

Pull Factors of Immigration in Thailand: GDP, Economic Disparity, Poverty, Unemployment, and FDI

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Abstract

This study examined the pull factors of immigrants in Thailand by exploring the relationship between immigration and macroeconomic statistics, including per capita gross domestic product (GDP), the Gini coefficient, the unemployment rate, the poverty rate, and foreign direct investment (FDI) from 2009 to 2021. Since Thailand attracts low-skilled immigrants from surrounding countries such as Cambodia, Laos, and Myanmar, as well as highly skilled immigrants from developed nations, the direction of inflow and outflow across the border is more complicated compared with countries that are more clearly categorized as either low-income or high-income. As for estimation outcomes, first, the relationship linking the number of migrants to economic disparities, the poverty ratio, and the unemployment rate declines when economic disparities rise; this is partially because many low-skilled laborers are engaged in the workforce. Second, the relationship between remittances per migrant and economic disparities, per capita GDP, and FDI increases under a diminished Gini coefficient while the poverty ratio and unemployment rise; this is partially because remittances include those sent to developed nations. In general, the pull factors of immigrants in Thailand are stronger among immigrants from developed countries, although these factors are reflected among immigrants from both developed and developing states.

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1. Introduction

Migrants' motivations are so complicated that discussions about them continue; most economists assert that solving economic problems makes society richer and more successful. Almost unanimously, economists believe that highly educated, highly skilled immigrants can help revitalize the host country's economy. Many countries actively recruit highly skilled migrants. Meanwhile, economists have continued to examine the effects of lower skilled and less affluent immigrants on the host society.

Jaumotte et al. (2016) investigated the economic impact of migration on the host country; it differs between highly skilled and low-skilled laborers. The relative consensus among economists is that introducing highly skilled laborers into the host society will accelerate economic growth by boosting productivity (Hunt and Gauthier-Loiselle 2010; Peri, Shih, and Sparber 2015). In contrast, the economic impact of importing low-skilled laborers is under discussion because doing so has both positive and negative effects. Peri and Sparber (2009) showed that low-skilled immigrants may increase productivity by reallocating occupations among immigrants and native residents. In contrast, some studies have reported a negative effect of low wages (Borjas 2003; Dustmann, Frattini and Preston 2013).

The pull factors of immigrants have also been analyzed (e.g., Massey et al. 1993; Mihi-Ramirez et al. 2016; Mihi-Ramirez et al. 2017). Policies regarding immigrants differ by country. For instance, in Asia, the South Korean government imports immigrants to deal with labor shortages. In contrast, Thailand periodically accepts illegal immigrants. Analyses can help host countries formulate appropriate policies.

Thailand has welcomed advanced technologies, foreign direct investment (FDI), and skilled laborers from developed nations. As a result, Thailand has an upper-middle per capita income. In contrast, illegal immigrants come from lower-income countries such as Cambodia, Laos, and Myanmar. As a result, more than 2 million foreign laborers reside in Thailand (United Nations Network on Migration in Thailand 2024). The Thai government has admitted illegal immigrants as legal ones on an irregular basis; its policy toward immigrants can be summarized as post-event management. Judging from the above-described context, Thailand appears to welcome (or at least not outright reject) both highly skilled and low-skilled laborers, and migrants are attracted to Thailand for economic reasons rather than political ones.

We examined the pull factors of migration to Thailand by estimating the relationships linking migrants with various economic elements. Although it is difficult to evaluate policy stances on immigrants using only macroeconomic statistics, most developing countries do not have sufficient microeconomic statistics available. We therefore aimed to derive valuable insights into both kinds of data.

2. Previous Literature

Previous studies on the pull factors of immigration are classified according to five elements, as described by Mihi-Ramirez et al. (2017).

First, wanting to earn a higher income is one of the most important reasons why immigrants may wish to move to a new country. Massey et al. (1993) summarized previous studies and found that the difference in wages is the primary reason. Earnings levels can be converted into per capita gross domestic product (GDP) and are assumed to have a positive effect on the number of immigrants. Hypotheses on the relationship between income and immigrants have been positively estimated.

Second, unemployment determines income levels (Josifidis et al. 2014); hence, unemployment is assessed along with income level. Based on a theoretical model, Hart (1975) introduced the idea that the unemployment gap among countries is filled by migration. Jennissen (2003) examined international migration to Western Europe from 1960 to 1998 and showed that the labor market disparity was filled by migration rather than per capita GDP. These studies indicate that the unemployment rate negatively affects the number of immigrants.

Third, inequality is an important issue for immigrants since they can earn income as a group. Stark et al. (2020) comprehensively outlined previous literature. Theoretically, Stark (2006) examined the analytical-behavioral framework to study the relationship between the Gini coefficient and migrants using the concept of total relative deprivation. Stark et al. (2020) also extended the effect of immigration to the Gini coefficient by way of economic growth through the idea of total relative deprivation; they found that the

total impact changes due to both positive and negative aspects. Empirically, Mihi-Ramirez et al. (2017) revealed a positive effect of income inequality in rich member states of the European Union (EU) and a negative effect in poor EU countries. Czaika (2013) proposed that income disparity would be negatively correlated with the total migration rate. Stark et al. (2009) investigated the effect of immigrants in Poland; they found a positive impact on international migration from Poland as well as interregional migration within Poland from 1999 to 2005. These studies infer that inequality, portrayed as the Gini coefficient, is positively estimated in developed countries and negatively estimated in developing ones.

Fourth, FDI plays an important role in investment, leading to economic growth through capital accumulation and increased immigration (Massey et al. 1993). In addition, the relationship between FDI and migration can occur in both ways positively or negatively (Mihi-Ramirez et al. 2016). FDI related to capital accumulation induces the labor market through enlarging the economy, including immigration, while growth induces FDI. By contrast, according to network theory, there is a higher emigration rate from nations with higher FDI (Gould 1994). These results indicate that the effect of FDI on immigrants depends on the country of origin.

Fifth, we must consider the poverty line and immigrants. The poverty line refers to the minimal income level required to live by fulfilling one's basic needs. Colasanto et al. (1984) defined minimum income based on family size and examined income through the Wisconsin Basic Needs Survey in 1981; they deduced that countries with a higher poverty line have more immigrants. Stark et al. (1988) showed that economic inequality and poverty increase the number of immigrants. Skeldon (1997) indicated that movement from rural to urban areas does not necessarily lead to people seeking higher wages; rather, migration is a selective process. Judging from previous literature, a ratio below the poverty line will have a negative impact on immigrants as a pull factor.

Past literature on Thailand's inward immigration is popular not only in economics but also in sociology. Osaki's (2003) investigation of migration to Thailand has helped improve the status of households in origin countries through remittances. Lee et al. (2011) explored repeat migration to Thailand and found that it tends to cause people to save money rather than send it home. Paitoonpong and Chalamwong (2012) analyzed international migration in Thailand based on the results of socioeconomic household surveys and interviews; they found that immigrants have a positive impact on GDP and income distribution but also negative effects, mainly in terms of causing crime.

Based on prior literature, the pull factors of immigrants have been examined but are still difficult to define because immigrants' overall economic impact is complicated. Additionally, empirical studies on economics in the ASEAN region are still being conducted.

3. Methodology and Data

This section includes an estimation of pull factor of immigration in Thailand by providing the methodology in section 3.1 and the data in section 3.2.

3.1 Methodology

The methodology in estimating the pull factor of immigration in Thailand follows: First, we performed unit root tests to convert the variables to $I(0)$ in order to prevent spurious regressions. Because most economic statistics include one unit root, $I(1)$, owing to the upward trend—including economic growth and price level—we used the first differences in this case to make the conversion to $I(0)$. Because some developing countries experience rapid economic growth, a significant upward trend will increase $I(2)$. In this case, we used second differences, $\Delta(\Delta x_t) = \Delta x_t - \Delta x_{t-1}$. Because our study includes developing countries in a limited time frame, $I(2)$ characteristics emerged. We employed augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to determine whether the variables would have unit roots. The ADF test includes the $AR(p)$ process, while the PP test considers serial correlation and heteroscedasticity in a differenced time series error term. The stationarity test executes null hypotheses of the unit root on the values and their first differences, including both “intercept” and “trend and intercept” specifications.

Second, we examined the relationship between migrants and income inequality using ordinary least squares (OLS) equations after converting the variables to $I(0)$ in order to prevent spurious regressions. To confirm the effect of migrants based on the number of people and the amount of money, we estimated the following three equations:

$$MIG_t = \beta_0 + \beta_1 PGDP_t + \beta_2 UNEMP_t + \beta_3 GINI_t + \beta_4 POV_t + \beta_5 FDI_t + u_t \quad (1)$$

$$REM_t = \beta_0 + \beta_1 PGDP_t + \beta_2 UNEMP_t + \beta_3 GINI_t + \beta_4 POV_t + \beta_5 FDI_t + u_t \quad (2)$$

$$PREM_t = \beta_0 + \beta_1 PGDP_t + \beta_2 UNEMP_t + \beta_3 GINI_t + \beta_4 POV_t + \beta_5 FDI_t + u_t \quad (3)$$

where

MIG_t = net migration during period t .

$PREM_t$ = net remittances divided by net migration in period t .

REM_t = net remittances in period t .

$PGDP_t$ = per capita GDP in period t .

$UNEMP_t$ = the unemployment rate in period t .

$GINI_t$ = the Gini coefficient for period t .

POV_t = the poverty ratio (the ratio of people living on less than \$6.85 per day) in period t .

The explanatory variables are as described by Mihi-Ramirez et al. (2017). We converted net migration, net remittances per migration, and net remittances into logarithms in the estimation because the growth rate made it easier to grasp the effect in the growth-based model.

As the number of observations for each variable was relatively small, it would have been difficult to perform a time-series analysis including Autoregressive Distributed Lag (ARDI) or cointegration techniques. In addition, it will be difficult to use the panel data since all are available only as a country data. Hence, we examined only OLS estimations.

3.2 Data

All the data are available from the World Development Indicators (World Bank). Due to data restrictions, the estimated period spans 2009 to 2021. The poverty ratio is \$6.85 per day because the two nations are not low-income countries. per capita GDP is constant and based on US dollars; we converted remittances into constant prices using the dollar-based GDP deflator for each country. Since data on migration in 2021 are missing, the number of migrations and remittances per migration only consists of 12 observations, whereas the other variables amount to 13. Table 1 presents the descriptive statistics.

Table 1: Data description

	ln(MIG)	ln(REM)	ln(PGDP)	UNEMP	GINI	POV	FDI	ln(PREM)
N	12	13	13	13	13	13	13	12
Mean	10.686	22.134	8.641	0.776	37.008	4.208	2.025	11.409
Std	0.880	0.327	0.090	0.310	1.599	1.785	1.380	1.112
Max	11.635	22.744	8.769	1.490	39.600	8.200	4.323	14.183
Min	8.560	21.728	8.463	0.249	34.900	2.400	-0.858	10.426

Note: MIG = net migration; PREM = net remittances divided by net migration; REM = net remittances; PGDP = per capita GDP; UNEMP = the unemployment rate; GINI = the Gini coefficient; POV = the poverty ratio (the ratio of people living on less than \$6.25 per day); FDI = net foreign direct investment; ln = natural logarithm.

Source: Authors' calculation.

4. Estimation Result and Discussion

Here, we present the results of the unit root tests and OLS estimations. First, we performed unit root tests for the eight variables in Thailand, as shown in Table 2. We estimated only FDI as white noise, I(0). By contrast, we estimated per capita GDP, the Gini coefficient, and the poverty ratio as I(1). In addition, remittances, migration, remittances per migrant, and unemployment are depicted as I(2) characteristics.

Table 2: Estimation outcomes of the unit root tests

LN(MIG): I(2)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-2.508	-4.514**	-1.930	-2.510
First difference	-3.203*	-	-1.833	-0.889
Second difference	-	-	-1.629	-1.218
LN(REM): I(2)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-0.363	-3.155	-0.398	-6.572***
First difference	-2.880*	-2.768	-4.580***	-
Second difference	-2.861*	-5.041**	-	-
LN(PREM): I(2)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-1.913	-4.256**	-1.424	-2.468
First difference	-3.425**	-	-1.862	-0.508
Second difference	-	-	-1.012	-0.274
LN(PGDP): I(1)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-2.211	-0.725	-2.556	-1.376
First difference	-3.444**	-3.832*	-3.456**	-3.998**
UMEMP: I(2)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-2.984*	-2.954	-2.971*	-10.254***
First difference	-1.787	-1.581	-6.197***	-
Second difference	-6.276***	-5.992***	-	-
GINI: I(1)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-1.128	-4.300**	-1.192	-8.479***
First difference	-5.044***	-	-11.714***	-
POV: I(1)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-4.057**	-2.635	-4.074**	-2.251
First difference	-	-4.511**	-	-7.630***
FDI: I(0)				
	ADF		PP	
	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	-3.748**	-4.625**	-3.778**	-11.806***
First difference	-	-	-	-

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Source: Authors' calculation.

Next, we made OLS estimations after performing conversion to $I(0)$, reflecting the results of the unit root tests. Specifically, we converted MIG, REM, PREM, and UNEMP into second differences. Additionally, we converted GINI, PGDP, POV, and FDI into first differences. Table 3 lists the estimated outcomes of equations (1) to (3).

The estimated results of equations (1) to (3) are outlined as follows: First, we effectively forecasted the amount of net migration to Thailand, shown in Equation (1), using per capita GDP, unemployment, and FDI negatively at 5% and the Gini coefficient positively at 5%. Moreover, we calculated the poverty ratio as 10%. Second, we effectively estimated remittances per migrant in Equation (2) using per capita GDP, unemployment, poverty, and FDI positively at 5% and the Gini coefficient negatively at 1%. Compared with Equation (1), Equation (2) has an almost inverse sign condition. Third, we ineffectively estimated remittances in Equation (3), except for per capita GDP.

Table 3: OLS estimation results

Data period: 2009-2021			
Equations	(1)	(2)	(3)
Dependent variable	D(LN(MIG),2)	D(LN(PREM),2)	D(LN(REM),2)
D(LN_PGDP)	-21.621	29.917	7.028
	(7.692)**	(6.764)**	(2.454)**
D(UNEMP,2)	-2.944	2.723	-0.026
	(0.975)**	(0.858)**	(0.299)
D(GINI)	1.395	-1.490	-0.142
	(0.337)**	(0.297)***	(0.110)
D(POV)	-1.204	1.196	0.024
	(0.456)*	(0.401)**	(0.155)
D(FDI)	-0.943	0.854	-0.012
	(0.235)**	(0.207)**	(0.054)
C	0.578	-0.778	-0.154
	(0.272)	(0.239)**	(0.086)
Adj. R²	0.815	0.881	0.447
D. W. Ratio	2.030	2.202	2.142

Notes: 1. D(--) denotes the first difference, while D(--,2) refers to the second difference,

2. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Source: Authors' calculation.

We can infer the estimation outcomes in each equation as follows.

Equation (1), which reflects the number of net migrants, can be summarized by the following three points: First, growing income disparities increase migration to Thailand. Judging from previous literature, this direction of movement is similar to that of developed nations rather than in developing ones, indicating that Thailand is more developed than its neighbors. Second, lower unemployment and poverty increase the number of migrants to Thailand, which is consistent with this theory. Third, reducing FDI and per capita GDP increase immigration to Thailand, which may occur when low-skilled laborers come to Thailand and earn lower wages. Overall, we estimated Equation (1) by reflecting on developed countries that absorb low-skilled laborers.

In contrast, Equation (2), which pertains to per capita remittances, can be explained using the following three points: First, shrinking economic disparities cause remittances to rise, implying that when migrants become richer, they send more money home. Second, rising per capita GDP and FDI increase per capita remittances, which is a reasonable result. Third, rising poverty and unemployment lead to higher per capita remittances. Although this is a surprising outcome, the global recession caused migrants to send remittances to their relatives in their home countries. Overall, Equation (2) reflects the perspective of highly skilled laborers.

Finally, we effectively estimated Equation (3)—which shows total remittances—using only per capita GDP, which led us to conclude that money is sent by large corporations or people with higher earnings. In general, based on the pull factors of immigration, Thailand receives immigrants from surrounding lower-income countries as well as highly skilled migrants from high-income nations.

5. Conclusion

This study examined the economic impact of migrants in Thailand by exploring the relationships among migrants, per capita GDP, the Gini coefficient, the unemployment rate, the poverty rate, and FDI from 2009 to 2021. The effects of immigrants are under discussion because their economic impact is considered to be both positive and negative. Since Thailand receives low-skilled immigrants from surrounding countries such as Cambodia, Laos, and Myanmar as well as highly skilled immigrants from developed nations, the overall effect is complex compared to that of more solidly low-income or high-income states. The estimation outcomes are as follows. First, the relationship between the number of migrants and economic disparities, the poverty ratio, and the unemployment rate declines when the Gini coefficient rises, partially because many low-skilled laborers are engaged in the workforce. Second, the relationship between remittances per migrant and economic disparities, per capita GDP, and FDI increases under a diminished Gini coefficient while the poverty ratio and unemployment rise, partially because remittances are sent to developed countries. In general, the pull factors of immigrants in Thailand are stronger among immigrants from developed nations, although this is reflected among immigrants from both developed and developing countries. As a whole, Thai government sometimes admits illegal immigrants as legal immigrants afterwards, which can be evaluated under the equilibrium since the balance inside the economic disparity is kept well in the macroeconomy.

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