various consumption goods, including items such as food, medicine, and clothing (56.71%), along with electronic gadgets such as mobile phones, tablets, and laptops (27.81%). However, the data suggests that some respondents have attempted to send bulk items, such as vehicles and agricultural machinery. This trend suggests a clear distinction between the types of non-monetary remittances, with a strong focus on goods catering to immediate consumption and technological needs. At the same time, larger assets like vehicles and agricultural machinery are less commonly shared.

The primary motivation behind sending these goods is consumption (86%), emphasizing the inclination to provide necessities and items that contribute to the well-being and comfort of their families back home. Notably, the preferred mode of sending these non-monetary remittances is through 'balikbayan boxes' (59.65%), reflecting the cultural significance of this traditional practice within the migrant community.

3.3.3 Entrepreneurial Activity

Table 5 shows that while only a small portion of the respondents (35.91%) currently operate businesses back in their home country, a noteworthy revelation from the survey indicates that the majority (50.24%) of those without businesses expressed their keen intent to establish one upon their return. It is evident that a strong entrepreneurial spirit

Table 5. Entrepreneurial activity of migrant respondents.

Variable	n	%
Business ownership		
Yes	116	35.91
No	207	64.09
Intention to start a business		
Yes	104	50.24
No	26	12.56
Maybe/Not yet decided	77	37.20
Type of entrepreneurial activity		
Wholesale and retail trade (store operation)	57	49.14
Crop farming and gardening	19	16.38
Other entrepreneurial activities not elsewhere classified	17	14.66
Transportation services (jeepney/tricycle operation)	6	5.17
Manufacturing	5	4.31
Construction/Real Estate/Apartment Rental	5	4.31
Recreational and personal services	3	2.59
Livestock and poultry raising	2	1.72
Repair of motor vehicles and motorcycle	2	1.72
Sources of initial capital		
Personal or household savings	90	54.88
Remittances	30	18.29
Borrowing	13	7.93
Loan from bank	14	8.54
Loan from MFOs	7	4.27
Grant	2	1.22
Others, please specify	8	4.88
Migrant's involvement in decision-making		
Yes	55	47.41
No	61	52.59
Migrant's transfer of skills and knowledge		
Extremely helpful	16	13.79
Very helpful	21	18.10
Somewhat helpful	32	27.59
Slightly helpful	13	11.21
Not at all helpful	34	29.31
Factors that hinder business investment		
I am too far away to manage the investments well	201	25.97
I don't have enough information about investment opportunities	166	21.45
High risk of possible losses/business failure	142	18.35
I can't find reliable investment partners	140	18.09
Limited investment opportunities with good financial returns that match my preferences	125	16.15

*Multiple responses

Source: Author's calculation based on field survey data (2023).

thrives among these individuals, even in the face of geographical separation. Regarding the specific types of businesses, many are involved in retail trade (49.14%), commonly recognized as small store operations within the Philippines. This finding shed light on the prevalence of micro-enterprises and their integral role in the local economic landscape.

Furthermore, it is notable that most of these business owners initially used their personal or household savings (54.88%) as the primary source of capital for their entrepreneurial ventures. This highlights the significant role of personal financial resources in facilitating the initiation of businesses within this demographic. Regarding the extent of their involvement in their businesses, half of the respondents (47.41%) actively provide advice and share their expertise in business operations. However, only a few perceive their skills as directly instrumental in their business's success, suggesting potential opportunities to further integrate their acquired skills and knowledge into their entrepreneurial endeavors.

Lastly, when considering the obstacles that hinder their investment activities in the Philippines, a common sentiment among migrant respondents is the challenge of managing their businesses effectively from a distance (25.87%). Additionally, a lack of trustworthy partners to oversee their businesses in their absence poses a notable concern (21.45%). These challenges underscore the need for robust systems and reliable networks to support and facilitate the remote management of businesses for these migrant entrepreneurs.

4 Estimation Results and Discussions

4.1 Independent Effects of Monetary and Non-monetary Remittances

Table 6 presents the results of migrant workers engaging in entrepreneurial activities, providing the estimated coefficients and robust standard errors. These results consider both forms of remittances independently and their relationship to the likelihood of engaging in entrepreneurial activities.

The study introduces five regression models: Model (1) examines the regression of both forms of remittances independently; Model (2) analyzes these variables in conjunction with migrant characteristics; Model (3) explores the regression of both forms of remittances with economic and risk profiles; Model (4) presents the results for the comprehensive model; and Model (5) incorporates the interaction between education and length of stay.

As anticipated, the influence of both forms of remittances on the likelihood of entrepreneurship is significant at 1%, but they operate in opposing directions. Non-monetary remittances appear to exert a positive influence on the likelihood of entrepreneurship from the perspective of the migrant. This result suggests that when migrants send non-monetary remittances, it contributes to their inclination toward entrepreneurial ventures, possibly by providing essential support or resources to their families back home, which, in turn, may

Table 6. Independent effects of monetary and non-monetary remittances on entrepreneurship.

<i>Independent Variables</i>	<i>Likelihood of engaging in entrepreneurship</i>				
	(1)	(2)	(3)	(4)	(5)
Non-monetary	1.177*** (0.189)	1.224*** (0.194)	1.229*** (0.199)	1.313*** (0.207)	1.321*** (0.209)
Monetary (<i>reference: no remittance</i>)					
less than 200,000JPY	-0.568*** (0.181)	-0.547*** (0.188)	-0.611*** (0.200)	-0.607*** (0.212)	-0.648*** (0.215)
more than 200,001JPY	-0.569*** (0.203)	-0.542*** (0.204)	-0.742*** (0.222)	-0.759*** (0.229)	-0.769*** (0.230)
Migrant Characteristics					
Age (<i>reference: 20-30 years old</i>)					
31-40 years old		-0.182 (0.208)		-0.257 (0.225)	-0.277 (0.225)
41-50 years old		-0.506* (0.283)		-0.640* (0.346)	-0.645* (0.343)
51-60 years old		-0.262 (0.318)		-0.263 (0.423)	-0.259 (0.434)
61 or over		-0.467 (0.474)		-0.554 (0.568)	-0.496 (0.587)
Marital status (<i>reference: single</i>)					
Married		0.254 (0.191)		0.209 (0.214)	0.217 (0.215)
Divorced		-0.450 (0.395)		-0.654 (0.469)	-0.736 (0.480)
Widowed		1.902** (0.949)		2.232** (0.883)	2.505*** (0.793)
Separated		1.283** (0.608)		1.297** (0.632)	1.271** (0.636)
Tertiary education (<i>completed = 1</i>)		-0.0981 (0.157)		-0.230 (0.213)	-0.0540 (0.244)
Gender (<i>female = 1</i>)		0.107 (0.172)		0.184 (0.191)	0.128 (0.195)
Economic and Risk Profile					
Average monthly income (<i>reference: <200,000 JPY</i>)					
200,001-400,000 JPY			0.00147 (0.206)	0.113 (0.231)	0.134 (0.236)
>400,001 JPY			0.410 (0.343)	0.637* (0.345)	0.765** (0.365)
Length of stay (<i>reference: <10 years</i>)					
11-15 years			-0.219 (0.300)	-0.254 (0.316)	0.432 (0.448)
>15 years			-0.101 (0.201)	-0.114 (0.340)	0.0380 (0.388)
Present Occupation (<i>reference: unemployed</i>)					
Skilled labor			0.411 (0.252)	0.410 (0.278)	0.482* (0.282)
Services/entertainer			0.180 (0.418)	0.129 (0.453)	0.126 (0.462)
Care worker			0.891** (0.388)	1.008** (0.428)	1.150*** (0.435)
Self-employed/own business			1.163** (0.490)	1.063** (0.487)	1.111** (0.489)
Skilled professional			0.567* (0.295)	0.493 (0.304)	0.536* (0.303)
Intention to return (<i>reference: not yet decided</i>)					
With intention to return			0.326* (0.176)	0.450** (0.199)	0.453** (0.197)
No intention to return			0.133 (0.260)	0.261 (0.272)	0.224 (0.274)
Risk			-0.109 (0.158)	-0.141 (0.169)	-0.119 (0.172)
Tertiary education*Length of stay (<i>reference: <10 years</i>)					
11-15 years					-1.300** (0.618)
more than 15 years					-0.269 (0.419)
Constant	-0.844*** (0.191)	-0.860*** (0.264)	-1.354*** (0.309)	-1.350*** (0.400)	-1.475*** (0.410)
Wald Chi2	45.90	60.17	61.79	82.29	87.16
Prob.>Chi2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.1259	0.1533	0.1647	0.2009	0.2114
Obs			323		

***Significant at 1%, **5%, and *10% level.

stimulate entrepreneurial activities. Thus, this result substantiates our hypothesis (H_1), demonstrating that non-monetary remittances notably impact the probability of fostering entrepreneurial development.

Conversely, for monetary remittances, the influence is inverse. While most empirical studies focus on the remittance-receiving households' negative propensity to engage in entrepreneurial activities (Arguelles, 2015; Amuedo-Dorantes & Pozo, 2006; Tabuga, 2007), the result derived from this study aligns with expectations when viewed from the migrant's perspective. From the migrant's viewpoint, refraining from sending monetary remittances places them in a more favorable financial position. This situation can be advantageous as it enables them to accumulate more savings abroad, which can serve as a readily available source of capital (Dustmann & Kirkchamp, 2002). This financial stability appears to make migrants more predisposed to entrepreneurship, as they have the necessary capital and resources at their disposal to embark on entrepreneurial ventures.

The results on migrant characteristics show that a migrant's age and marital status significantly influence the likelihood of entrepreneurship in all estimations. Migrants in the age bracket of 41–50 years exhibit a lower propensity to participate in entrepreneurial activities compared to the reference group aged 20–30 years old. This group may exhibit greater risk aversion, as they are less inclined to take the financial risks associated with starting a new business, favoring the stability of their current income. Additionally, individuals within this demographic might have established themselves in stable careers, perceiving their current employment as more secure. Lévesque and Minniti (2006) argue that earnings from employment are expected to rise with growing experience and seniority, diminishing the individual's motivation to dedicate time to initiating a new business. The prospect of entrepreneurship, with its inherent uncertainties and potential financial fluctuations, can be perceived as a risky endeavor that may jeopardize the well-being of the family unit. These factors collectively contribute to their lower participation in entrepreneurial activities.

Furthermore, the data indicates an intriguing trend regarding the marital status of the migrant population. Specifically, female individuals who are widowed or separated exhibit a notably higher inclination towards engaging in entrepreneurial endeavors compared to those who are currently single. Rathnayake et al. (2021) argue that widowed women not only experience emotional and personal problems but also cause significant social and economic changes in their lives such that they find it difficult to survive. They often have additional financial responsibilities, such as raising children or supporting extended family members. Entrepreneurship can provide them with a means of generating more flexible and adaptable income to their circumstances.

Interestingly, migrants' level of education does not impact the probability of starting a business in the study context. To overcome this estimated result, a variable that interacts

education with the length of time spent in Japan is introduced. The estimated coefficients of the interaction term is statistically significant at the 5% level, indicating that as the length of stay increases, the inclination toward entrepreneurship decreases for individuals with higher levels of education. That is, while better-educated migrants are not inherently less likely to start a business, the probability of engaging in entrepreneurship diminishes with an extended period spent abroad. This result contrasts with previous studies where tertiary education increases the likelihood of entrepreneurship (Devkota, 2016; Jiménez et al., 2015).

Regarding the migrants' economic characteristics, their average monthly income, present occupation, and intention to return home are statistically significant. Income positively impacts the likelihood of engaging in business, as presented in Models (4) and (5). Several studies have shown that higher income levels increase the probability of entrepreneurial activities (Nandamuri & Gowthami, 2013; Figueiredo & Brochado, 2015). Thus, while the theory of liquidity constraints assumes that one of the significant challenges of entrepreneurs is obtaining finance, migrants are assumed to possess the requisite capital to initiate a business, given their income levels in host countries.

Similarly, care workers, business owners, and highly skilled professionals among the Filipino migrant community in Japan are more inclined to engage in entrepreneurial endeavors when contrasted with those unemployed. Highly skilled migrants and care workers often possess advanced expertise and qualifications, making them attractive candidates for entrepreneurial success. As Figueiredo and Brochado (2015) argue, knowledge, competence, and perceived experience increase the likelihood of entrepreneurial activity. Their educational and professional backgrounds provide them with the confidence and expertise necessary to navigate the challenges of starting and managing a business, increasing their likelihood of entrepreneurial success. Migrants have gained knowledge and skills that are lacking in their country of origin; thus, working abroad provides them with a competitive advantage fundamental to the growth and success of their businesses (Nielsen & Riddle, 2010).

In addition, business owners in Japan already have experience in entrepreneurship, and this familiarity with the entrepreneurial landscape can make them more inclined to initiate new ventures. As Krasniqi and Williams (2018) state, migrants with business experience are more likely to have entrepreneurial intentions that can contribute to the homeland. They may identify market gaps or opportunities, leveraging their existing business acumen to start new enterprises.

Lastly, the intention to return to the Philippines is intricately linked to an increased probability of migrant respondents actively participating in entrepreneurial activities in all estimation models. Individuals with return intentions often perceive it as a unique opportunity to make entrepreneurial investments in their home country (Krasniqi & Williams,

2018). They regard entrepreneurship as a strategic avenue for harnessing the savings and resources they have accrued during their stay in Japan. This mindset of viewing return as an avenue for financial reinvestment and resource utilization is pivotal in fostering entrepreneurial initiatives among these migrants.

4.2 Complementary Effects of Monetary and Non-monetary Remittances

Table 7 reports the estimation results when the interaction term of monetary and non-monetary remittances is introduced. This interaction term proposes the hypothesis that the simultaneous consideration of both forms of remittances amplifies the probability of engaging in entrepreneurial activities. Rather than viewing them independently, the interaction term posits that the combined influence of both forms of remittances creates a more pronounced impact on the likelihood of migrants participating in entrepreneurial ventures.

Results indicate that when control variables are incorporated into the model, the joint utilization of both remittance forms exhibits a noteworthy influence on the likelihood of entrepreneurship, especially at higher levels of monetary remittances at 10% and 5% levels shown in Models (4) and (5), respectively. Integrating control variables into the analysis isolates and accounts for external factors that might confound the relationship between remittances and entrepreneurship. By doing so, we are better equipped to discern the unique impact of the combined remittance types. The finding that this combined impact becomes more pronounced when non-monetary remittances are substantial suggests a dynamic interaction between these forms of support.

However, as pointed out in the study of Kakhkharov (2018), the interpretation of binary outcome models becomes intricate when incorporating interaction terms, where the coefficients of interaction terms may not accurately represent the marginal effects of the interaction between two variables. Hoetker (2007) recommends using graphical presentations for a more suitable illustration of the interaction effect. Figure 1 presents the impact of monetary and non-monetary remittances together for different levels of monetary remittances at mean values of each control variable included in Model (5) of Table 7.

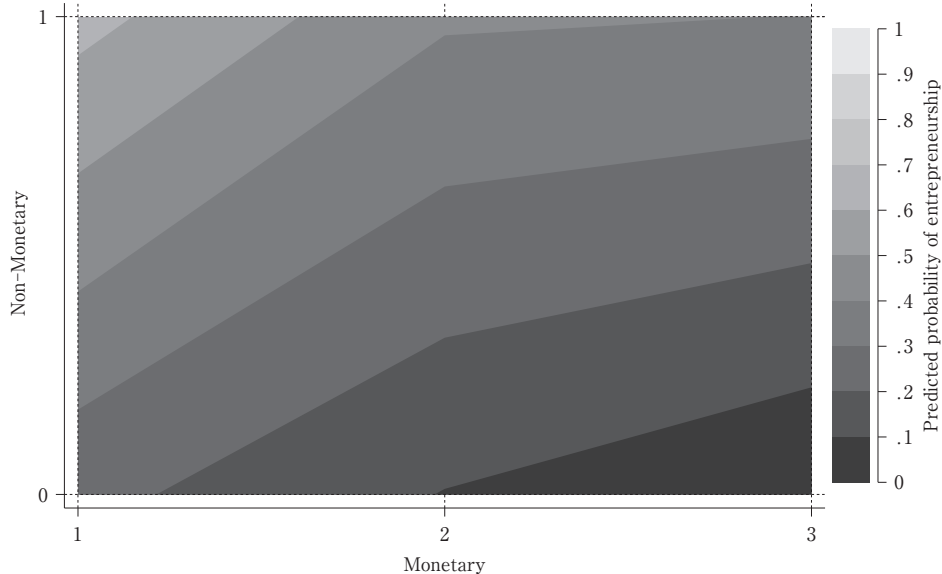
Figure 1 shows that, at lower levels of monetary remittances, non-monetary remittances emerge as significant catalysts for initiating entrepreneurial activities. Specifically, when received as non-monetary remittances, physical capital goods serve as valuable assets that can be directly sold in the home country. This implies that recipient households can engage in business activities without the necessity of having substantial initial capital. In essence, the infusion of tangible assets in the form of physical capital goods not only jump-starts entrepreneurial endeavors but also circumvents the household's traditional requirement of upfront financial investment. This dynamic underscores the transformative potential of non-monetary remittances, particularly in facilitating entrepreneurship where financial barriers might otherwise impede the initiation of economic activities.

Table 7. Complementary effects of monetary and non-monetary remittances on entrepreneurship.

<i>Independent Variables</i>	<i>Likelihood of engaging in entrepreneurship</i>				
	(1)	(2)	(3)	(4)	(5)
Non-monetary	1.112*** (0.295)	1.062*** (0.303)	1.202*** (0.301)	1.172*** (0.311)	1.225*** (0.314)
Monetary (reference: no remittance)					
less than 200,000 JPY	-0.627* (0.355)	-0.681* (0.373)	-0.592 (0.371)	-0.679* (0.398)	-0.643 (0.396)
1.5					
more than 200,001 JPY	-0.735 (0.551)	-1.187*** (0.420)	-0.952* (0.550)	-1.608*** (0.476)	-1.728*** (0.473)
Non-monetary * Monetary (<200,000 JPY)	0.0826 (0.413)	0.190 (0.433)	-0.0209 (0.428)	0.115 (0.455)	0.0122 (0.462)
Non-monetary * Monetary (>200,001 JPY)	0.199 (0.595)	0.742 (0.487)	0.239 (0.585)	0.957* (0.536)	1.056** (0.533)
Migrant Characteristics					
Age (reference: 20-30 years old)					
31-40 years old		-0.200 (0.211)		-0.276 (0.228)	-0.297 (0.228)
41-50 years old		-0.536* (0.289)		-0.689* (0.357)	-0.696* (0.356)
51-60 years old		-0.274 (0.318)		-0.290 (0.427)	-0.291 (0.438)
61 or over		-0.444 (0.490)		-0.495 (0.581)	-0.433 (0.600)
Marital status (reference: single)					
Married		0.277 (0.194)		0.236 (0.216)	0.251 (0.218)
Divorced		-0.441 (0.397)		-0.664 (0.469)	-0.745 (0.482)
Widowed		2.220** (1.068)		2.665*** (1.030)	3.008*** (0.946)
Separated		1.306** (0.612)		1.322** (0.635)	1.299** (0.646)
Tertiary education (completed = 1)		-0.109 (0.157)		-0.247 (0.212)	-0.0719 (0.245)
Gender (female = 1)		0.0979 (0.173)		0.172 (0.192)	0.118 (0.196)
Economic and Risk Profile					
Average monthly income (reference: <200,000 JPY)					
200,001-400,000 JPY			0.00339 (0.206)	0.137 (0.233)	0.165 (0.239)
>400,001 JPY			0.423 (0.341)	0.672* (0.347)	0.814** (0.370)
Length of stay (reference: <10 years)					
11-15 years			-0.224 (0.301)	-0.284 (0.321)	0.422 (0.448)
>15 years			-0.0949 (0.202)	-0.0972 (0.344)	0.0372 (0.388)
Present Occupation (reference: unemployed)					
Skilled labor/Factory worker			0.411 (0.254)	0.394 (0.278)	0.473* (0.285)
Services/entertainer			0.180 (0.424)	0.0908 (0.464)	0.105 (0.472)
Care worker			0.893** (0.387)	1.059** (0.430)	1.204*** (0.437)
Self-employed/own business			1.174** (0.493)	1.090** (0.498)	1.154** (0.502)
Highly skilled professional			0.566* (0.294)	0.462 (0.302)	0.512* (0.303)
Intention to return (reference: not yet decided)					
With intention to return			0.322* (0.174)	0.442** (0.197)	0.450** (0.195)
Without intention to return			0.129 (0.260)	0.259 (0.274)	0.222 (0.276)
Risk			-0.107 (0.157)	-0.130 (0.169)	-0.107 (0.172)
Tertiary education*Length of stay (reference: <10 years)					
11-15 years					-1.368** (0.631)
more than 15 years					-0.253 (0.425)
Constant	-0.799*** (0.246)	-0.739** (0.306)	-1.336*** (0.355)	-1.236*** (0.444)	-1.403*** (0.462)
Wald Chi2	44.24	70.71	63.10	93.31	99.98
Prob. > Chi2	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.1262	0.1560	0.1652	0.2046	0.2160
Obs			323		

***Significant at 1%, **5%, and *10% level.

Figure 1. Interaction effects of monetary and non-monetary remittances.



Note: Non-monetary remittances=1 if the migrant sends goods and shares knowledge and skills with the household; =0 if otherwise; and Monetary remittances=1 if the migrant does not send monetary remittances; =2 if the migrant sends less than 200,000 JPY; =3 if migrant sends more than 200,001 JPY.

Furthermore, at lower levels of non-monetary remittances, the graph indicates a diminished likelihood of initiating a business even when receiving monetary remittances across all levels. This suggests that households predominantly allocate monetary remittances toward daily consumption and subsistence needs in the absence of non-monetary support.

The observed pattern underscores a critical point: Without the complementary assistance provided by non-monetary remittances, the primary focus of households is on meeting immediate necessities rather than investing in entrepreneurial endeavors. The limited capacity to allocate monetary remittances toward business initiation implies prioritizing essential daily requirements, reflecting the fundamental role that non-monetary support plays in creating the foundation for economic ventures.

This insight deepens our understanding of the interplay between different forms of remittances. Non-monetary support, such as tangible assets or knowledge transfer, may act as a catalyst, enabling households to move beyond immediate consumption needs and embark on entrepreneurial activities. On the other hand, the absence of this non-monetary foundation appears to constrain the allocation of monetary remittances toward business ventures, relegating these financial inflows primarily to the immediate and essential aspects of daily subsistence.

Consequently, understanding the balance between non-monetary and monetary remittances becomes imperative for devising comprehensive strategies that empower households to meet their immediate needs and harness the potential for sustainable economic development through entrepreneurial endeavors. That is, as both monetary and non-monetary re-

mittances increase to a certain point, there appears to be a synergistic effect. This finding suggests that a balanced combination of financial resources and non-monetary assets creates a more conducive environment for households to venture into entrepreneurship. The financial backing from monetary remittances, when complemented by non-monetary support, empowers households not only to meet immediate needs but also to invest in sustainable and potentially transformative business initiatives.

Thus, we have shown that by acknowledging the pivotal role of non-monetary remittances, policymakers and stakeholders can shape strategies and interventions that recognize the multifaceted nature of migrant support. This approach promotes entrepreneurship development by harnessing the strengths of both non-monetary and monetary remittances, ultimately creating a more comprehensive and conducive environment for entrepreneurial success within migrant communities.

To harness the significant potential of non-monetary remittances, a conducive policy environment must be established that encourages and facilitates the transfer of physical capital goods valuable for productive economic activities. One potential policy involves exploring the idea of implementing tariff-free incentives for non-monetary remittances, particularly in the form of essential physical capital goods like agricultural machinery. This policy aims to facilitate the transfer of expertise and resources from migrants to rural communities, boosting productivity and rural development. By creating an enabling policy environment that streamlines customs procedures and provides support, migrant-sending countries can leverage these non-monetary remittances to empower local entrepreneurs and farmers while fostering a mutually beneficial relationship between migrants and the country's economic development.

However, certain limitations warrant careful consideration. First, the challenge arises from the inherent disparity in measuring monetary and non-monetary remittances. While monetary contributions are quantifiable in currency values, the lack of standardized valuation for non-monetary remittances hinders a direct and accurate comparison of their respective impacts. This limitation underscores the complexity of assessing and interpreting the true extent of the contributions from each form of remittance. Furthermore, the study acknowledges that the survey questionnaire, while comprehensive in capturing monetary aspects, needs to provide detailed information on the valuation of non-monetary contributions. This gap points to the need for more sophisticated survey instruments to understand the nuanced value of non-monetary remittances. Future research should also consider incorporating diverse methodologies, such as focus group discussions and key informant interviews, to enhance result reliability through triangulation.

5 Conclusions

In the context of the Filipino migrant community in Japan, this study explored the complex relationship between migration, remittances, and entrepreneurship utilizing micro-level survey data. Leveraging the substantial diaspora and the distinct proximity between the Philippines and Japan, this research aimed to understand the dynamics of remittances, with a particular emphasis on their non-monetary facets, and to discern their profound impact on entrepreneurial development.

This study was grounded in a comprehensive theoretical framework emphasizing the varying aspects of remittances, specifically focusing on non-monetary forms. It was guided by two key hypotheses: first, that non-monetary remittances significantly influence entrepreneurship, and second, that a combination of monetary and non-monetary remittances has a significant impact on entrepreneurship. These hypotheses sought to understand how diverse resources, both financial and non-financial, impact the entrepreneurial pursuits of migrants.

Significantly, our study highlights the compelling evidence that non-monetary remittances, encapsulating skills, knowledge, and tangible assets, exert a discernibly favorable impact on the inclination of entrepreneurial engagement within the Filipino migrant community in Japan. Migrants who channel non-monetary remittances manifest a higher proclivity toward entrepreneurial activities. Essentially, providing these tangible and intangible assets boosts entrepreneurial activities and eliminates the household's traditional need for upfront financial investments. This evidence underscores the transformative potential of non-monetary remittances, particularly in facilitating entrepreneurship where financial barriers might otherwise impede the initiation of economic activities.

Of particular importance, our findings show that when monetary and non-monetary remittances are combined, they exhibit a synergistic, positive influence on entrepreneurship. This interaction highlights the complementary nature of these two forms of support in bolstering entrepreneurial development. The contrast between the positive influence of non-monetary remittances and the negative impact of monetary remittances underscores the critical importance of including non-monetary resources in the realm of entrepreneurship development. This juxtaposition highlights that non-monetary remittances significantly matter in fostering entrepreneurial activities.

Notes

- 1) This study is part of the author's ongoing dissertation research at Ritsumeikan University, Japan.

- 2) Refer to Barrera et al. (2023) for the comprehensive explanation of the model and proofs of propositions.
- 3) Refer to Appendix A.

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Appendix A: Questionnaire

A.1 Online Questionnaire

Can be accessed at: bit.ly/remit-survey

A.2 Paper Questionnaire

SURVEY ON THE REMITTANCE AND INVESTMENT BEHAVIOR OF FILIPINO MIGRANTS IN JAPAN

Dear Participant,

I am Mishael Joy Barrera, a PhD in Economics student at Ritsumeikan University, Shiga, Japan. Currently, I am working on my dissertation titled "Integrating Monetary and Non-monetary Remittances for Entrepreneurship Development in the Philippines," which focuses on the remittance and investment behaviors of Filipino migrants in Japan, particularly on the importance of non-monetary forms of remittances for entrepreneurship development. This survey aims to gather valuable insights and data that will contribute to a better understanding of this crucial economic phenomenon. This survey is entirely voluntary, and no incentives will be provided for your involvement. You can stop at any time, for any reason. I assure you that all responses will remain completely anonymous and confidential. Information from this study will contribute to a better understanding of the remittance and investment behaviors of Filipino migrants in Japan and help inform policies and strategies that could positively impact our community. I anticipate that your participation in this survey presents no greater risk. The estimated completion time for answering the survey is 5-6 minutes.

If you have any questions or concerns, please email gr0550sk@ed.ritsumei.ac.jp.

Thank you for taking the time to contribute to this important academic endeavor. Please proceed if you have read the above information and consent to participate in the study.

A12	How long have you stayed/lived in Japan ?	1 less than 5 years 2 6 to 10 years 3 11 to 15 years 4 16 to 20 years 5 more than 20 years
A13	Do you intend to return/move back to the Philippines, to live there permanently, at some or at any time in the future ?	1 Yes 2 No [Skip to B1] 3 Not yet decided [Skip to B1]
A14	For what reasons will make you return to the Philippines ?	1 End of employment contract 2 Visa expiration 3 Retirement 4 Emergency situations/health condition 5 Others, please specify

B. Remittances

B1	Have you sent cash remittances in the last 12 months ?	1 Yes 2 No, [Skip to B9]
B2	What is the primary reason for sending money to your family back in the Philippines ? (<i>Please encircle all that applies</i>)	1 To benefit/help family and friends 2 For a sense of duty/fulfill obligation/repay debt 3 To invest in a business 4 For my retirement/resettlement in the country 5 Others, please specify
B3	To whom did you send the money the last time ? (<i>Please encircle all that applies</i>)	1 Spouse 2 Son/Daughter 3 Father/Mother 4 Brother/Sister 5 Relatives 6 Non-relatives 7 Others, please specify
B4	What is the most frequent mode of transfer you used in the last 12 months ?	1 Hand carried by a relative or other individual 2 Through bank account (bank transfer) 3 Through money transfer operator (Western Union, MoneyGram, etc.) 4 Digital banking (mobile application/banking, internet banking, etc.) 5 Others, please specify
B5	Why do you use this mode to send money ? (<i>Please encircle all that applies</i>)	1 It is cheaper 2 It is fast 3 It is easy to use/convenient 4 It is secure/reliable 5 It is close to my home 6 It is easily accessible to the people I send money to 7 Others, please specify
B6	How often do you send money to the Philippines ?	1 Monthly (at least once a month) 2 2-3 times a year 3 4-6 times a year 4 Once a year 5 Only on special occasions or emergencies 6 Others, please specify

B7	Approximately, how much have you sent in TOTAL over the past 12 months?	1 Less than 100,000 JPY 2 100,001-200,000 JPY 3 200,001-300,000 JPY 4 300,001-400,000 JPY 5 More than 400,001 JPY		
B8	How does your family back in the Philippines regularly use the remittances sent? <i>(Please encircle all that applies)</i>	1 Consumption 2 Education 3 Rent/household utilities 4 Agricultural purposes 5 Start a business (non-agricultural)/entrepreneurial activity 6 Purchase of land, house, vehicles, and other physical assets 7 Pay off debts 8 Health (hospital visits, medicine, etc.) 9 Savings 10 Emergencies (illness, accident, natural disasters) 11 Others, please specify		
B9	Aside from cash, have you sent the following items in the last 12 months? <i>(Please check the appropriate box/es)</i> *Note: If you answered 'NO' in ALL items listed, skip to C1.	Items	YES	NO
		Food/Medicine/Clothing/Shoes/toys		
		Mobile phone/Tablet/Laptop/Computer/accessories		
		Television/other electronics/appliances		
		Vehicle		
		Jewelry		
		Agricultural machineries		
B10	What are the reasons for sending goods to the Philippines? <i>(Please encircle all that applies)</i>	1 For household consumption/use 2 To be used as capital to start/improve a business 3 Donation to community 4 Others, please specify		
B11	In the last 12 months, how did you send goods to the Philippines? <i>(Please encircle all that applies)</i>	1 Hand carried by a relative or other individual 2 Through courier services (FedEx, DHL, UPS, etc.) 3 Through Japan Post (International Parcel Delivery) 4 Air Cargo/Sea Cargo 5 'Balikbayan Box' 6 Others, please specify		
B12	Why did you choose this mode to send the goods to the Philippines? <i>(Please encircle all that applies)</i>	1 It is cheaper 2 It is fast 3 It is easy to use/convenient 4 It is secure/reliable 5 It is close to my home 6 It is easily accessible to the people I send goods to 7 Others, please specify		

C. Investment

C1	Is your family in the Philippines currently engaged in any business or self-employment activity ?	1 Yes		
		2 No [Skip to C3]		
C2	Did the business exist before you left the country ?	1 Yes		
		2 No		
C3	Do you intend to start a business while you are still in Japan or even after you come back to the Philippines ?	1 Yes		
		2 No		
		3 Maybe/Not yet decided		
		[Skip to C12]		
C4	What is the type of entrepreneurial activity/ business that your household is currently engaged in ?	1 Crop farming and gardening		
		2 Livestock and poultry raising		
		3 Wholesale and retail trade		
		4 Repair of motor vehicles and motorcycles		
		5 Manufacturing		
		6 Recreational and personal services		
		7 Transportation and communication services		
		8 Construction		
		9 Other entrepreneurial activities not elsewhere classified, please specify		
C5	How many people are employed in the business ?			
C6	Is the business registered with the local government ?	1 Yes		
		2 No		
C7	How satisfied are you with the performance of the business in the Philippines ?	1 Very satisfied		
		2 Satisfied		
		3 Neutral		
		4 Dissatisfied		
		5 Very dissatisfied		
C8	What were the sources of initial capital for this business ? (<i>Please encircle all that applies</i>)	1 Personal or household savings		
		2 Remittances		
		3 Borrowing from family members/relatives/friends		
		4 Loan from bank or lending company		
		5 Loan from microfinance organization		
		6 Grant from government/NGO		
		7 Others, please specify		
C9	Did your family use the goods sent as capital to start the business or improve the business ? (<i>Please check the appropriate box/es</i>)	Items	YES	NO
		Food/Medicine/Clothing/Shoes		
		Mobile phone/Tablet/Laptop/Computer		
		Television/other electronics/appliances		
		Vehicle		

		Jewelry		
		Automobile parts		
		Agricultural machineries		
C10	Do you take part in making major decisions for the business or provide advice in managing the business ?	1 Yes 2 No		
C11	To what extent are these skills helpful to your business venture in the Philippines ?	1 Very helpful 2 Helpful 3 Somewhat helpful 4 Not helpful at all		
C12	What factors would prevent you from investing in the Philippines? (<i>Please encircle all that applies</i>)	1 I don't have enough information about investment opportunities 2 I am too far away to manage the investments well 3 I can't find reliable investment partners 4 Limited investment opportunities with good financial returns that match my preferences 5 High risk of possible losses/business failure 6 All of the above 7 None of the above		

****END OF QUESTIONNAIRE****