

MANAGEMENT & ACCOUNTING REVIEW

Volume 18 No. 2
August 2019

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Human Development, Unemployment and Indonesian Migrant Workers

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ABSTRACT

This paper focuses on three objectives. The first objective is to examine the long-run relationship among human development, unemployment and the Indonesian Migrant Workers (IMWs). This is followed by examining the causality between the human development and unemployment, respectively, and the IMWs in the second objective. The effect of human development and unemployment on the IMWs is examined in the third objective. The study is based on time series data and utilizes a Vector Autoregressive (VAR) framework. The findings show that human development, unemployment and the IMWs are cointegrated. Human development and unemployment, respectively, causes the IMWs in the short- and long-run. Human development has a negative significant effect on the IMWs while unemployment has a positive significant effect on the IMWs.

Keywords: *Human Development, Unemployment, Migrant Workers, Indonesia*

ARTICLE INFO

Article History:

Received: 5 July 2018

Accepted: 29 January 2019

Available online: 31 August 2019

INTRODUCTION

Many studies have been conducted on the relationship between development and international migration. However, only a few studies have analysed human development and international migration. The studies include those conducted by de Haas (2010), the United Nations Development Programme /UNDP (2009), Letouzé *et al.* (2009) and Stanley (2010), and have provided a broader perspective of human development.

The first comprehensive report on the relationship between human development and migration was published in the 2009 Human Development Report (UNDP, 2009). The report provides some conclusions concerning the important role of proximity in geographical locations and the similarity in social and cultural values between the home and host countries. Of the total international migrants, around 50 per cent moved within the region of origin followed by around 40 per cent migrating to a neighbouring country, while the rest migrated to a country that has the same major religion and language as their home country. The other conclusions are that the migrants are mostly successful and improve human development both in the home and host countries. Lastly, the immigrants do not take the job and depress the wages in the host country and the entire society benefit from the migration.

This study attempted to address the relationship between human development and international labour migration by proposing three objectives. First, the study examined the long-run relationship among human development, unemployment and the Indonesian Migrant Workers (IMWs), followed by examining the causality between human development and unemployment, respectively, and the IMWs. The last objective was to examine the influence of human development and unemployment on the IMWs.

This paper is divided into six sections. The next section discusses a brief literature review of the relationship between development and migrant workers. This is followed by an overview of the development and the IMWs. The method is described in the fourth section while results and discussion are presented in the fifth section. The last section presents the conclusion.

LITERATURE REVIEW

International migration is a process as well as an indicator of human development and it is a reflection of the capability of moving and choosing the host country freely (de Haas, 2010). de Haas (2010) developed a conceptual framework for analysing the relationship between human development and migration based on Sen's capability concept (1999) whereas migration is a function of an individual's capabilities and aspirations and aggregate differentials in opportunity.

There are two types of research on the relationship between human development and migration. The first type of research mainly employs cross-country data and assumes non-linear relationship between human development and migration. The second type of research mainly focuses on a certain country and assumes a linear relationship between human development and migration, which includes the determinants of migration and the impact of migration.

The first type of research was conducted by de Haas (2009 and 2010), Letouzé *et al.* (2009) and UNDP (2009). de Haas (2010) proposed an inverted J- or U-shaped pattern of human development and emigration relationship. The emigration effect of early human development is positive due to various factors, such as reducing obstacles and increasing aspirations supported by the migration network and contextual factors. Meanwhile the emigration effect of the late human development is negative. After reaching the peak at the medium human development level, emigration will decline due to the reducing the gap in the opportunities between countries of origin and destination.

De Haas (2010) and Letouzé *et al.* (2009) proved an inverted U-shaped relationship between the Human Development Index (HDI) and emigration. The UNDP (2009) also discovered a non-linear relationship between the level of development and emigration by countries. The emigration rate in countries with medium human development was higher than the rate in the countries with the low and the high human development. The emigration rate in countries with the high human development was about three-fold the rate in the countries with low human development. Based on panel data of the 81 home countries of immigrants in the United States of America

(USA), Clark *et al.* (2002) also proved the inverted U-shaped relationship between inequality, measured by the Gini coefficient of household income relative to the USA, and immigration in the USA. Increasing inequality was followed by increasing immigration from European countries.

The studies on the non-linear relationship between development and migration do not always provide significant results. Hatton and Williamson (2002) reported the positive effect of wage in the home countries on emigration, which is weakly significant. This is due to the majority of the countries in the study being high-income countries in which poverty is less likely to be an obstacle for emigration. Moreover, Letouzé *et al.* (2009) concluded that sharing border areas between developing countries – Morocco, Turkey and Mexico – and developed countries (the USA and Europe) as destination countries of migration, and having a similarity in cultural values may reduce the effect of development on emigration.

The positive effect of early development on emigration reflects the fact that poverty is not always an obstacle for emigration. For instance, Indonesians working overseas is mainly due to economic reasons, such as higher salary abroad (27 per cent), difficulty in finding a job in Indonesia (21 per cent), lower salary in Indonesia (19 per cent) and easy to find work abroad (15%). Becoming a migrant worker is certainly not easy for the poor people because of the social costs, such as living far away from the family and economic cost for immigration documents and transportation. The IMWs overcome the cost problem in various ways, for example by borrowing money from their own family and non-family members including recruitment agencies (3 per cent) and other sources (17 per cent). Housemaids and technical workers mainly borrow money from their employers (14 per cent) (IOM, 2010).

There is a possibility of a U-shaped rather than an inverted U-shaped relationship between development and emigration. The U-shaped pattern indicates the high emigration rate in the early and late development level and the lowest emigration rate in the medium development level. Emigration is necessity driven among the poor households and opportunity driven for households that want to improve their living standards (UNDP, 2009). The UNDP (2009) found that more than 50 per cent of the respondents in Niger migrate due to poverty while respondents in Thailand migrate due to a greater aspiration for improving the welfare of the family.

A U-shaped relationship between happiness and international migration has been reported by Polgreen and Simpson (2011) based on their study among immigrants in the USA. Immigration in the USA is high among people from very happy countries and from very unhappy countries while people from countries with a middle level happiness are less likely to migrate.

The second type of research includes studies carried out by Stanley (2010), and Deb and Seck (2009). Stanley (2010) reported a high migration rate in locations with a high level of human deprivation in Honduras. The locations with capital-intensive industry have a higher emigration rate compared to the emigration rate in locations that have a labour-intensive industry. In another study, Deb and Seck (2009) revealed a significant trade-off between migration and health among internal migrants in Indonesia and Mexico. Migration increases socio-economic status due to increasing income or consumption, but it may also deteriorate health as well as create emotional costs (Deb and Seck, 2009).

Unemployment is another factor influencing migration. The Keynesian economic theory views that a difference in unemployment between two countries will affect migration. Unemployment has a positive effect on net emigration in origin countries and a negative effect on net immigration in destination countries (Jennissen, 2003). The results of empirical testing of this theory in the home countries of immigrants are mixed. Unemployment positively determines emigration in Pakistan dominated by the skilled and professional workers (Ahmad *et al.* 2008) and in the Philippines (Agbola and Acupan, 2008). Unemployment may also negatively affect emigration due to poverty constraints, as revealed in the home countries of immigrants in OECD countries (Pedersen *et al.* 2004), Greece and the Irish Republic (Jennissen, 2003). However, unemployment does not necessarily determine emigration significantly in Egypt and Ghana (van Dalen *et al.* 2005).

Migration and the other variables may have a relationship in the long-run. A study in Fiji revealed cointegration among income, democracy and emigration (Narayan and Smyth, 2005). Real GDP, migration and democracy can be dependent variables as well as independent variables in the long-run while emigration and democracy cause real GDP in the short-run. Akkoyunlu (2007) found the long-run relationship among Turkish

migrants in Germany, aid, trade and income ratio between Germany and Turkey, unemployment rates in Germany and Turkey, and remittances in Turkey. In another study, Morley (2006) reported a causal relationship between immigration and economic growth for Canada, Australia and the USA. Gonzalez-Gómez and Giráldez (2011) revealed that in Germany, immigration and GDP are cointegrated, and have a bidirectional long-run relationship. Moreover, in Switzerland GDP causes immigration in the short-run, but not in the long-run.

OVERVIEW OF DEVELOPMENT AND INDONESIAN MIGRANT WORKERS

Indonesia is the world's fourth most populous country (around 255 million in 2015) after China, India and the USA. This country is one of the top ten movers of human development in the world from 1970 to 2010 for both the non-income HDI and income (UNDP, 2010). HDI improved from 0.604 in 2000 to 0.689 in 2015. The Indonesian economic growth increased steadily from 4.92 per cent in 2000 to 6.10 per cent in 2010 but it decreased sharply from 2010 to 2015. Moreover, GDP per capita continuously increased with the sharpest increase from 2005 to 2010. Indonesia was also experiencing a decrement in human deprivation, as indicated by declining poverty both in urban and rural areas (Table 1). Having such characteristics brings Indonesia into the group of the lower middle-income and the medium human development together with China and India (UNDP, 2010).

Table 1: Selected Social and Economic Indicators, Indonesia, 2000-2015

Selected Social and Economic Indicators	2000	2005	2010	2015
Population Size (million)*	205.133	219.852	237.641	255.462
Economic Growth (%)*	4.92	5.69	6.10	4.87
GDP per capita (USD) **	4,029.677	5,212.94	8,423.176	10,263.14
Poverty rate in Urban Areas (%)****	14.60	11.68	9.87	8.22
Poverty rate in Rural Areas (%)****	22.38	19.98	16.56	7.79
Human Development Index***	0.604	0.64	0.662	0.689
Unemployment rate (%)*	6.1	11.2	7.14	5.80
Unemployment (million)*	5.8	11.9	8.32	7.60

Source: * ADB, 2017 **IMF, 2017 *** Statistics Indonesia, 2017a and UNDP, 2017, **** Statistics Indonesia, 2016

Indonesia has a problem with unemployment. The number and the rate of unemployment declined from 2005 to 2015 but the number of unemployment (7.60 million) in 2015 was higher than those in 2000 (5.8 million) (Table 1). The unemployment rate among the population having upper secondary education and above, on average, was higher than the unemployment rate among the population having lower secondary education or less (Statistics Indonesia, 2010 and 2012).

The high unemployment rates among those having vocational and diploma education shows that this type of education does not necessarily guarantee the job seekers finding a job faster as campaigned by the government. Having a first degree education or higher will also not automatically help the job seekers to obtain the desired job. Downgrading education in Indonesia's labour market has occurred because the employers employ people with a higher education than the job requirement due to the greater supply of labour having higher education (McDonald, 2010).

The low wage in Indonesia pushes the Indonesians to migrate to several destination countries mainly in Saudi Arabia and Malaysia. The largest demand for Indonesian labour was from Malaysia in 2000 (44.05 per cent), 2005 (42.56 per cent) and 2016 (37.37 per cent), and from Saudi Arabia in 2010 (39.75 per cent) (Table 2). The share of the IMWs in the other countries in 2010 (40.09 per cent) and in 2016 (56.86 per cent) was greater than the share of the IMWs in Saudi Arabia and Malaysia respectively. This indicates

that the Indonesian workers are more distributed to countries other than Malaysia and Saudi Arabia. The data on the IMWs does not cover illegal workers which were around 1.9 million in 2015, mostly in Malaysia and Saudi Arabia (finance.detik.com, 2015).

Table 2: Indonesian Migrant Workers by Main Destination Country, 2000-2016

Year	Malaysia		Saudi Arabia		Other countries		Total	
	Total	%	Total	%	Total	%	Total	%
2000	191,700	44.05	114,067	26.21	129,455	29.74	435,222	100
2005	201,887	42.56	150,235	31.67	122,188	25.76	474,310	100
2010	116,056	20.16	228,890	39.75	230,857	40.09	575,803	100
2016	87,616	37.37	13,538	5.77	133,297	56.86	234,451	100

Source: BNP2TKI, 2012 and 2016
 Notes : * Percentage is computed by author

Table 3: Remittance by Main Destination Country for Indonesian Migrant Workers, 1995-2016

Country	1995* (%)	2000** (%)	2005** (%)	2010*** (%)	2016**** (%)
Malaysia	12.32	24.79	50.22	34.33	26
Hong Kong	4.12	12.00	6.18	6.69	8
Saudi Arabia	44.14	27.20	25.51	33.91	31
Taiwan	3.65	15.87	3.97	6.79	10
Singapore	15.70	6.53	2.34	3.36	3
United Arab Emirates	1.72	1.39	2.91	2.92	3
Japan	2.78	2.61	2.21	2.26	2
United States (US)	5.42	1.61	1.00	1.49	8
Others	10.14	7.98	5.67	8.25	10
Total (%)	100.00	100.00	100.00	100.00	100.00
Total (in USD Million)	554.00	1,311.00	5,295.00	6,735.00	6,042.21

Source: *Soeprobo, 2004 ** IOM, 2010 ***BNP2TKI, 2012 **** BNP2TKI, 2016
 Notes: Percentage is computed by author.

One of the impacts of the migration is remittance. The amount of remittance in Indonesia increased from around 554 million USD in 1995 to 6.7 billion USD in 2010 (Table 3). The remittance in 2016 was less

than the remittance in 2010. The largest share of remittance was from the IMWs in Saudi Arabia in 1995 (44.14 per cent), 2000 (27.20 per cent) and 2016 (31 per cent), and in Malaysia in 2005 (50.22 per cent). In 2010, the share of remittance from the IMWs in Saudi Arabia and in Malaysia was relatively the same (around 34 per cent each). The family in Indonesia used the remittance mainly for food (68 per cent) and education (52 per cent) (IOM, 2010).

METHODS

This study uses the modified concept of de Haas (2010) in analysing the emigration process in the context of human development. The proposed model is that the migration decision is a function of human development and unemployment, written as follows:

$$\text{IMWs} = f(\text{Human Development/HDI, Unemployment/UNP})$$

The migration decision, as a dependent variable, was measured by the number of IMWs recorded by BNP2TKI. Independent variables include Human Development measured by HDI, and Unemployment measured by unemployment rate (UNP). The data for HDI and UNP were obtained from the UNDP (2017) and Statistics Indonesia (2017b) respectively. The quarterly data for the dependent and independent variables spanned from 1994 to 2015. The IMWs data were transformed into log form.

The VAR approach (Masih and Masih 1996) was employed by this study. Before conducting the cointegration test, the Kwiatkowski, Philips, Schmidt and Shin (KPSS) (1992) and Augmented Dickey Fuller (ADF) unit root tests were carried out to detect the order of integration for each variable in the model for avoiding spurious results of regression. The KPSS proposes a null hypothesis of mean stationary while the ADF proposes a null hypothesis of a unit root.

The null hypothesis of the KPSS test has to be rejected and the null hypothesis of the ADF test has to be accepted at level in order to carry out the Johansen and Juselius (1990) cointegration test for examining the long-run relationship among all variables in the model. The Johansen and

Juselius cointegration test consist of Trace (λ_{trace}) and Eigenvalue (λ_{max}) tests. The hypothesis in the Trace test is at most r cointegrating vectors while in the Eigenvalue test it is r cointegrating vectors. Causality test is conducted afterwards for identifying whether there is a bidirectional causality or unidirectional causality between two variables (Granger, 1988).

RESULTS AND DISCUSSION

Table 4 presents the KPSS and ADF tests results. The KPSS test results at level show that the null hypothesis is rejected for IMWs and HDI at the 10 and 5 per cent significant levels respectively. Meanwhile, the ADF test results present that the null hypothesis is not rejected at level for IMWs and UNP at the 1 per cent level of significance. The results confirm that each variable has a unit root either using the KPSS or the ADF unit root test enabling to proceed the long-run cointegration test.

Table 4: The Results of Unit Root Test

Variable	KPSS (level)	KPSS (1 st different)	ADF (level)	ADF (1 st different)
IMWs	0,357353***	0.252965	-3,662065**	-8,395766*
HDI	0,666249**	0.280433	-1,961014	-3,834389*
UNP	0.208039	0.323125	-3.504407**	2,820458**

Notes: Asterisks (*), (**) and (***) denote significant at the 1, 5 and 10 per cent levels respectively

Table 5 presents the results of the cointegration test. Both Trace and Max-Eigen statistics of the cointegration test reject the null hypothesis at the 5 per cent level of significance meaning that IMWs, HDI and UNP are cointegrated or have a long-run relationship. Cointegration was also found in Fiji among income growth, emigration and democracy (Narayan and Smyth, 2005) and in Turkey among income, unemployment, aid, trade and migration from Turkey to Germany (Akkoyunlu, 2007).

Table 5: The Results of Johansen-Juselius Cointegration Test

IMWs, HDI, UNP (k = 2, r = 1)					
Null	Alternative	Trace		Max-Eigen	
		Trace statistic	p-value	Max-Eigen statistic	p-value
r = 0	r = 1	34.53953	0.0132**	29.80643	0.0024**

Notes: The k is the lag length, r is the number of cointegrating vector, and asterisk (**) denotes significant at the 5 per cent level.

The results of the Vector Error Correction Model (VECM) test are reported in Table 6. A unidirectional causality occurs from HDI to IMWs and from UNP to IMWs in the short- and long-run. The VECM table presents that only IMWs equation is significant in the long run since the coefficient of Error Correction Term (ECT) in this equation is negative and significant. The finding in this study –the unidirectional causality- does not confirm the previous studies whereby there is bidirectional causality between emigration and the other variables (Narayan and Smyth, 2005; Gonzalez-Gómez and Giráldez, 2011).

Table 6: The Results of Vector Error Correction Model

Variables	t- statistics of lagged first-differenced terms			ECT	
	Δ IMWs	Δ HDI	Δ UNP	coefficient	t- statistics
Δ IMWs		0.45108	-098484	-1.484751	3.58269*
Δ HDI	-1.53166**		-0.32998	0.000960	0.22181
Δ UNP	-2.02905*	0.37394		0.91470	0.36095

Notes: Asterisks (*) and (**) denote significant at the 5 and 10 per cent levels respectively.

The results show that IMWs is determined by HDI negatively and significantly. The number of the IMWs tends to decrease due to better social and economic conditions in Indonesia reflected by increasing HDI. The low human development is not an obstacle for the poor people in Indonesia to migrate. The poor people may have a relatively high aspiration reflected by their reasons for working overseas, such as easier to find a relatively high paid job overseas compared to that in Indonesia (IOM, 2010).

The way the families of the IMWs used remittance mainly for food and education (IOM, 2010) indicates the concern of the IMWs for the quality of life of their family members. The benefits obtained by being migrant workers enable them to have much more choices (de Haas, 2010) and happiness (Polgreen and Simpson, 2011) in their life. The finding in Indonesia is similar to the findings of UNDP (2009) for low income countries, and Polgreen and Simpson (2011) concerning the relationship between the level of happiness in the home countries and international migrants in the USA.

$$\begin{array}{rcl}
 \text{IMWs} = & -15.58677 & - 5.243558\text{HDI} & + 0.096615\text{UNP} \\
 \text{t statistics} & & 2.38 & - 3.21
 \end{array}$$

The results also show that unemployment positively determines IMWs. Higher unemployment will be followed by higher IMWs, or vice versa. The result of this study confirms the Keynesian theory in which high unemployment will push emigration (Jennissen, 2003). The finding may reflect the labour market situation in Indonesia. Unemployment in Indonesia is dominated by educated youths who are most likely to take over the low skilled job in the home country (Statistics Indonesia, 2010 and 2012, McDonald, 2010) which pushes the low-skilled labour to work overseas.

CONCLUSION

Three objectives were achieved in this paper. The first objective was to examine the long-run relationship among human development, unemployment and the IMWs. Human development, unemployment and the IMWs are cointegrated. The second objective was to examine causality between human development and unemployment, respectively, and the IMWs. Unidirectional causality from human development and unemployment, respectively, to the IMWs, occurs in the short- and long-run.

The last objective was to examine the effect of human development and unemployment on the IMWs. The study revealed that human development negatively influences the IMWs while unemployment positively affects the IMWs. Based on the findings, it can be concluded that Indonesia tends to be at the later stage of the inverted U-shaped relationship between human development and migration, in which better human development in the home country tends to reduce the IMWs.

Since, in the long-run, human development and unemployment cause the IMWs, the Indonesian Government should have a holistic manpower plan in order to prepare Indonesian labourers to compete especially in the international labour market, and to become entrepreneurs. This policy is important since the low-skilled labourers tends to be replaced by highly educated youth in the home country, which pushes them to work overseas.

The Indonesian Government has to maximize its efforts to create more productive jobs with sufficient salaries to cover the need for food, good quality education and health services, which may create a secure feeling,

especially among the poor. Finally, this study has a limitation in terms of the limited number of the independent variables and observed years. It is important to carry out a country specific study, particularly in developing countries, using more variables and a longer time series data for obtaining a robust conclusion.

ACKNOWLEDGEMENTS

The author would like to thank the Faculty of Economics and Business, Universitas Tanjungpura and State Accountability Revitalization (STAR), Badan Pengawasan Keuangan dan Pembangunan Indonesia, for facilitating publication of this article.

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