

Article



## **Conditions under Which Rural-to-Urban Migration Enhances Social and Economic Sustainability of Home Communities: A Case Study in Vietnam**

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Abstract: Rural-to-urban migration contributes to the economic and social sustainability of sending communities. The aim of this study was to obtain quantitative evidence supporting the theoretical argument that (i) rural-to-urban migrants contribute to the sustainability of their sending communities, and (ii) once they return, they are likely to behave prosocially as return migrants because they feel a responsibility to apply the knowledge and skills they acquired during migration for the sake of others in their sending communities. A cross-sectional survey was conducted in Hanoi, Vietnam, a typical destination city of domestic rural-to-urban migrants. Three hundred rural-tourban migrants participated in this survey. The ultivariate regression analysis results indicate that rural-to-urban migrants contribute more to the social and economic sustainability of their rural home communities when they have spent longer in their migration destinations and have accumulated skills and knowledge because their experiences foster a sense of responsibility toward their home communities. This is the first quantitative investigation of the relationship between rural-to-urban migrants' characteristics representing their accumulation of skills and knowledge in their destination cities and their supportive attitudes toward their home communities. This investigation seemed important because it was expected to clarify the conditions under which rural-to-urban migration stimulates migrants' sense of responsibility and thus their contributions to the social and economic sustainability of their sending communities.

**Keywords:** rural-to-urban migration; sustainability of rural areas; sense of responsibility; supportive attitudes

## 1. Introduction

Migrants from rural (especially in developing countries) to urban areas have attracted a great deal of attention in sustainability research [1–5], partly because such migrants are considered to have strong impacts on the economic and social sustainability of rural areas. Sustainability is a complex concept having neither a unified definition nor a common metric to quantify it [6,7]. According to Allen [8], sustainable development is development that improves the quality of human life and that satisfies everlasting human needs. Other economists and environmental scientists have defined sustainability in several ways, for instance, as a requirement related to maintaining or increasing real incomes in the future when using resources today; essential conditions for approaching the resource base equally for each generation; or a model of social transformation and the structural economy to maximize present societal and economic benefits without imperiling similar benefits in the future [9–14]. Given sustainability's polymorphic nature, describing the precise definition used here is important. With the 1987 Brundtland Report [15] by the United Nation World Commission on Environment and Development in mind, we define economic and social sustainability as the state in which present-day economic and human relational needs are secured without compromising the ability of future generations to meet their own



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**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). needs. All definitions note that sustainable development improves current human life without reducing its future quality. Thus, migration impacts rural areas' socioeconomic sustainability when its influences are not only current but ongoing. Through urban-to-rural flows (e.g., remittances, return migration), migrants contribute to present rural development through remittance investment (e.g., improving household welfare, educating children, donating to improve infrastructure, [16–20]). Additionally, returning migrants' knowledge and skills accumulated during the migration period can be utilized (e.g., to transform rural areas by improving the contractural relationship between rural areas and businesses and thus creating solid social capital, [21]) to contribute to the home community's development. When migrants' behavior reflects their notice of both society's and the future generation's benefit, their current investments and behaviors can influence future rural development [2,19–22].

Despite these possibilities, migration may negatively impact both sending and receiving areas. For example, previous migration studies have mentioned social, economic, demographic, and environmental problems caused by rural-to-urban drift. The most common was depopulation, including the reduction of the physical labor force and the loss of educated people [2,23–28]. Migration has also led to land management problems in sending areas [29,30]. The departure of parents has negatively impacted family members left-behind, especially children who experienced negative emotions (e.g., unhappiness) and a lack of study supervision [31,32]. At the same time, migration's positive effects have been argued to enhance rural areas' development. Urban-to-rural flows, including remittances and return migration, are driven by rural-to-urban emigration [33] and enhance rural areas' development [33-47]. In the economic literature, in fact, migrant remittances and savings are consistently considered not only a way of ensuring household livelihoods but also a source of crucial capital contributing to sending communities' sustainable development [5,38]. Such contributions include, for example, promoting the establishment of onand off-farm businesses, increasing agriculture output value, and diversifying agricultural systems [33–38]. In some cases, remittances support home communities in recovering from past disasters and in managing and/or escaping future disaster risks by investing in adaptation strategies (e.g., improvement of infrastructure) [2,19,20]. Importantly, return migration also provides an opportunity to apply knowledge and experience acquired in urban areas to sending areas' labor markets ([39,40]; as cited by [41]). As earlier researchers have argued, return migrants contribute to rural areas' development by introducing novel concepts, including social norms [42–44], political attitudes [45–47], entrepreneurial spirit [34,48–50], and beliefs about investment in human capital [44,51].

Among a number of pathways through which rural-to-urban migration contributes to the economic and social sustainability of sending communities, not fully investigated is how return migrants' contributions to the enhancement of the social capital (i.e., features of social organization, such as individual or household networks and the associated norms and values that create externalities for the community as a whole; [52]) of rural communities and to rural development [53–55]. Le and Nakagawa [22] recently observed that return migrants behaved more prosocially than did individuals who had never out-migrated in a Vietnamese rural community and thus contributed to the social capital, speculating that this observation might be theoretically explained in terms of sense of responsibility. Specifically, they generalized the qualitative findings of earlier studies on highly skilled migrants (e.g., health workers and international students; [56–62]) and argued that outmigrants in general who acquired skills and knowledge in their destination communities might feel a sense of responsibility to contribute to their sending communities.

If this is the case, out-migration must foster a willingness to contribute to the sustainability of sending communities and thus encourage migrants who return to behave prosocially toward others. However, most research that referred to a sense of responsibility were qualitative investigations of out-migrants' decisions to return to the sending communities, but no earlier researchers have ever quantitatively investigated whether and under what conditions this theoretical argument holds. With this background, we conducted the present study as a cross-sectional survey in Hanoi, Vietnam, a typical destination city of domestic rural-to-urban migrants, aiming to obtain quantitative evidence supporting the theoretical argument that (i) rural-to-urban migrants become willing to contribute to the sustainability of their sending communities, and (ii) once they return, are likely to behave prosocially as return migrants because they have acquired knowledge and skills during migration and they feel responsible to apply them for the sake of others in the sending communities. While it would be difficult for cross-sectional survey findings to directly prove (i) and (ii) simultaneously, it was still possible for a study proving (i) to obtain indirect evidence of (ii) by means of investigating whether indices representing the accumulation of skills and knowledge in the migration destination predicted migrants' attitudes toward sending communities, which are known from earlier studies to correlate with prosocial behavior. In the next section, we identify these correlates based on the literature survey.

#### 2. Conceptual Framework and Hypotheses

## 2.1. Revisiting the Theoretical Framework of Le and Nakagawa

As mentioned above, earlier researchers observed that highly skilled migrants (e.g., health workers and international students) who are absent from their sending communities are likely to feel a sense of responsibility to feed back their skills to those sending communities [57,59–61]. In interview surveys with Indian university students in America, Thomas [61] found participants who felt sorry for "the state of people over there" (i.e., India) and felt a sense of responsibility to give back something to their home country, such as the valuable human capital they brought on their returns. Hazan and Alberts [57] also studied international students in America, and in response to the question about their incentive to return home, a number cited "a feeling of responsibility to return skills to the home country".

Along with international students, researchers have been attracted to the sense of responsibility in other migrants (e.g., highly skilled migrants). Poppe et al. [59] focused on sub-Saharan Africa health workers in Belgium and Austria; in semi-structured interviews, the authors found several health workers who felt senses of obligation and responsibility to help their source countries through accumulated knowledge and skills. A participant referred to their responsibility to contribute to the source country, which "offered them the opportunity to study". Siar [60] conducted a qualitative study with highly skilled Filipino migrants in Australia and New Zealand and found that they sought information about their home country through various sources such as the Internet, friends, and family members, and through these means, acquired an awareness of the problems and needs in their sending country; this in turn created a feeling of responsibility.

Le and Nakagawa [22] connected their findings with another line of studies arguing that the sense of organizational responsibility correlates with a sense of belongingness to an organization and with motivation toward extra-role behaviors (i.e., those that go beyond role expectations in a way that is organizationally functional; [63–66]), which are necessarily prosocial. Along with that study, various others that focused on similar subjects (e.g., educated and uneducated migrants from rural-to-urban areas) have found that migrants accumulated managerial and technical know-how, learned skills at the destination, and then invested at home (e.g., developing nonfarm businesses, applying technology to farming activities) [32,36,67,68]. Their behavior likely contributed to rural areas' development through technological transformation or business diversification. Combining these findings, we posited that *acquiring skills and knowledge as rural-to-urban migrants fosters a willingness to contribute to the sustainability of sending communities*. We derived four hypotheses from this proposition and tested them for the present study.

#### 2.2. Hypotheses

The aim of the present cross-sectional research was to obtain evidence supporting the above-mentioned theoretical argument in a typical destination city of domestic ruralto-urban migrants. If this argument was valid, we should have observed that those who accumulate more skills and knowledge have stronger supportive attitudes toward their sending communities (and are thus more likely to behave prosocially after they return to the sending community).

We considered the following as candidate indicators of the accumulation of migrants' skills and knowledge: (A) being students (of universities, colleges, and vocational training schools) compared with being unemployed, (B) graduation from university or above (i.e., in the migration destination city) as the educational background, (C) regular professional training, (D) number of migration destination cities experienced throughout life, and (E) years since the first out-migration.

Two things should be noted regarding the list of variables (A) to (E), and first is the relationships among them. Variables (A) and (B) represent the accumulation of knowledge and skills as *students*. In contrast, variable (C) represents the frequency of *occupational* opportunities to acquire the knowledge and skills. This variable (C) would not affect variable (A), being students. Variable (D) represents the *variety* of such occupational opportunities, because migrants are likely to encounter new environments to acquire knowledge and skills in new migration destinations. Finally, the total number of such opportunities throughout life is represented by variable (E).

Second, regarding (C), professional training refers to courses to improve working skills and knowledge. In Vietnam, such courses include language skills training courses and a course on "Specialist on Internal Assessment of ISO 9001:2008 Compliant Quality Management Systems" and are often organized by organizations to enhance the working skills of their internal staff members. Regarding (E), in Vietnam, universities are located outside of rural areas, as defined by the government (see Method section), and thus graduation from university means graduation in an urban area as a rural-to-urban migrant. We considered the following as candidate variables to represent migrants' attitudes toward their sending communities.

#### 2.2.1. Sense of Community toward Home Communities

A sense of community is a feeling that members of a group have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together [69]. While communities can be defined in various contexts, neighborhood communities are one of the most frequently investigated ([70–74], as cited by [75]). This conception is also referred to as the feeling of community cohesion, and earlier studies have demonstrated that this feeling promotes prosociality in the community. Okun and Michel [76] showed that people aged 60–74 with a strong sense of community cohesion are often more generative and more likely to volunteer. Wenner and Randall [77] demonstrated that this finding is valid despite age. While these researchers consistently considered situations in which individuals live in the communities toward which they feel cohesion to, it is a natural extension to assume that rural-to-urban migrants who are remote from their rural home communities and are feeling cohesion to them are motivated to behave prosocially and that they will indeed do so once they return to the communities.

## 2.2.2. Place Attachment toward Home Communities

Place attachment refers to bonds that people develop with places ([78–83]; as cited by [84]). Drawing on Brown et al. [85], Lenzi et al. [86] posited that higher levels of place attachment and cohesion to one's community are associated directly with higher levels of prosocial behavior through a process in which a strong emotional bond motivates people to act in a prosocial way and that helping behaviors are learned from people whom one meets daily in the local community [87]. While Brown et al. [85] failed to observe a direct significant link between attachment and prosociality, for the present study we followed the proposition of Lenzi et al. [86] because their study was based on data collected from individuals with limited characteristics (i.e., Italian early adolescents from the 6th through

the 8th grade), and it is possible that the expected link would be observed in samples with different characteristics. While these researchers consistently considered situations in which individuals live in the communities they feel attachment toward, it is again a natural extension to assume that rural-to-urban migrants who are remote from their rural home communities and are feeling attachment to them are motivated to behave prosocially and that they will indeed do so once they return to the communities.

# 2.2.3. Philanthropy Sub-Construct of Personal Social Responsibility toward Home Communities

In the field of consumer research, a great deal of effort has been made to address the tendencies of individuals toward responsible consumption. Among others, Roberts [88] defined that a socially responsible consumer is one who purchases products and services perceived to have a positive influence on the environment or who makes purchases in attempts to effect related positive social change. Recently, Davis et al. [89] continued the line of these studies by generalizing the concept to include human behavior as a whole, beyond consumption, and developed a new scale of social responsibility that can be applied in various contexts such as tax payments, children's education, and recycling. While Davis et al. proposed five sub-concepts, namely, economic, philanthropic, legal, environmental, and ethical, we focused with the present study on philanthropy alone (e.g., supporting social and cultural activities, making donations to charities, helping others), which seems to be thematically close to prosociality (toward their home communities, in the case of the present study). In the present study's context, we interpret this sub-concept as encompassing migrants' willingness to contribute to the economic sustainability of their sending communities by means of what economic literature calls "collective remittances", or outmigrants' donations to bettering the local public good in their home communities [90,91].

## 2.2.4. Remittances toward Home Communities

Earlier studies of development economics have consistently regarded that remittances by international migrants to left-behind family members are important drivers of economic development in developing countries [33–38]. *Global Development Finance 2003* [92] is considered to be the first observation of the value of remittances by demonstrating that the transfer of finances achieved through remittances exceeded that through foreign aid [93]. Likewise, domestic rural-to-urban migrants sending remittances to the left-behind family members are regarded as contributing to the economic development of the rural home communities [94–97]. Thus, for the present study, we hypothesized that some rural-tourban migrants who acquire skills and knowledge are motivated to contribute to their rural home communities by means of sending remittance. However, it should be noted here that there is no guarantee that all migrants sending remittance to the home communities are doing so with this motivation. Some migrants may be sending remittances only for the sake of the economic welfare of the family members left behind in the home communities (e.g., [98]), even if it consequently contributes to the entire community.

In reference to these earlier studies (including various samples such as international students, highly skilled international migrants, and educated or uneducated rural-to-urban migrants), we sets the following Hypotheses H1–H4 for the present study regarding the relationships among the above-mentioned variables and aimed to verify them: Among a sample of rural-to-urban migrants who currently live in the migration destination,

**Hypothesis 1 (H1).** *Place attachment to the sending community.* 

Hypothesis 2 (H2). Sense of community of the sending community.

Hypothesis 3 (H3). Philanthropy to the sending community.

are positively correlated with indices (A) to (E) which represent migrants' accumulation of knowledge and skills after leaving sending communities. Among the participants who are not students,

#### Hypothesis 4 (H4). Remittance to the sending community.

and indices (B) to (E) must be correlated. These hypotheses will be tested in the remaining part of this paper.

One important thing should be noted. While support for H3 and H4 indicates that rural-to-urban migrants in the destination cities with opportunities for acquiring knowledge and skills are already contributing to the home communities, support for H1 and H2 does not. The reason is that rural-to-urban migrants with stronger place attachment or sense of community only have the potential to contribute to the home communities and the potential becomes *reality* only when the migrants return to the home communities. Thus, in addition to testing H1 to H4, we confirmed with the present study whether the four variables referred to in the hypotheses (especially those in H1 and H2, i.e., place attachment and sense of responsibility) are associated with rural-to-urban migrants' intention to return to their home communities.

## 2.3. Direction of Causality

So far, we have considered that migration experiences and the subsequent accumulation of knowledge and skills cause migrants' supportive attitudes toward their home communities rather than the latter causing the former, and from this, we hypothesized H1 to H4. As mentioned earlier, we did so based on earlier arguments arguing that accumulated skills and knowledge strengthens the sense of responsibility toward home communities [56–62].

However, it is also possible that the strengthened supportive attitude in turn motivates migrants to accumulate knowledge and skills so that they can more effectively support their home communities and that the two factors comprise a positive loop. Thus, even if we succeed in identifying the correlations mentioned in H1 to H4, the hypotheses may represent a more complex reality than we assume here.

In the present study, we argue that even if this is the case, it is still meaningful to identify the correlations mentioned in the four hypotheses because the importance of the accumulation of skills and knowledge in the migration destinations stills holds. In fact, with this positive loop, the accumulation of skills and knowledge is expected to more efficiently foster the supportive attitude toward the home communities.

#### 3. Method

#### 3.1. Data Collection

A marketing research company collected data in Hanoi, Vietnam. The company utilized their own database to randomly select participants who satisfied the following conditions:

- (1) aged 18 years or more;
- (2) born in a rural area and lived there for at least 14 years (no need to be consecutive);
- (3) working or studying in Hanoi and having come to Hanoi for at least one month.

The company shared the questionnaire (in Vietnamese) with the hired interviewers, who received training to avoid misunderstandings of the questions and then conducted face-to-face interviews with 300 rural-to-urban migrants in Hanoi.

As the capital of Vietnam, Hanoi is the cultural and political center, one of the biggest economics centers, and the second largest city in Vietnam. It comprises 12 urban districts, 1 district-level town, and 17 suburban districts. The population of Hanoi is more than 8 million people, and the density is 2398 people/km<sup>2</sup> (2019). Along with Ho Chi Minh City, Hanoi is one of the most attractive destinations for migrants, with 80,000–100,000

immigrants every year. In many districts, immigrants account for around 30% of the districts' population.

One thing should be noted regarding the definition of rurality as referred to in eligibility criterion number 3. In Vietnam, according to Resolution No. 1210/2016/UBTVQH13, the levels of urbanity of areas are classified into five categories (from I to V; level I is associated with the most developed areas). The level of an area is defined according to criteria such as the extent of socioeconomic development, population size, population density, ratio of nonfarm labor, level of development of infrastructure, landscape, and architecture. The government defines that rural areas are those which do not belong to the level V. Areas in level V are characterized by the population 4000 and above, population density above 1000 people/km<sup>2</sup>, and a ratio of nonfarm labor above 55%, among others. Following the government's definition, the authors created a list of 7608 communes. The company chose participants of Hanoi who were from these communes.

#### 3.2. Measurements

The questionnaire included (1) demographic characteristics, (2) indices representing accumulation of knowledge and skills, (3) supportive attitude toward home communities, and (4) intention to return.

Items in (1) included age, gender, married status, ownership of houses in the home communities, and individual monthly income. Regarding marital status, respondents had three choices including single, married, and others. In terms of monthly individual income, the respondents had seven choices organized into four groups: (a) less than five million VND (1 VND = 0.000043 USD) ("0" and "less than 5 million VND"), (b) 5 to less than 7 million VND (7 million VND = 304 USD), (c) 7 to less than 10 million VND (10 million VND = 434 USD), (d) 10 million VND or above ("10 to less than 15 million VND (15 million VND = 651 USD)", and "15 to less than 20 million VND (20 million VND = 868 USD)", "20 million VND or above"). In Vietnam, the average salary was around 4 million VND/person/month (4 million VND = 173 USD). In 2020, it was nearly 6 million VND/person/month (6 million VND = 260 USD) in Hanoi (GSO, 2020) (General Statistic Office of Vietnam in 2020). As partially mentioned above, items in (2) included occupation, number of migration destinations experienced, length of migration (i.e., the total years that migrants stayed outside their home community), educational background, and reception of regular training course to enhance their skills and knowledge. With regard to occupation, the participants had eight choices classified into four groups: (a) wage employee ("wage employee in a company", "wage employee in a public sector agency"), (b) self-employed ("self-employed", "freelancer (skilled labor)"), (c) student, and (d) others ("unemployed, housewives, part-time job (unskilled job, e.g., seller in super market)", "retired", and "workers inside or outside factories (unskilled labor)"). In terms of education background, the respondents had four choices divided into two groups: (a) graduation from high school or less ("graduated secondary school or less (up to 9 years)", "graduated from high school or less (from 10–12 years)", and "studying at a university/a college/a vocational school"), or (b) graduation from university or above. Concerning the reception of regular training courses, the participants had four choices: (a) No, (b) Yes (usually), (c) Yes (sometimes), and (d) Yes (rarely). As mentioned earlier, category (3) included four items, and the measurement methods are detailed below.

## 3.2.1. Place Attachment

For the study, we used the place attachment scale by Lewicka [84], which was developed to measure the bonds of people with places; for this study, the place is the migrants' hometowns. Respondents answered 12 items such as "I know this place very well (note: answering when considering "this place" is your hometown)" and "I defend it when somebody criticizes it (note: answering when considering that "it" is your hometown)" to demonstrate the participants' feelings about their hometown; on the scale, items 4, 8, and 10 are reverse-coded. Following the original article, items were rated on 5-point Likert scales from 1 to 5 (1 = definitely disagree, 5 = definitely) for a possible score ranging from 12 to 60. For each item, the interviewers explicitly asked the respondents to answer considering their home communities rather than Hanoi, where they lived. In this sample, the Cronbach's alpha for the scale was 0.66.

#### 3.2.2. Sense of Community

We measured sense of community with the Brief Sense of Community Scale (BSCS) [75], the shortest sense of community scale with eight items. These items represent four components of sense of community: (1) fulfillment of needs (an awareness that the needs of members will be satisfied by the community; sample item: "I can get what I need in this neighborhood"); (2) mutual influence (a feeling that one is important or can make a difference in a community, and conversely, the community is important to the members; two items: "I have a say about what goes on in my neighborhood" and "People in this neighborhood are good at influencing others"; note: answer when considering that "this neighborhood" is your home community); (3) membership; and (4) shared emotional connection. All questions are answered on 4-point Likert scales ranging from 1 to 4 (1 = notat all, 4 = completely for a score range of 8 to 32. For each of these items as well, the interviewers explicitly asked the respondents to answer considering their home communities (rather than Hanoi, where they lived). In this case, migrants' needs to their home communities could be listed as the need to remain the identification at the place where migrants could be permanently settled in the future, and the need to capture information (e.g., left-behind family members situation [76]). In this sample, the Cronbach's alpha for the scale was 0.82.

#### 3.2.3. Philanthropy Subscale of Personal Social Responsibility

For the present study, we used 4 of 19 items from Davis et al.'s [89] personal social responsibility scale, and participants answered these considering these hometowns as well (sample item: "I support social and cultural activities with money or time"). Items were answered on 5-point Likert scales from 1 to 5 (1 = never, 5 = very often), for a score range of 4 to 20. On this scale, the Cronbach's alpha for the current sample was 0.85.

## 3.2.4. Remittances

We investigated remittance behavior by asking how frequently respondents sent home remittances and the average amount per remittance in the previous year. The response options for frequency were 0 = no, 1 = yes (less than 4 times), 2 = yes (from 4 to 8 times), 3 = yes (from 9 to 12 times), and 4 = yes (more than 12 times).

For the fourth category variable for this study, we asked two questions to measure participants' intention to return. The first was a yes or no question, "Do you intend to return to your home town?" [99], and participants who answered yes were asked to rate their likelihood of returning home on a scale from 1 to 10 (0 = not likely at all, 10 = absolutely likely) in one year, in three years, in five years, or eventually [100].

#### 3.3. Statistical Analysis

We used multivariate linear regression analysis to test two hypotheses by explaining the objective variables (i.e., social responsibility, place attachment, sense of community, and remittances) in terms of sociodemographic and socioeconomic factors as well as the indicators of accumulation of migration experience (i.e., studentship, educational background, regular training courses, number of migration destinations, and length of migration). All objective and predictive variables were standardized before the calculation.

## 4. Results

## 4.1. Characteristics of the Sample

Table 1 indicates the characteristics of the sample. The ages of the 300 participants ranged from 19 to 41 years with a mean age of 28.7 years; by gender, 46.3% were men,

and by marital status, 51.3% were married. For the monthly individual income, which included bonuses and allowance (e.g., toxic allowances) and excluded taxes and welfare costs, 25.3% of the group earned less than 5 million VND (5 million VND = 217 USD); 19.3% of the total were in the highest income group (10 million (10 million VND = 434 USD) or above. With regard to home ownership, 40.7% of respondents owned homes in their home communities.

|  | n   | %    | Μ    | SD  | Cronbach's Alpha |
|--|-----|------|------|-----|------------------|
| Age  |     |      | 28.7 | 6.5 |                  |
| Gender   |     |      |      |     |                  |
| Male   | 139 | 46.3 |      |     |                  |
| Female   | 161 | 53.7 |      |     |                  |
| Marital status                                     |     |      |      |     |                  |
| Single   | 146 | 48.7 |      |     |                  |
| Married  | 154 | 51.3 |      |     |                  |
| Monthly individual income (VND) <sup>1</sup>       |     |      |      |     |                  |
| <5 Million   | 76  | 25.3 |      |     |                  |
| $\geq$ 5 Million and <7 Million                    | 56  | 18.7 |      |     |                  |
| $\ge 7$ and <10 Million                            | 110 | 36.7 |      |     |                  |
| $\geq$ 10 Million                                  | 58  | 19.3 |      |     |                  |
| House ownership                                    |     |      |      |     |                  |
| Yes  | 122 | 40.7 |      |     |                  |
| No   | 178 | 59.3 |      |     |                  |
| Occupation   |     |      |      |     |                  |
| Wage employee                                      | 79  | 26.3 |      |     |                  |
| Self-employed                                      | 64  | 21.3 |      |     |                  |
| Student  | 72  | 24.0 |      |     |                  |
| Others <sup>2</sup>                                | 85  | 28.3 |      |     |                  |
| Education  |     |      |      |     |                  |
| Graduation from high school or less                | 156 | 52   |      |     |                  |
| Graduation from university or above                | 144 | 48   |      |     |                  |
| Reception of regular training courses              |     |      |      |     |                  |
| Yes  | 133 | 44.3 |      |     |                  |
| No   | 167 | 55.7 |      |     |                  |
| Number of destinations experienced                 |     |      | 1.3  | 0.6 |                  |
| Length of migration <sup>3</sup>                   |     |      | 9.2  | 5.9 |                  |
| Place attachment <sup>4</sup>                      |     |      | 43.7 | 3.1 | 0.66             |
| Sense of community <sup>5</sup>                    |     |      | 18.6 | 3.2 | 0.82             |
| Philanthrophy <sup>6</sup>                         |     |      | 9.9  | 2.3 | 0.85             |
| Frequency of remittances <sup>7</sup>              |     |      |      |     |                  |
| Yes (less than 4 times)                            | 93  | 31   |      |     |                  |
| Yes (from 4 to 8 times)                            | 57  | 19   |      |     |                  |
| Yes (9 times or above)                             | 18  | 6    |      |     |                  |
| No   | 132 | 44   |      |     |                  |
| Remittances amount/time (Million VND) <sup>8</sup> |     |      | 1.8  | 1.9 |                  |

Table 1. Characteristics of the sample.

Notes. 1: Including bonuses and excluding taxes and welfare costs, 1 million VND = 43 USD. 2: Including manual workers, housewives, unemployment and unskilled part-time worker, retired. 3: Total years the participants lived outside the home community. 4: Theoretical range = 12-60.5: Theoretical range = 8-32.6: Theoretical range = 4-20.7: Frequency of remittances in last one year. 8: Average remittances amount per time in last one year, 1 million VND = 43 USD.

Regarding occupation, there were 72, 79, 64, and 85 students, wage employees, selfemployed, and other, respectively. About 44% of participants (133) had received regular training that had enhanced their skills and knowledge related to their job. Their average number of migration destinations was 1.3. By educational background, most participants, 72%, had "entered or graduated from university". The average number of years participants had been away from their hometown was 9.2. The findings for the respondents' supportive attitudes toward their home communities were as follows. In the previous year, 168 participants had sent money to their hometowns, with 31% having sent money less than four times; the average amount per remittance was nearly 2 million VND (2 million VND = 86 USD).

#### 4.2. Regression Analysis Results

The regression analysis results are presented in Table 2. With regard to place attachment, ownership of houses in the home community (beta = 0.26) was significant at 1%. Another demographic variable that influenced the migrants' place attachment was monthly individual income. Specifically, incomes of 7 to less than 10 million (7 million VND = 304 USD, 10 million VND = 434 USD) (beta = -0.48) and 10 million or above (beta = -0.4) were negatively significant at 5% and 1%, respectively. The result supports H1, which tested the correlation among the five indices (A) to (E) of accumulating knowledge and skills during migration and place attachment to the sending community. For sense of community, ownership of houses in the home community (beta = 0.42) was significant at 1%, and studentship (A) (beta = 0.35) was significant at 5%. The result supports H2, which tested the correlation among the five indices (A) to (E) and the sense of community in the sending community.

Table 2. Multivariate regression analysis results explaining attitude toward home communities.

|  | Objective Variable |           |          |                       |        |              |           |                          |      |       |      |      |
|--|--------------------|-----------|----------|-----------------------|--------|--------------|-----------|--------------------------|------|-------|------|------|
| Predictor Variable                           | Place Attachment   |           |          | Sense of<br>Community |        | Philanthropy |           | Remittances <sup>1</sup> |      |       |      |      |
|  | Beta               |           | s.e.     | Beta                  |        | s.e.         | Beta      |                          | s.e. | Beta  |      | s.e. |
| Demographic Variables                        |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| Age  | 0.14               |           | 0.16     | 0.16                  |        | 0.15         | -0.10     |                          | 0.16 | -0.19 |      | 0.15 |
| Male Gender                                  | 0.07               |           | 0.06     | -0.01                 |        | 0.06         | -0.02     |                          | 0.06 | 0.02  |      | 0.05 |
| Married                                      | 0.10               |           | 0.09     | -0.04                 |        | 0.09         | 0.05      |                          | 0.09 | 0.14  |      | 0.08 |
| Monthly individual income (VND) <sup>2</sup> |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| <5 Million (Reference Group)                 |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| >5 Million and <7 Million                    | -0.21              |           | 0.16     | 0.02                  |        | 0.16         | 0.02      |                          | 0.16 | 0.10  |      | 0.15 |
| >7 and <10 Million                           | -0.48              | *         | 0.20     | 0.03                  |        | 0.19         | -0.03     |                          | 0.20 | 0.14  |      | 0.19 |
| >10 Million                                  | -0.54              | **        | 0.18     | -0.15                 |        | 0.17         | -0.07     |                          | 0.17 | 0.18  |      | 0.16 |
| Ownership of houses in the home community    | 0.26               | **        | 0.06     | 0.42                  | **     | 0.06         | 0.14      | *                        | 0.06 | 0.22  | **   | 0.06 |
| Ind  | exes represei      | nting acc | cumulati | on of know            | wledge | & skills     | during mi | gration                  |      |       |      |      |
| Occupation <sup>3</sup>                      | ,                  | 0         |          | ,                     | 0      |              | 0 0       | ,                        |      |       |      |      |
| Others (reference group)                     |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| Wage employee                                | 0.08               |           | 0.08     | 0.02                  |        | 0.08         | 0.08      |                          | 0.08 | 0.06  |      | 0.08 |
| Self-employed                                | 0.01               |           | 0.07     | -0.01                 |        | 0.07         | -0.07     |                          | 0.07 | 0.04  |      | 0.07 |
| Student (A)                                  | -0.14              |           | 0.18     | 0.35                  | *      | 0.17         | 0.15      |                          | 0.18 | -0.07 |      | 0.17 |
| Education                                    |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| Graduation from university or above (B)      | 0.01               |           | 0.08     | 0.00                  |        | 0.08         | 0.24      | *                        | 0.08 | -0.09 |      | 0.08 |
| Otherwise (reference group)                  |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| Reception of regular training courses (C)    | -0.06              |           | 0.07     | -0.04                 |        | 0.06         | 0.13      | *                        | 0.07 | 0.15  | *    | 0.06 |
| Number of migration destinations             |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| experienced (D)                              | 0.02               |           | 0.06     | -0.04                 |        | 0.06         | 0.12      | *                        | 0.06 | -0.07 |      | 0.05 |
| Length of migration $4$ (E)                  | -0.09              |           | 0.13     | -0.03                 |        | 0.12         | 0.20      |                          | 0.13 | 0.24  | *    | 0.12 |
| Model statistics                             |                    |           |          |                       |        |              |           |                          |      |       |      |      |
| R  |                    | 0.38      |          |                       | 0.47   |              |           | 0.41                     |      |       | 0.53 |      |
| R square                                     |                    | 0.14      |          |                       | 0.22   |              |           | 0.17                     |      |       | 0.28 |      |
| Adjusted R square                            |                    | 0.10      |          |                       | 0.18   |              |           | 0.13                     |      |       | 0.24 |      |

Notes. \*: p < 0.05. \*\*: p < 0.01. 1: Remittances: Frequency multiplied by amount of remittance. 2: Including bonuses and allowance, excluding taxes and welfare costs, 1 million VND = 43 USD. 3: Among the four categories, being in the student category is assumed to represent the accumulation of knowledge and skills. 4: Total years since the participants left their home communities.

With regard to philanthropy toward the participants' home community, ownership of houses in the home community was significant at 5% (beta = 0.14). In addition to the demographic variable, several indicators of knowledge and skills acquired during migration also influenced philanthropy. Having regularly attended training courses (C) (beta = 0.13) and having experienced more migration destinations (D) (beta = 0.12) were significant at 5%. Meanwhile, higher educational background (B) (beta = 0.24) was significant at 1%. This result supports H3, which tested the correlation among the five indices (A) to (E) and philanthropy to the sending community.

With regard to remittances, the ownership of houses in the home community (beta = 0.22) was significant at 0.1%. Another demographic variable that influenced migrants' remittances was marital status (beta = 0.14), which was significant at 10%. Two variables related to accumulating knowledge and skills, regular training courses (C) (beta = 0.15) and length of migration (E) (beta = 0.24), were significant at 5%. This result supports H4, which tested the correlation among the four indices (A) to (E) and remittances to the sending community among non-student participants.

Notably, immigrants' participation in training course (C) correlates with the philanthropy and remittances to the sending community. Such participation increased immigrants' knowledge and skills and aided their positive attitudes (e.g., philanthropy, remittances) toward their home communities. Previous studies have mentioned that participation in training courses supports enhancement of workers' knowledge, skills, and personal traits (e.g., self-esteem), and thus helps them approach better jobs/positions and achieve higher incomes [101–105]. Such achievements' effect on immigrants' positive attitudes, particularly concerning financial contributions to their home communities, is understandable. (See the Discussion for more on this.)

In general, these results clarify the relationship between accumulating skills and knowledge in rural-to-urban migrants' destination cities and their supportive attitudes toward their home communities.

## 4.3. Return Migration Intention

Spearman's correlation coefficients of the four objective variables and the intention to return are summarized in Table 3. Two of the four variables were revealed to be associated with indexes of return migration intention, place attachment (correlation coefficients ranged between 0.22 and 0.39; p < 0.01), and sense of community (coefficients between 0.32 and 0.41; p < 0.01). The other two variables were not associated with the intention to return.

| Intention to<br>Return <sup>1</sup> |       | Intends to<br>Return in 1<br>Year <sup>2</sup> |       | Intends to<br>Return in 3<br>Years <sup>2</sup> |       | Intends to<br>Return in 5<br>Years <sup>2</sup> |       | Intends to<br>Return<br>Eventually <sup>2</sup> |      |    |
|-------------------------------------|-------|--|-------|---|-------|---|-------|---|------|----|
| Place attachment                    | 0.35  | **   | 0.22  | **  | 0.35  | **  | 0.39  | **  | 0.28 | ** |
| Sense of community                  | 0.41  | **   | 0.34  | **  | 0.32  | **  | 0.37  | **  | 0.39 | ** |
| Philanthropy                        | -0.01 |  | -0.05 |   | -0.06 |   | -0.02 |   | 0.01 |    |
| Remittances                         | 0.05  |  | -0.01 |   | -0.07 |   | -0.01 |   | 0.15 | ** |

Table 3. Spearman's correlation coefficients of the four objective variables and the intention to return.

Notes. \*\*: p < 0.01. 1: "Yes-No question" related to the intention to return of the participants (Tezcan, 2018). 2: Participants who answered "Yes" in previous question were requested to choose a number among 0—not likely at all, and 10—absolutely likely, to indicate their intention to return in 1, 3, and 5 years and eventually (Piotrowski et al., 2012).

## 5. Discussion

This is the first quantitative investigation of the relationship between the indicators of rural-to-urban migrants' accumulated skills and knowledge in their destination cities and their supportive attitudes toward their home communities. This investigation seemed important because it was expected to clarify the conditions under which rural-to-urban migration stimulates migrants' sense of responsibility and thus contributes to their communities' social and economic sustainability. We proposed four hypotheses on the correlations between the knowledge and skills indicators and the four objective variables for supportive attitude toward the home communities and tested them by multivariate linear regression analyses. The results are summarized as follows. At the 5% level of significance,

H1 on place attachment to the sending community was rejected;

H2 on the sense of community with the sending community was partially supported;

H3 on philanthropy to the sending community was partially supported;

H4 on remittances to the sending community was partially supported.

None of the five indicators (A) to (E) of accumulating knowledge and skills correlated to place attachment to the sending community, so H1 was rejected. Hypotheses H2, H3,

and H4 were partially supported, in that the objective variable in each hypothesis was significantly associated with one or more but not all indicators—five indicators (A) to (E) in H2 and H3; four indicators (B) to (E) in H4—of the accumulation of knowledge and skills. The correlation between variable (A) being a student and the sense of community to the home community partly supported H2. The other three variables—(B) being a university graduate or above, (C) participation in a training course, and (D) number of migration destinations experienced—correlated with philanthropy to the sending community; this correlation partly supported H3. Among non-student participants, two variables—(C) participation in training course and (E) length of migration—correlated with remittance behavior, partly supporting H4.

There were three major findings. First, with regard to H2 (sense of community), being a student (of universities, collages, or vocational schools) was a positive predictor of a sense of community toward the community of origin. This was consistent with the qualitative findings of Thomas [61] and Hazan and Alberts [57] regarding the sense of responsibility of international students in the United States toward their home countries. Taken together with the finding on H3 (philanthropy) that being a university graduate or above was the strongest predictor of philanthropic behavior, we interpret that the sense of responsibility fostered as a university student leads to actual behavior to benefit the home community, not while the migrant is a student, but after he or she has graduated, which might be because almost all migrants can only send remittances after they acquire occupations and are economically independent. (Here we remind that for the present study, we measured participants' actual behavior rather than their subjective feelings.) Furthermore, these findings on H2 (sense of community) and H3 (philanthropy) are also consistent with community studies (i.e., not migration studies). For example, Okun and Michel [76] found that a higher education background positively predicted sense of community. Considering these studies, as well as the present study, it could be that while it is a universal phenomenon that individuals with higher educational backgrounds tend to have a stronger sense of community, rural communities without higher education facilities benefit from this phenomenon only insofar as they send individuals to urban areas who eventually return to the community of origin.

A question arises here as to why a higher education background (university graduation or above) was *not* a significant predictor in H2 (sense of community). It might be that as years pass after university graduation, migrants tend to feel stronger belongingness in the migration destinations and weaker belonging to the home communities. Then, as urban citizens enjoying relatively high standards of living, they acquire stronger sense of responsibility and are motivated to behave philanthropically.

Second, with regard to H4 (remittances), after we controlled for income, regular training courses and length of migration (years) were the significant predictors. Considering that the simple correlation coefficient between remittances and income was very high (r = 0.43, p < 0.01; results not shown) but income was not a significant predictor in the regression model, it is probable that income influences remittance mediated by regular training courses and the length of migration. This argument provides a new insight into the influence of income on remittance, which has been repeatedly confirmed in earlier studies [68,106–110].

Along with H4 (remittances), the regular training course was also a significant predictor of H3. Out-migrants enhance their knowledge and skills when participating in training courses at the destination, to achieve better careers and/or higher income [101–105]. This achievement might influence their philanthropic behaviors. In terms of economic type (e.g., donation), this correlation could be intepreted similarly to H4, that is, income influences donation mediated by regular training course. Concerning noneconomic types (e.g., sociocultural activities, charitable activities), the finding is consistent with Siar [111], who investigated the relationship between highly skilled migrants and promoting welfare through "knowledge transfers" (e.g., ideas, knowledge) to their sending communities. Possibly, enhancing skills and knowledge by participating in a training course at the destination influences migrants' philanthropic behaviors toward their home communities.

Specifically, out-migrants do not simply decide the amounts of remittances based on their incomes. Rather, they send more when they are earning larger incomes as the result of their regular effort to accumulate skills and knowledge by receiving regular training or their accumulated years of experience in their urban destinations. In the terminology of statistics, we argue that income mediates the association between the indicators of accumulated knowledge and skills and the amounts of remittances. This argument is further supported by the significant correlations of remittances with regular training courses and length of migration (r = 0.34 and 0.66, respectively, p < 0.01). It could be that these accumulated experiences foster a sense of responsibility and motivate migrants to send more to their home communities. In the introduction, we noted that it is unclear whether out-migrants sending remittances to their home communities because of a sense of responsibility actually contributes to the sustainability of the home communities. Our statistical analyses suggest some positive contribution, but we cannot exclude the possibility that some migrants receive regular training courses or spend years in the destinations without developing a sense of responsibility toward their home communities.

Our third primary finding is regarding return migration intention. As noted in the introduction, only out-migrants in their destinations with strong place attachment and sense of responsibility have the potential to contribute to the home communities, but this potential becomes reality only after returning to the home communities. The present study's findings seem to suggest that the potential for a sense of responsibility is likely to indeed become reality for the following reason. Regarding place attachment, the correlation coefficients with the return migration intention indices ranged between 0.22 and 0.35 (p < 0.01) and were consistent with results from Zaldy [112] and Harrison [113]. Regarding the sense of community, the coefficients ranged between 0.32 and 0.41 (p < 0.01) and were consistent with the verification of H3, we expect that the accumulation of knowledge and skills in the migration destination eventually leads to migrants' prosocial behavior as return migrants in their home communities.

The present study has several important limitations. First, as mentioned earlier, we could not determine with a cross-sectional study whether the association between outmigrants' accumulation of knowledge and skills and their sense of responsibility toward their home communities is one way (i.e., the former influences the latter) or the former and the latter comprise a positive loop. To answer this, we need a longitudinal survey with out-migrants who stay in their urban destinations. This is an important future task.

Second, we failed to identify the influence of out-migrants' accumulation of knowledge and skills on place attachment, which is known in the literature as a predictor of prosocial behavior in communities. This result was even more unexpected because the accumulation predicted another variable with an overlapping concept: the sense of community. We do not have evidence to give interpretations to these contradictory results, and it is also an important future task to investigate this.

Third, this study used BSCS items to assess connections between migrants and their home communities. This assessment could be considered the first step in exploring migrants' direct attitudes toward home communities, in order to verify our hypotheses' validity. However, these items could also measure the relation between migrants and the destination community (i.e., in this study, the Hanoi community). This measurement would even be relevant to understanding how migrants' attitudes toward their home communities are shaped during their urban lives. Thus, exploring the relationship between migrants and destination communities will be a promising direction for refining our theory—a project we aim to tackle in future work.

Fourth, it should be noted that out-migrants' philanthropy toward their home communities, induced by the sense of responsibility, does not necessarily imply their lack of philanthropy toward the migration destination (i.e., Hanoi in this study). Although for the present study we did not measure participants' philanthropy toward their destination, it is an important question whether philanthropy toward these two different places can be compatible, and thus future researchers must investigate this.

Fifth, with regard to the variables selected in the regression models, we cannot deny the possibility that some unobserved variables influenced both our predictors and the objective variables. If this is the case, the correlations identified by the present study between the objective and predictive variables are the consequences of spurious correlations. Such unobserved variables may include educational background, occupation, and psychological characteristics of the parents of the out-migrants, which could well influence the children's choice of career paths and their prosocial attitudes toward their home communities. Workplace environment of the migrants may also be another relevant unobserved variable because the environment could well influence the motivation to accumulate skills and knowledge and, at the same time, influence psychological stress; psychological stress can in turn decrease (increase) the sense of belongingness to the migration destination (home community). Future researchers must consciously explore such variables.

## 6. Conclusions

This study contributes to the literature on migration by investigating rural-to-urban migration's positive impacts on sustainable rural development. These findings suggest that rural-to-urban migrants will contribute more to their rural home communities' socioe-conomic sustainability, either during the migration period or after they return—when they have spent enough migration time to accumulate skills and knowledge—because their experiences foster a sense of responsibility toward their home communities.

By clarifying the conditions that encourage migrants' sense of responsibility during their time in urban areas and thus enhancing their rural home communities' socioeconomic sustainability, this study proves the importance of out-migration, especially in accumulating knowledge and skills to develop rural areas, particularly in developing countries. The study also supports similar studies' interpretation: Returning migrants' urban accumulation of managerial and technical know-how helps to develop and transform rural areas.

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