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## Human Capital's Impact on the Labour Productivity: A Case Study of Thai International Returning Migrants

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### Abstract

*This study aims to examine the human capital's impact on the labour productivity of Thai international returning migrants. The research utilised a quantitative approach, employing data collected from an interview with a sample of 420. The research tool was an interview schedule. Data analysis used descriptive statistics and multiple regression analysis. The results showed that labour productivity of Thai international returning migrants was at a moderate level, 50.7% and roughly one in four labour productivity at a high level. In addition, male migrants, number of years of education, legal migration, amount of remittances, migration periods, human capital accumulation in term of job skills, human skills, and modern skills were factors that impact on the labour productivity. All independent variables could explain 42.6% of the variation in labour productivity of Thai returning migrants (R-squared = 0.426).*

**Keywords:** *human capital, labour productivity, return migration, international migration*

### 1. Introduction

Returning migrants from working abroad are individuals who have worked and lived in a foreign country for a period and then returned to their home country. Thai migrants have been a significant component of the labour force in many countries, such as in the agriculture sector, the construction sector and domestic work. As a result of various factors, including economic changes, a significant number of Thai migrants have returned to their home country. Many studies have explored the economic impact of Thai returning migrants on the economy. Researchers have highlighted potential benefits, such as remittance inflows contributing to household income and local development (Adulyakosol, 2017; Siriyuvasak, 2010). Similarly, Chantavanich (2013) explored the experiences of Thai migrants seeking domestic work in Japan. This study found that Thai returning migrants or TRM can transfer their acquired skills, knowledge, and experiences to the local workforce. TRM may introduce new technologies, best practices, and business models, contributing to the overall development and competitiveness of domestic industries. This human capital can be transferred and utilised in various sectors of the economy (Beazley and Montagna, 2018).

The significance of recognising the potential contributions of returning migrants is their

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acquired human capital, which refers to skills, knowledge, and experiences (Stark and Bloom, 1985). One study published in the *International Migration Review* supported the relationship between returning migrants from working abroad and human capital. The study found that these returning migrants can bring back with them new skills and knowledge that contribute to the development of human capital in their home countries (Abella and Ducanes, 2014). Similarly, a study in the *Journal of Ethnic and Migration Studies* also highlighted the role of returning migrants in promoting the development of human capital in their home countries, particularly in terms of fostering the exchange of skills, knowledge, and experiences (Piotrowski and Croucher, 2016). When migrants return to their home country, they bring back the skills and knowledge they gained abroad. Human capital is then a fundamental concept in economics that emphasises the role of individuals' knowledge, skills and abilities in driving economic growth and development.

Over the past few decades, the impact of returning migrants on the economy has been the subject of several studies. These studies provided insights into the economic contributions of returning migrants in Thailand, including their impact on the labour market and overall economic development (Chantavanich, 2013; Phongpaichit and Gammage, 2018; Beazley and Montagna, 2018; Nattavud and Pittiglio, 2018). They analysed the remittances sent by returning migrants and the human capital they bring back, including their role in fostering economic growth. The returning migrants can bring new skills, knowledge, and experiences to their home countries, which can positively impact their communities and contribute to economic growth. However, the returning migrants may face challenges in readjusting to their home country. Studies showed that returning migrant workers can face difficulties in finding employment that matches their skills and experience, which can limit their ability to contribute to their home country's economy. According to the International Labour Organization (ILO), in 2021, the number of migrants continues to increase, and many returning migrants struggle to find work upon their return because of the lack of available job opportunities (International Labour Organization, 2021). Thus, the importance of their contributions to their home communities and the need to support their reintegration into the labour market receive growing recognition. These challenges can have an impact on their labour productivity. In fact, labour productivity is associated with economic growth. When workers can produce more goods or services with the same or fewer resources, it leads to increased output and, consequently, improved living standards (Barro and Sala-i-Martin, 2003). Labour productivity is then a key indicator of an economy's overall efficiency, competitiveness, and the standard of living (Mankiw, Taylor and Ashwin, 2014). Essentially, human capital represents an enhancement of an individual's capacity to contribute to overall labour productivity and economic production (Heckman and Kautz, 2012). Becker's research (1994) was influential in recognizing that investments in education, training, and health can significantly increase an individual's human capital, subsequently boosting labour productivity and economic growth. Human capital then plays a significant role in influencing the labour productivity of returning migrants.

However, some research focuses on the impact of human capital on the labour productivity of TRM. Therefore, the research question is to what extent does the accumulation of human capital, including skills, education, and work experience, influence the labour productivity of TRM in their reintegration into the domestic labour market? This expanded research question delves deeper into the various factors that may influence the relationship between human capital and the labour productivity of TRM. Thus, the objective of the study is to examine the effect of human capital on the labour productivity of TRM. This study can provide insights into the economic contributions and potential benefits of investing in the human capital

development of returning migrants by examining this relationship.

## **2. Literature Review**

### **2.1 International Migration**

Migration to work abroad is the movement of workers from one country to another to receive financial benefits. Todaro (1976) asserted that people relocate for financial reasons. The main draws are better pay and more career opportunities. Although there may be barriers between the origin and the destination that call for personally relevant factors with specific qualities, the phenomenon of migrating to work abroad is related to social, cultural, legal, and global factors (Chiquiar and Hanson, 2019; Lee, 1966). Workers who migrate overseas are affected economically and socially, as are their families and children, as well as those who remain behind (Jampaklay et al., 2013). Remittance-sending migrant households undergo ongoing changes in their composition, and their neighbours and communities grow more accepting (Ayuwat et al., 2018). This research defines "migration to work overseas" as referring to workers from the Northeastern region of Thailand migrating to work abroad over a period of more than six months to seek employment opportunities and a decent standard of living for themselves and their families.

### **Thai Returning Migrants**

This literature review examines the characteristics of TRM based on gender, age, skill levels, educational qualifications, and occupation.

- (1) Gender differences in characteristics: research explored the gender differences in the characteristics of TRM. Studies examined how gender roles and societal expectations influence the types of jobs and characteristics obtained by male and female returnees (Chantavanich, 2013; Phongpaichit et al., 2016). Understanding these dynamics can shed light on gender disparities in employment opportunities and inform policies promoting gender equality in the labor market.
- (2) Age and skill levels: the literature has examined the relationship between age and skill levels amongst TRM. Researchers explored how age affects the acquisition and transferability of skills obtained abroad (Khunthongjan et al., 2018; Suksomboon et al., 2015). Age-specific training and reintegration programmes can address the specific needs of different age groups and enhance their employability upon return.
- (3) Educational qualifications and employment opportunities: studies investigated the connection between educational qualifications and employment opportunities for TRM. The literature explored how the level of education affects the types of jobs available to returnees and their prospects in the domestic labour market (Paitoonpong et al., 2017; Tantiratana, 2012). Enhancing educational qualifications through training and education programmes can expand the employment options for returning migrant workers.
- (4) Occupation and reintegration challenges: researchers examined the relationship between the occupation held abroad and the reintegration challenges faced by TRM. The literature highlighted how the nature of the previous occupation can impact the ability to find suitable employment upon return (Sakultantimetha et al., 2018; Tangchitnob et al., 2014). Programmes that assist in the transition to new occupations or provide support for returning to previous occupations can facilitate successful reintegration.

In conclusion, the literature on the characteristics of TRM addressed various dimensions, such

as sex and gender differences, age and skill levels, education degrees, employment opportunities and experiences. This study aligns with the experience of TRM to work abroad.

## **2.2 Experiences of Returning Migrants to Work Abroad**

The experiences of returning migrants to work abroad can vary significantly depending on various factors, including the funding sources for their migration, the amounts of investments, migration methods employed, reimbursement amounts received and the length of their stay abroad. These are presented as follows:

- (1) Funding sources: the funding sources for migrants can vary depending on individual circumstances, countries, and regions. Common funding sources for migration include personal savings, loans from family or friends, remittances from abroad, employment agency fees or government-sponsored programs (International Organization for Migration, 2019).
- (2) Amounts of investments: the investments made by migrant workers can include various costs, such as recruitment fees, travel expenses, visa processing fees, medical examinations, training costs and living expenses in the destination country. The specific amounts can vary significantly depending on factors such as the destination country, migration route and the type of work involved (International Organization for Migration, 2016).
- (3) Migration methods: migrants may use different migration methods based on factors such as legal frameworks, economic opportunities and personal circumstances. These methods can include legal channels, such as employment-based visas, family reunification programs or study or work permits. Informal channels may include illegal migration or engagement with human smuggling networks. Migration methods can also vary based on the specific region or country (International Organization for Migration, 2020).
- (4) Amount of remittances: the amount of remittances for returning migrants can vary widely and are often influenced by factors such as government policies, bilateral agreements or the presence of support programs. Some countries have established repatriation assistance programmes that provide financial or logistical support to returning migrants. The availability and extent of remittances or support programmes can differ greatly across countries and regions (International Labour Organization, 2023).
- (5) Migration period: the migration period varies depending on factors such as the type of work, contract duration and individual circumstances. Migrants may have fixed-term contracts, engage in seasonal or temporary work or pursue long-term employment opportunities. Some migrants may also choose to stay abroad permanently and pursue pathways to permanent residency or citizenship. The migration period can vary greatly amongst migrants (United Nations Department of Economic and Social Affairs, 2019).

Overall, the experiences of returning migrant workers can differ greatly depending on the funding sources for their migration, the amounts of investments, the migration methods employed, the amount of remittances and the migration period. These experiences play a significant role in the development and accumulation of human capital.

## **2.3 Human Capital Impact on Labour Productivity**

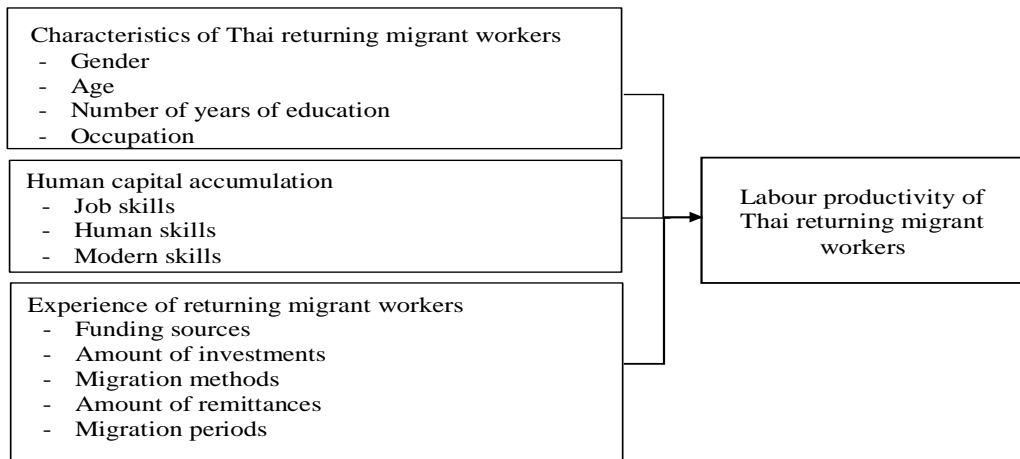
Human capital encompasses a broad range of skills, knowledge and attributes that individuals possess and that contribute to their labour productivity includes education, knowledge, skills, capacities, and physical health, according to Becker (1994). In Husz (1998), the term "human capital" is extended to encompass the knowledge and skills that households and individuals possess, as well as the cumulative work experience that contributes to the production process.

Additionally, Davenport (2000) recommended that individuals own capital and become investors to achieve the highest return on investment. Additionally, Becker (1994) proposed three other important ways to develop human capital: learning from jobs and institutions, learning from experience, and learning from parents, where people can combine all approaches. Therefore, migratory labour—a varied population of people with a range of immigrant characteristics and experiences, such as the capacity to live and work abroad and the capacity to lead their lives while putting themselves in danger—is associated with the development of human capital. This is the human capital accumulation at the point of origin (Ayuwat, 2019; Bebbington, 2021). It encompasses both education and training and the personal attributes, such as problem-solving abilities, that enhance an individual's capacity to contribute to economic production and overall labour productivity. Labour productivity refers to the returning migration workers ability to contribute to economic production upon returning to their home country after a period of work abroad (Wahba, and Zenou, 2012). It relates to how effectively these individuals can use their human capital acquired abroad to generate economic output. Human capital includes job, human and modern skills.

- (1) Job skills: job skills refer to the specific technical abilities and knowledge required to perform tasks and duties related to a particular occupation or profession. These skills are typically acquired through education, training and work experience directly relevant to the job (Acemoglu and Autor, 2011). When workers possess the necessary job skills, they can complete their assigned duties with a high level of competence, leading to labour productivity (Autor, 2014).
- (2) Human skills: human skills, also known as soft skills or interpersonal skills, are non-technical qualities that enable individuals to effectively interact and collaborate with others in various social and professional settings. These skills include communication, teamwork, leadership, problem-solving and adaptability. Human skills contribute to labour productivity by fostering effective collaboration, communication and teamwork in the workplace (World Economic Forum, 2018).
- (3) Modern skills: modern skills refer to the evolving set of abilities needed to thrive in the rapidly changing digital and technological landscape. These skills include digital literacy, data analysis, coding, artificial intelligence, cybersecurity, adaptability to new technologies and foreign language skills. Modern skills contribute to labour productivity by enabling individuals to leverage technology, analyse data and adapt to the changing digital landscape in the workplace (World Economic Forum, 2020).

Therefore, human capital plays a crucial role in driving labour productivity as individuals' skills, such as job, human and modern skills, and abilities directly contribute to their ability to generate output efficiently.

Overall, this review explores key findings in the literature regarding the relationship between human capital and labour productivity, highlighting its significance in various contexts. These factors were applied in our analysis of the effect of human capital on the labour productivity of TRM. Figure 1 presents the conceptual framework of this research. This research hypothesises that the characteristics of TRM, namely, gender, age, number of years of education and occupation; the experience of returning migrant workers, including funding sources, number of investments, migration methods, amount of remittances and migration periods; and human capital accumulation, that is, job, human and modern skills, were likely to be factors affecting the labour productivity of TRM.



**Figure 1:** Conceptual framework

### 3. Methodology

This study employs a quantitative research approach and utilises multiple regression analysis (MRA) as the statistical method to examine the effect of human capital on the labour productivity of returning Thai migrant workers. The research methodology consists of the following steps: This study focuses on the effect of human capital on the labour productivity of TRM. Quantitative methodology was employed at the individual level as a unit of analysis. The sample consisted of 420 TRM who had been working abroad for more than 6 months and were currently returning from working abroad for over 6 months, but not more than 7 years (Hair et al., 2017). This period shows the human capital accumulation of labour and can significantly impact on the labour productivity of TRM. The samples were randomly selected by systematic random sampling.

The data was collected through an interview based on concepts, theories, and qualitative research results. The interview consists of four parts, namely, individual characteristics, human capital accumulation at the destination, and migrant workers' experience as an independent variable and labour productivity of TRM as dependent variable that measures from a total of eight questions by the composite index (Mazziotta and Pareto, 2013). The reliability score was 0.902, confirming the interview schedule's quality and appropriateness as a research instrument. The data was collected from February to March 2023 in the Chaiyaphum province, where the number of migrant workers that work abroad in the Northeast of Thailand is the highest (Overseas Employment Administration Division, 2022). This research was certified as ethical by the Khon Kaen University Ethics Committee (the certification number is HE653157).

Data analysis used descriptive statistics and univariate analysis to explain the general data characteristics of samples. This study analysed the impact of human capital on the labour productivity of TRM based on multiple regression analysis (MRA), which is one of the multivariate analysis techniques. Under the MRA, all variables are independent, and dependent variables must carry data types at least at the interval scale and the ratio scale.



This analysis contains variables with nominal or ordinal scales, including gender, occupation, funding sources, and migration methods, so the researchers adjusted them to dummy variables (Jampaklay, 2017) by determining that male, careers in agriculture, own funding source or household support funding, and legal migration methods are dummy variables. After that, the dummy variables were analysed, and these variables were presented in Table 1. In addition, the researchers conducted a multicollinearity test between all dependent–independent variables. The study found that none of the variables had a correlation coefficient value greater than 0.75, which means all of them are applicable in MRA (David, 1991) to test hypothesis. The significance levels of the independent variables in the regression models were interpreted to determine the impact of human capital on labour productivity (Table 1).

## 4. Results and Discussion

The result of the analysis showed the characteristics and experiences of TRM, human capital accumulation at the local destination, the labour productivity of TRM and the effect of human capital on the labour productivity of TRM.

### 4.1 Characteristics and Migration Experiences

TRM are mostly male, and 43.8% are female, which is higher than other countries where female migrant workers work abroad. Only one in five of the total number of migrants working abroad (Overseas Employment Administration Division, 2022) is in the age range of Gen X (aged 41–56 years), 55.5% are of an average age of 43.6 years (S.D. = 8.9) and then, 70.7% are married. Moreover, 33.1% of the migrant workers have returned to high school education. The Labour Migration Survey in 2021 found that most migrants graduated from high school (National Statistical Office, 2021), with currently approximately 40.0% being agricultural entrepreneurs in integrated agriculture, modern agriculture, crops, commercial farming and enterprises. Moreover, 35.0% are in manufacturing factories, manufacturing plastic pellets, shops, restaurants and clothing stores or involvement in the community.

For experience of TRM to work aboard, half of the migrant workers returned from working abroad for the first time. More than half worked in Taiwan, South Korea, Japan and Hong Kong, using their own household savings as investments to work abroad (51.7%). Approximately 40.0% needed to borrow money from financial institutions, so TRM had to send money back to pay their investment debt. Moreover, 48.0% of TRM invested 1,470–3,000 USD per time, and more than 10.0% invested up to 4,412 USD for legal overseas work. No employment contract (3.3%) refers to illegal immigrants that cannot access employment contracts (Matthews et al., 2018).

The most recent work done abroad is mainly in the industrial or factory sector. 62.7% are in agriculture and livestock, and 26.7% send money back to households; approximately 441–882 USD per month. Moreover, most of the TRM worked abroad for 1–3 years (41.4%). The average number of years spent abroad is 5.8 years (S.D.= 2.1), which is the period under a legal employment contract under a project of interstate cooperation (Ministry of Labor, 2015).

### 4.2 Human Capital Accumulation at the Destination

Amongst the migrant workers, the accumulated human capital was 52.6% in middle-level destinations, with roughly one in three high-level human capital accumulations. Considering the list, human resources obtained in job skills were at a medium level; 60.2%. Then, human skills and modern skills accumulated at 20.2% and 29.3%, at the high level, respectively. One in three migrants

returns to a low level of human capability accumulation amongst people in the destination. The reason may be the illegal migrant workers. This kind of capital cannot be accumulated as well as it should be because of the limitations of work and living conditions. This is consistent with a study by Floor, Piet, and Ilse (2022) that found that international migrants have limited communication with people of the host nation and are concentrated only in their own community.

Furthermore, migrant workers re-trained in work skills from their employer or head of work or co-workers and trained in the necessary skills in their respective jobs regularly, up to 72.4% and 65.7% respectively. They also adjusted to the destination life on the advice of the employer, head of work, colleague, household and taking care of their health to avoid discontinuation of their employment. Amongst them, 58.8% and 61.9% could practice the destination language by learning through YouTube or a website and communicating with employers, respectively. They could also practice other foreign language skills (English or Chinese) used at work, from work systems and stakeholders at 23.1% and 25.0%, respectively. It shows that TRM can learn modern skills from working abroad, especially foreign language skills which can be learned through modern technology (Chiquiar and Hanson, 2019).

### **4.3 The Labour Productivity of Thai International Returning Migrants**

The labour productivity of TRM was at a moderate level, 50.7% and roughly one in four labour productivity at a high level. Approximately 30.0% of TRM added knowledge by training in new agriculture or career development from government agencies or related agencies; training in the use of agricultural tools or building tools to specialise in new careers and developing agricultural or household business careers by finding up-to-date knowledge from the internet regularly. This reflects that TRM clearly have labour productivity in their field of work, which is consistent with a study by Carling and Schewel (2018), which found that migrants have many foreign working skills that can be applied in their place of origin when migrating back. In addition, in professional enterprises, they also conduct business or housing accounts to evaluate the household's financial situation regularly (26.0%) and strive to learn to work in a career with a regular tolerance of 68.1%. Moreover, one in four of TRM still used a foreign language to communicate with their employer or co-worker or post-Facebook and learn additional foreign languages to engage in a career. As with many previous studies, labour productivity can be produced by workers in addition to their working skills. It is connected to digital media use and self-management, among other aspects of labour productivity (Koczan et al., 2021; Schiele, 2021).

### **4.4 Impact of Human Capital on the Labour Productivity of Returning Thai Migrant Workers**

The regression analysis was used to study the effect of human capital on the labour productivity of TRM. With the enter method, the analysis results (Table 1) are as follows:

#### **4.4.1 Characteristic Factors: Two Variables Affect Human Capital on the Labour Productivity of Returning Thai Migrant Workers**

(1) Male returning migrant workers have a positive influence on the labour productivity of TRM (regression coefficient (b) 1.326.) It means that male returning migrant workers have more labour productivities than female returning migrant workers 1.326 time. In accordance with Kutor, Raileanu and Simandan's study, which found that male returning migrants have work skills that contribute to labour productivity more than female returning migrants because of their physical advantages and access to jobs, male returning migrants often have more clear access to work abroad than female returnees. As a result, they have stable work opportunities and can be promoted or receive increased compensation.



(2) The number of years of education has a positive impact on the labour productivity of TRM. (regression coefficient (b) 0.301). It means that when the returning migrant workers have a year of education increase, their labour productivity will be increased 0.301 units because the returning migrant workers have a large number of study years or higher education. A variety of opportunities or funding channels are often available for these returned migrants compared with the returning migrant labour with educational limitations. This is consistent with the research of Belzil, Maurel and Sidibe (2021) which found that migrant workers with high levels of education can work well in skilled work. Therefore, there is a chance of higher labour productivity as well.

#### **4.4.2 Experience of Returning Migrant Workers: Three Variables Affect the Labour Productivity of TRM**

(1) The legal migration method has a positive impact on the labour productivity of TRM (regression coefficient (b) 1.652). It means that the returning migrant workers who migrated by legal migration method have more the labour productivities 1.652 time than those who migrated by illegal migration method. This is because workers who migrate to work abroad through legal means have stability in working abroad and could accumulate large amounts of capital to use in their place of origin. This is considered an important cost for migrant workers to increase their labour productivity when they return (Chiquiar and Hanson, 2019; Auraiampai et al., 2023).

(2) Amount of remittances has a positive impact on the labour productivity of TRM (regression coefficient (b) 2.236.) It means that when the returning migrant workers remit 1 unit, their labour productivity will increase at 2.236 units. It shows that if migrant workers send money back to their households in large numbers, it will lead to increased opportunities to access resources to develop labour productivity. Similar to research by Matthews, Robertson and Griffin (2018), it was found that households that receive large amounts of remittances keep the money for migrant workers to use when they return. As a result, migrant workers can invest in increasing labour productivity for themselves and their household members. The reason is that the amount of remittances refers to the compensation or financial support provided to TRM. Thus, receiving adequate reimbursement serves as a motivating factor for TRM as it creates a sense of recognition and reward for their efforts and contributions. When workers feel that their work is valued and they are compensated, their job satisfaction and overall motivation to perform at higher levels increase (Freeman, 1997).

(3) The migration period has a negative impact on the labour productivity of TRM (regression coefficient (b)  $-0.167$ ). It means that when the returning migrants have migration period increases a year, their labour productivity will decrease 0.167 unit. An extended period spent working abroad may lead to a loss of familiarity with the local labour market and changes in industry practices and technologies in their home country (Noack, 2018). This can result in a skills gap or outdated knowledge upon their return, which may hinder their ability to effectively contribute to the labour market. Moreover, the longer a migrant worker stays abroad, the greater the likelihood of becoming disconnected from the local networks and contacts that are crucial for securing employment opportunities and accessing valuable resources. This loss of social capital can make it challenging for TRM to reintegrate into the labour market and find suitable employment (Ayuwat et al., 2019).

#### **4.4.3 Factors of Human Capital Accumulation: Three Variables Affect the Labour Productivity of TRM**

(1) Human capital accumulation in terms of job skills has a positive impact on the labour productivity of TRM (regression coefficient (b) 0.249). It means that when the returning

migrant accumulated more job skills than 1 unit, their labour productivity will increase 0.249 units. When migrant workers acquire new skills and knowledge during their period of working abroad, they enhance their overall human capital, which refers to the stock of productive skills, competencies and qualifications possessed by individuals (Autor, 2014). The reason is that, first, the accumulation of new job skills allows returning migrant workers to bring back valuable expertise to the domestic labour market. These skills may include technical competencies, specialised knowledge or industry-specific practices that are in demand in their home country. They can contribute to the productivity and efficiency of their employers or businesses by leveraging their enhanced human capital (Hendrick and Bartram, 2019). Second, the accumulation of job skills enhances the adaptability and versatility of returning migrant workers. They are equipped to handle diverse tasks, respond to changing work conditions and learn new technologies or methods. This adaptability increases their capacity to perform a wide range of tasks and contributes to different areas of the labour market, leading to high productivity (Neto, 2019). Finally, the accumulation of job skills through work experience abroad often brings exposure to new work practices, technology advancements and innovative approaches. This exposure can lead to the adoption of many efficient work methods and contribute to process improvements within the domestic labour market. The application of these advanced skills and knowledge acquired abroad can impact on labour productivity and overall performance (Zuccotti, Ganzehoom and Guveli, 2017).

(2) Human capital accumulation in terms of human skills has a positive impact on the labour productivity of TRM (regression coefficient (b) to 0.236). It means that when the returning migrant workers have more accumulated skilled human capital increase 1 unit, their labour productivity will increase at 0.236 units. The reason is that human skills, known as soft or non-technical skills, refer to personal attributes, social abilities, and emotional intelligence that individuals possess. These skills play a crucial role in shaping how individuals interact, communicate and collaborate in the workplace. TRM have accumulated human skills during their migration experience which impact on labour productivity in several ways. First, human skills contribute to effective collaboration, communication and teamwork in the workplace. TRM who possess strong interpersonal skills, such as empathy, adaptability, and cultural sensitivity, are likely to build positive relationships with colleagues, superiors, and clients. This fosters a cooperative work environment, enhances teamwork and promotes efficient coordination, all of which can improve productivity (World Economic Forum, 2018). Second, human skills facilitate problem-solving and decision-making capabilities. TRM who have developed critical thinking, creativity and problem-solving skills are equipped to analyse complex situations, identify innovative solutions, and make informed decisions. This ability to navigate challenges and find effective solutions can lead to improved efficiency and labour productivity in the workplace (World Economic Forum, 2020). Finally, human skills contribute to leadership qualities and managerial capabilities. Migrant workers who possess leadership skills, such as effective communication, emotional intelligence and the ability to motivate and inspire others, can positively influence their team members and drive performance. Strong leadership and managerial abilities contribute to great task delegation, goal setting and overall team performance, resulting in labour productivity (World Economic Forum, 2020).

3) Human capital accumulation in terms of modern skills has a positive impact on the labour productivity of TRM. (regression coefficient (b) 0.336). It means that when returning migrants have more human capital accumulation in terms of modern skills increase 1 unit their labour productivities will increase 0.336 unit. The reason is that modern skills refer to the ability to

leverage technology, analyse data and adapt to the changing digital landscape in the workplace (World Economic Forum, 2020). In today's rapidly evolving world, possessing modern skills is crucial for staying competitive and labour productivity. Thus, when TRM have accumulated modern skills during their migration experience, they could contribute to labour productivity in several ways. First, modern skills enable individuals to leverage technology effectively. TRM who are proficient in using digital tools, software and online platforms can streamline their work processes, automate tasks, and access information efficiently. This can lead to labour productivity and faster turnaround times in completing tasks. Second, modern skills facilitate data analysis and decision-making. TRM who could collect, interpret, and analyse data can make data-driven decisions, identify patterns and trends, and optimise workflows. This can result in highly informed and effective decision-making, leading to improved labour productivity. Human capital accumulation in modern skills enable adaptability and agility in a rapidly changing work environment. TRM who are skilled in learning and adapting to new technologies and digital tools can quickly embrace innovations and industry advancements. Their ability to stay updated with the latest trends and developments allows them to respond to challenges and opportunities effectively, resulting in labour productivity (Auraiampai et al., 2023).

Based on the standardized coefficient (beta), the increased output when migrant labour returned from abroad was most affected by human capital accumulation in term of modern skills (Beta = 0.287). Next, the human capital accumulation in term of work skills (Beta = 0.207), number of years of education (Beta = 0.206), human capital accumulation in term of human skill (Beta = 0.0203), legal migration methods (Beta = 0.162), the migration period (Beta = 0.146) and male returning migrant workers (Beta = 0.138) and the amount of remittances (Beta = 0.126). All independent variables could explain 42.6% of the variation in labour productivity of Thai returning migrants (R-squared = 0.426) at a level of significance of 0.01 (Table 1).

**Table 1:** The Analysis of the Effect of Human Capital on the Labour Productivity of Returning Thai Migrant Workers.

Variables	The labour productivity		
	Unstandardized Coefficient (b)	Standardized Coefficient (Beta)	Level of significance
1) Male migrants <sup>(1)</sup>	1.326	0.138	0.004
2) Age	0.033	0.062	0.254
3) Number of years of education	0.301	0.206	0.000
4) Occupation as a farmer <sup>(2)</sup>	0.432	0.045	0.344
5) Funding sources (self-savings/household savings) <sup>(3)</sup>	-0.173	-0.087	0.058
6) Amount of investments	4.404	0.058	0.206
7) Legal migration <sup>(4)</sup>	1.652	0.162	0.001
8) Amount of remittances	2.236	0.126	0.020
9) Migration period	-0.167	-0.146	0.003
10) Human capital accumulation in terms of job skills	0.249	0.207	0.000
11) Human capital accumulation in terms of human skills	0.236	0.203	0.001
12) Human capital accumulation in terms of modern skills	0.336	0.287	0.000
a	3.026		

R-square = 0.426 F = 22.054 Sig. of F. = 0.000.

**Remarks:** The reference for the model variables:

<sup>(1)</sup> Sex = female <sup>(2)</sup>Current job = non-agricultural job; <sup>(3)</sup>Funding sources = loans from lenders or financial Institutions; <sup>(4)</sup>Migration methods = illegal migrant

## 5. Conclusions

The labour productivity of TRM was at a moderate level, 50.7% and roughly one in four labour productivity at a high level. The accumulated human capital was 52.6% in middle-level destinations, Considering the list, human resources obtained in job skills were at a medium level; 60.2%. Then, human skills and modern skills accumulated at 20.2% and 29.3%, at the high level, respectively. The characteristic factors consist of variables in male TRM, and the number of years of education has an effect on the labour productivity of TRM. Similarly, the factors affecting the experience of returning migrant workers consist of variables in the legal migration method, the number of remittances and the migration period, which have an effect on human capital and the labour productivity of TRM. Finally, human capital accumulation factors consist of variables in human, job and modern skills that affect the labour productivity of TRM. The study results are in accordance with all the hypotheses. Thus, human capital plays a significant role in influencing the labour productivity of TRM. Particularly, human capital accumulation, including job, human and modern skills, has a positive impact on the labour productivity when migrant workers return to their home country.

Overall, the impact of human capital on the labour productivity of TRM is evident, with the accumulation of job, human and modern skills playing a crucial role in enhancing labour productivity and contributing to the economic growth and development of the country. Policymakers and stakeholders should recognise the significance of investing in human capital development programmes and initiatives that promote skills acquisition, training and education amongst returning migrant workers. Countries can harness the full potential of returning migrant workers, maximise their contributions to the labour market and drive sustainable economic progress by supporting the continuous improvement of human capital.

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## Declaration of Interest Statement

The authors declare no conflicts of interest.

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