

Conference Paper

Remittances and Economic Growth: Case for Asian Countries

Rossanto Dwi Handoyo and Ryan Bangkit Simanjuntak

Department of Economics, Faculty of Economics and Business, Airlangga University

Abstract

This research aims to analyze the influence of remittance of migrant on economic growth of the origin country. We also scrutinize the affect of capital, population ratio, the ratio of school participation, and the ratio of exports on economic growth in eight largest receiving countries of remittance in Asia which are India, China, Bangladesh, Philippines, Indonesia, South Korea, Pakistan and Sri Lanka using generalized method of moments (GMM). The results show that remittance have a positive and significant influence on economic growth. The increasing number of remittance shipments will have an effect on the country's economic growth.

Keywords: economic growth, remittance, generalized method of moments

Corresponding Author:

Rossanto Dwi Handoyo

rossanto_dh@feb.unair.ac.id

Received: 10 February 2019

Accepted: 14 March 2019

Published: 28 March 2019

Publishing services provided by
Knowledge E

© Rossanto Dwi Handoyo and Ryan Bangkit Simanjuntak. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICIEBP Conference Committee.

1. Background

Open economy is an economy that interacts freely by way of trade, international capital flows, as well as direct investment (Todaro and Smith, 2006). The flow of international funds is a source of funds originated from abroad then flow from the state of the owner of funds into the economy of another country. One mechanism that is quite important and lately received considerable attention is the transfer of labor foreign exchange who work abroad to their home countries, better known as workers' remittances.

Remittance is the personal income of one or more family members who live and work outside the family boundary in the country of origin (Chami et al., 2006). Akay, et.al (2014), mentions remittances become big cash all over the world. Remittance refers to money and goods sent to households by workers who

Developing countries in Asia also tend to show dependence on remittances, for example sending remittances in 2014 accounted for 42 percent of GDP in Tajikistan, 30 percent in the Kyrgyz Republic, and 29 percent in Nepal (Keelay, 2015). The magnitude of the increase in payment of remittance receipts during this period may be due to two

OPEN ACCESS

significant factors. First, migration between developing and developed countries has increased dramatically in the last 20 years. Secondly, transaction costs are decreasing due to technological advances, enabling faster delivery, and a lower cost mechanism for international transfer payments among individuals (Siddique et al. 2010). The following are the data of the eight largest recipient countries in Asia in 2015.

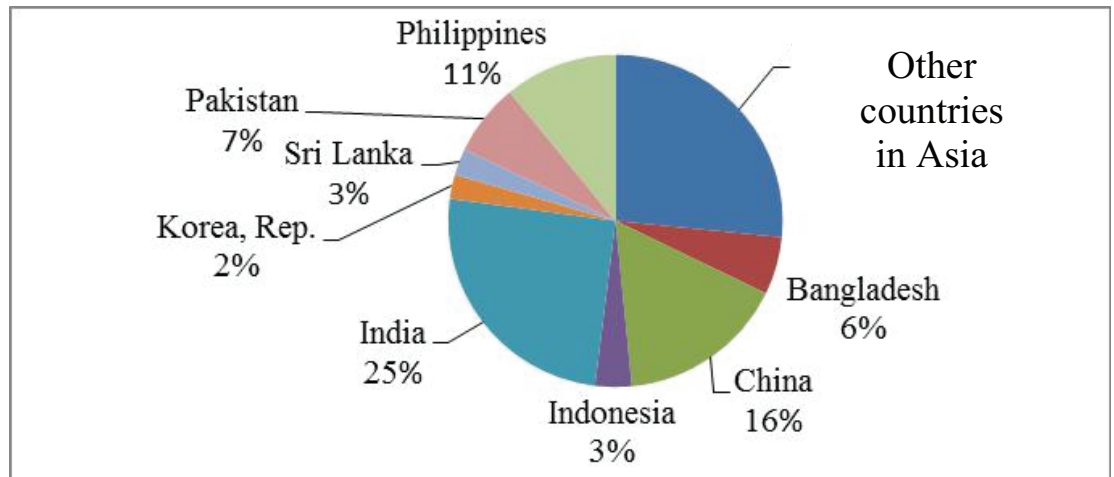


Figure 1: Eight Largest Remittance Recipient Countries in Asia (Source: World Bank (2016)).

Differences in wages between regions are one of the factors that continue to encourage workers to move elsewhere with the aim of getting higher wages (Borjas, 2013). The wage rates offered in developed countries are relatively higher than in developing countries. The transfer of workers from a country with a low wage level to another country with a relatively higher wage rate, or from a country that has surplus labor to a country that is relatively labor-deprived will provide benefits individually to the country as well as to the global economy.

Real workforce migration is also a way out for countries that have problems with population growth. Population addition can be a burden because of the large unemployment that cannot be optimized maximally because of the lack of production factors that are owned, so that the transfer of labor abroad can be one way out.

The crisis that occurred in the world in 2008-2010 also affected the acceptance of remittances. According to the Asian Development Bank (2011), since the beginning of the financial crisis the flow of remittances to Asian countries has declined, mainly due to rising unemployment.

In 2010 the trend began to reverse because developing country currencies recovered, and this may be related to the level of economic recovery in the United States, as the largest sending country (IFAD, 2011, in Katsushi, 2014). This calculation is carried out on

formal remittances, if remittances sent through informal channels are included, the total remittance can reach 50 percent higher than official records (World Bank, 2013).

The flow of labor remittance funds is an important source of funds for developing countries because it is the main source of foreign currency and contributes to the national economy (Uddin, 2012). In many developing countries, because of the quite substantial flow, remittance has become an alternative source of foreign exchange that is used as a source of external financing, in addition to government loans and private investment (Ratha, 2003).

Aside from being a source of financing, remittance inflows also affect economic growth for recipient countries (Rao and Hassan, 2011). Several studies have revealed that remittances affect the economic growth of countries of origin of labor. Research conducted by Meyer and Shera in 2016 revealed that remittances had a positive relationship to economic growth and on average contributed 27 percent of GDP. Other studies by Zghidi, Sghaier, and Abida in 2015 showed that remittances had a positive relationship to economic growth in these 4 countries. This study also revealed that clean and transparent institutions affect the sending of workers' remittances.

Remittances are very helpful for developing countries to minimize problems arising from a lack of foreign exchange reserves, which are needed to pay import bills. Remittance is a source of foreign exchange earnings, which is important for many countries, which also influences the recipient's balance of payments (Barajas, 2010).

Remittance inflow, as recorded in the current accounts, the balance of payments will in turn increase foreign exchange reserves. The increase in foreign exchange reserves means that the supply of foreign exchange also increases and in turn will affect the exchange rate against foreign exchange, including US dollars (Nizar, 2014).

Remittances generated by migrants have the potential to increase state revenues and reduce poverty. The way household expenditure as a recipient of remittances also affects how much remittance can affect a country's economic growth. Other studies such as those carried out by Imai, Gaiha, Ali, and Nidhi in 2014 in Asia Pacific countries argue that the use of remittances should be more for physical investment and human capital so that they can utilize their full potential for economic development.

The objective of this paper aims to determine the effect of remittance, gross fixed capital formation, population growth, primary school enrollment, household final consumption expenditure, partial and simultaneous effect of trade terms on economic growth in the eight largest remittance recipient countries in Asia conducted in the 8 largest remittance recipient countries in Asia, namely India, China, Philippines, Bhongladesh, Indonesia, Rep. Korea, Pakistan and Sri Lanka.

2. Theoretical Background

2.1. Globalization theory and international migration

Migration is considered as a household response to income risk when migrant remittances function as income insurance for households in the area of origin. Immigrants and their original households make a kind of contract arrangement. NELM suggests that poor households are trying to be active in improving their welfare, migration is considered a household strategy to improve household life.

This theory comes from research conducted by Lucas and Stark (1985) in Botswana. They study remittances at the household level suggesting that motivation plays an important role in the decision making of a migrant to send remittances to his home of origin. Their study found that remittance determinants were "pure altruism", "pure self interest", and "tempered altruism or enlightened self-interest".

2.2. Remittance

Labor remittance is transfers from migrant workers to families in the country of origin (for example transfers from Indonesian migrant workers abroad), remittances include cash and non-cash transfers sent through formal channels (Nizar, 2014). Karagoz (2009) defines remittances as transfers of funds by workers who live and work in developed countries to their families in their home countries.

Remittance is the sum of two main components, namely: compensation of employees and personal transfers. Workers' compensation represents wages, salaries and remuneration obtained by individuals in return for work carried out and paid for by residents of the country where the individual works, such as the income of seasonal workers and embassy employees. This compensation is recorded in income in the balance of payments. Definition of transfer of individuals larger than the remittances of workers, which covers all current transfers in cash or in kind that is done or received by households resident to or from domestic non-residents (IMF, 2009)

3. Research Methods

This study uses a descriptive quantitative approach by testing the hypotheses that have been given. It means that, this research is a combination that focuses on testing hypotheses with measured data so that the parameters are obtained from the influence

of changes in an economic variable to other economic variables and explanations of the assumptions of economics to get a conclusion and know the correlation between variables used using the method Generalized Method of Moments (GMM) dynamic panel method. The period of time observed in this study is between 2000 and 2015, then the results of the calculations performed will be analyzed and interpreted. The models used in this study are as follows:

$$\begin{aligned} \ln_GDP = & \ln_GDP (t-1) + \beta_1 \ln_REM + \beta_2 \ln_GFCF + \beta_3 \ln_POP \\ & + \beta_4 SPRI + \beta_5 \ln_HFC + \beta_6 \ln_TOT + \varepsilon \end{aligned} \quad (1)$$

The flow of remittances that enter the country of origin is seen as having an effect on economic growth partially and simultaneously. In the other six variables are the control variables, which are added in the model to control the influence of other important variables that influence economic growth. The formation of gross fixed capital used to see physical investment. School enrollment primary is used as a measure of investment in human capital which has a positive effect on the economic growth of developing countries. The Terms of Trade (ToT) here looks at how trade for each country is considered, measured by the ratio of exports to the import price index to capture the impact of trade, or economic openness to economic growth and finally household consumption and population growth. The influence of other variables is also seen partially and simultaneously.

4. Results and Discussion

To find out the factors that influence economic growth in eight countries, generalized method of moment (GMM) is used. The F test results show that overall significant test is valid in estimating economic growth in Asian Countries. Based on the table 1, results of panel data processing using diff-GMM show that the AR (1) test has a p-value of 0.010 and is significant at the 1% level. Then AR (1) shows that there is a first-order autocorrelation. In the AR test (2) shows a p-value of 0.517 which is not significant at the level of 1%, 5%, and 10%. Then in AR (2) shows the absence of second-order autocorrelation. In the model using diff-GMM, the p-value of the Sargan test is 0.247. This shows that the exogenous model Sargan test model and the model are valid.

Based on the results of panel data processing using GMM sys, it can be seen that the AR (1) test has a p-value of 0.007 and is significant at the 1% level. Then in AR (1) shows that there is autocorrelation in the first order. In the AR test (2) shows a

TABLE 1: Results of GMM Estimation of Remittances.

variables	SYS-GMM	DIFF-GMM
	Coef	Coef
L.In_gdp	0.946*	0.688*
In_REM	0.004**	-0.011***
In_POP	-0.044*	-0.032
In_GFCF	0.043*	0.108*
In_HFC	0.001***	0.160*
SPRI	-0.0007***	-0.0001
In_TOT	0.013***	-0.029***
AR(1)	0.007***	0.010**
AR(2)	0.222	0.517
Sargan Test	0.949	0.287
Sargan-GMM	0.989	
Sargan-Diff-GMM	0.337	
Sargan-IV	0.981	0.247
Sargan-Diff-IV	0.055	0.696
Prob-F	0.000*	0.000*

Note: * significant at 10%, ** significant at 5%, *** significant at 1%

p-value of 0.222 which is not significant at the level of 1%, 5%, and 10%. Then in AR (2) shows the absence of second-order autocorrelation. In this model using GMM-sys shows the p-value of the Sargan test 0.949. This shows that in the Sargan test the model is considered exogenous and the model is valid.

Remittance has a positive and significant influence on economic growth measured through GDP in the eight largest remittance recipient countries in Asia. The influence can be seen from the coefficient value of 0.004. That is, if the remittance ratio to GDP increases by 1%, then GDP will increase by 0.004. A positive number on the coefficient shows that statistically the relationship between remittance and economic growth is in the same direction. This is consistent with conventional theory which states that remittances that enter a country will increase people's income, which ultimately increases the country's GDP.

These results are in line with Mayer and Shera (2016) which reveal that remittances have a positive relationship to the economic growth of the six countries studied and Zghidi (2015) who examined four countries in North Africa. This research also shows

that significant remittances have a positive relationship to economic growth in the four countries.

In this study, the effect resulting from remittances to economic growth measured through GDP can be seen from the coefficient value of 0.004. Based on the 2015 World Bank data from the eight countries studied, 4 countries have remittance revenues of more than 5% of GDP, namely the Philippines with 10.2 percent, Sri Lanka 8.9 percent, Pakistan 6.9 percent, and Bangladesh 6.1 percent. The other four countries are even below 2 percent of their remittance acceptance of GDP. Research conducted by Meyer (2016) revealed that the use of more productive remittances can better assist the economies of countries in maintaining and improving economic growth by means of investment. The research conducted by Imai (2014) argues that migrant workers who send remittances should not be seen as the main input for growth and poverty reduction because it is related to lower effort, brain drain and Dutch disease. An additional conclusion derived from this research is that policy makers must adopt policies that encourage the use of remittances for physical investment and human capital so that they can utilize their full potential for economic development.

The formation of gross fixed capital used to view physical investment (Meyer, 2016), is in line with what was previously stated that this variable is significant and has a positive effect on economic growth of eight country under study with a coefficient of 0.043. This result means that any increase in gross fixed capital formation will increase the country's economic growth. Capital formation is very important in a country's economy, because capital formation can increase output and boost the economy. In addition, the formation of capital has a direct influence on the economy of a country, so spending on capital formation has an effect on economic growth.

In the results of testing the variable household consumption expenditure revealed that the variable household consumption expenditure was significant and had a positive effect on economic growth in eight countries in the study period. One variable that also greatly determines economic growth is the growth of household consumption. Household consumption expenditure is a form of expenditure that has a large influence on GDP because of the large number and always increasing every year. The amount of household consumption is influenced by the amount of income, the higher the amount of income, the household consumption will also increase.

In the eight countries studied, China is the country with the highest consumption expenditure, followed by India, South Korea, Indonesia, Pakistan, Sri Lanka and the Philippines. Of the eight countries, the average household consumption expenditure contributes 40 percent to the GDP of each country. In this study the effect generated

from household consumption expenditure on economic growth measured through GDP can be seen from the coefficient value of 0.001 and lower than the influence given by gross fixed capital formation. This result is consistent with the advice given in the research conducted by Meyer (2016) and Imai (2014) which suggests that recipients of remittance funds use for capital investments which will have more influence over the long term and greater influence on economic growth than used for consumption expenditure. Population growth based has a negative and significant effect on the country's GDP. The negative value of the population growth coefficient shows that increasing population growth by 1 percent will reduce GDP by -0.044 percent.

Previous study state that there is high correlation of population growth with the increase in economic growth, namely restrict, promoting, and independent (Bloom, 2003). This research is in line with the theory of restricting or pessimistic. This theory assumes that population growth will actually further reduce economic growth. This is based on the fact that the baby boom generation that occurred after World War II where the atmosphere of peace and the condition of developed countries and third world countries that are rebuilding the economy requires a lot of labor. The massive amount of labor actually made the economy overheated and experienced high inflation due to the increasing number of people, but not accompanied by an increase in land area. As a result, industrialization and other economies have developed into slums. The industry cannot accommodate more labor due to excessive surplus of labor.

School enrollment primary is used as a measure of investment in human capital towards the economic growth of developing countries (Gemmel, 1996 and Zghidi, 2015). The results of this study reveal that primary school enrollment is significant and negatively influences economic growth. This result is in line with the results of research conducted by Hanif and Arshed (2016) which revealed that an increase in primary school enrollment will only create a decline in economic growth because these individuals are still not skilled enough to achieve better and more productive work. In addition, research by Hanif and Arshed also revealed that school enrollment Secondary and tertiary will have a positive impact which shows that if the country must improve the continuation of education to higher levels, these individuals will be able to contribute to economic growth with jobs in the productive economic sector. The same result is also shown in the research conducted by Sebeens and Wobst (2003) which revealed that dropout rates must be lowered, this study reveals that the formation of human capital will succeed only in the case of the school system efficient enough to guarantee at least one level above basic education.

In line with the International Labor Organization (2015), which states that due to the excessive supply of labor for those who have this educational background. This creates a situation where there are many job vacancies filled with workers who do not meet the requirements, and this situation shows a skill mismatch between supply and demand for labor which has an impact on productivity which will ultimately affect overall economic growth.

Terms of trade (ToT) have a significant positive effect on economic growth. Terms of trade (ToT) reflect how trade for each country is considered, measured by the ratio of exports to the import price index to capture the impact of trade, or economic openness to economic growth. Increasing terms of trade or improving a country's trade value indicates an increase in exports compared to imports so as to create profits (Salvatore, 1997).

This result is in line with the research conducted by Meyer (2016) and Rao (2010) which also reveals that the terms of trade variable is significant and influences economic growth. Judging from the development of terms of trade in eight countries from 2000-2015, countries such as India, China, Indonesia and Sri Lanka were able to maintain around 100 percent. Indonesia and Sri Lanka even show terms of their trade above 100 percent, which means Indonesia and Sri Lanka collect more lots of capital (more money coming in from exports). This is caused by Indonesia's ability in trade supported by various sectors, from agriculture to services.

5. Conclusion

Remittance variables have a positive and significant influence on economic growth. The increasing number of remittance shipments will have an effect on the country's economic growth, this hypothesis is evidenced by the results of a significant and influential analysis of remittance variables. Gross Fixed Capital Formation has a positive influence on economic growth. The increase in the formation of gross fixed capital will affect the increase in the country's economic growth, this is proved by the results of a significant and influential analysis of the variable gross fixed capital formation.

Population growth variables have a negative and significant coefficient on economic growth in the eight countries studied. Increasing population growth will affect the decline in the country's economic growth, with a negative and significant coefficient of population growth variables. School enrollment primary has a negative and significant influence on economic growth. Increased primary school enrollment will have an effect on reducing the country's economic growth, this is proved by the results of a significant

and influential analysis of school primary variables. Household consumption expenditure has a positive and significant influence on economic growth. Increased household final consumption expenditure will have an effect on increasing economic growth. Terms of trade (TOT) gives positive and significant impact on economic growth. The increase of terms of trade will affect economic growth. This hypothesis is proven with the results of an influential and significant analysis of the terms of trade variable.

References

- [1] _____. 2015. Financial development and economic growth: Evidence from North African countries. *Economic Alternatives*, 7(2), 17-33.
- [2] Abbas, Q., & Nasir, Z. M. 2001. Endogenous Growth and Human Capital: A Comparative Study of Pakistan and Sri Lanka [with Comments]. *The Pakistan Development Review*, 987-1007.
- [3] Adams, R. H., & Cuecuecha, A. 2010. Remittances, household expenditure and investment in Guatemala. *World Development*, 38(11), 1626-1641.
- [4] Åhlberg, M. 1998. Education for sustainability, good environment and good life. Åhlberg, M. & Leal Filho, W.(Eds.), 25-43.
- [5] Ahlburg, D. A., & Lutz, W. 1998. Introduction: The need to rethink approaches to population forecasts. *Population and Development Review*, 24, 1-14.
- [6] _____. 2014. Remittances and well-being among rural-to-urban migrants in China. *Review of Economics of the Household*, 12(3), 517-546.
- [7] _____. 2016. Effects of remittance inflows on economic growth of Nigeria. *Developing Country Studies*, 3(3).
- [8] Anderson, T. W., & Hsiao, C. 1982. Formulation and estimation of dynamic models using panel data. *Journal of econometrics*, 18(1), 47-82.
- [9] Arellano, M., & Bover, O. 1995. Another look at the instrumental variable estimation of error-components models. *Journal of econometrics*, 68(1), 29-51.
- [10] Arellano, M., & Bond, S. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies*, 58(2), 277-297.
- [11] _____. 2007. Financial and monetary integration in East Asia: opportunities and challenges for Indonesia. *Elex Media Komputindo*.
- [12] Asian Development Bank. Economics, Re, & Asian Development Bank. Development Indicator 2011. Key Indicators for Asia and the Pacific 2011. Asian Development Bank.

- [13] Awan, A. G. & Tahir, M. T. 2015. Impact of working environment on employee's productivity: A case study of Banks and Insurance Companies in Pakistan. *European Journal of Business and Management*, 7(1), 329-345.
- [14] _____. 2013. A generalized spatial panel data model with random effects. *Econometric Reviews*, 32(5-6), 650-685.
- [15] _____. 2010. Workers' Remittances and the Equilibrium Real Exchange Rate: Theory and Evidence. IMF Working Paper No. 10/287
- [16] Barro, R. J. 1998. Human Capital and Growth in Cross-Country Empirical Study. In *Economic Growth-Literature Surveys*. Cambridge MA. Harvard University.
- [17] Barro, R. J. & Sala-i Martin X (2004) *Economic Growth*. Aufl. Massachusetts Institute of Technology (MIT) ISBN: 0-262-02553-1
- [18] _____. 2014. The Impact of Migrant Remittances on Economic Growth Empirical Study:
- [19] Case of Algeria (1970-2010). *European Scientific Journal, ESJ*, 10(13).
- [20] _____. 2003. The demographic dividend: A new perspective on the economic consequences of population change. Rand Corporation.
- [21] Blundell, R., & Bond, S. 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, 87(1), 115-143.
- [22] Blundell, R., & Bond, S. 2000. GMM estimation with persistent panel data: an application to production functions. *Econometric reviews*, 19(3), 321-340.
- [23] Borjas, G. J. 2013. The analytics of the wage effect of immigration. *IZA Journal of Migration*, 2(1), 22.
- [24] _____. 2006. Beware of emigrants bearing gifts: optimal fiscal and monetary policy in the presence of remittances.
- [25] _____. 2008. Macroeconomic consequences of remittances. Washington, DC: International Monetary Fund.
- [26] _____. 2012. Internal migration and socio-economic status of migrants: a study in Sylhet City, Bangladesh. *American Journal of Human Ecology*, 1(4), 123-133.
- [27] Connell, J. 1981. Migration remittances and rural development in the South Pacific. *Development Studies Centre Monograph No. 27*. 229-54 Australian National University
- [28] Dominick, Salvatore. 2007. *Microeconomics*. Fourth Edition. Jakarta: Erlangga
- [29] _____. 2001. *Macroeconomics*. Translation. Jakarta: Global Media Education

- [30] Gemmell, N. 1996. Evaluating the impacts of human capital stocks and accumulation on economic growth: some new evidence. *Oxford bulletin of economics and statistics*, 58(1), 9-28.
- [31] _____. 2007. Impact of remittances on poverty and financial development in Sub-Saharan Africa (No. 7-38). International Monetary Fund.
- [32] Hanif, N., & Arshed, N. 2016. Relationship between School Education and Economic Growth: SAARC Countries. *International Journal of Economics and Financial Issues*, 6(1).
- [33] _____. 1988. Estimating vector autoregressions with panel data. *Econometrica: Journal of the Econometric Society*, 1371-1395.
- [34] International Labour Organization. 2015. *Labour Market, 2015*. Switzerland. ILO
- [35] _____. 2014. Remittances, growth and poverty: New evidence from Asian countries. *Journal of Policy Modeling*, 36(3), 524-538.
- [36] Karagöz, K. 2009. Worker Remittances And Economic Growth: Evidence From Turkey. *Journal of Yasar University*, 4(13), 1891-1908.
- [37] Keeley, B. 2015. *Income inequality: The gap between rich and poor*. OECD.
- [38] King, R. & Vullnetari, J. 2003. *Migration and development in Albania*. Sussex Centre for Migration Research. *Development Migration, Globalisation and Poverty*
- [39] Kuznets, S. 1955. Economic growth and income inequality. *The American economic review*, 45(1), 1-28.
- [40] Hagen-Zanker, J. & Siegel, M. 2007. *The determinants of remittances: A review of the literature*. MGSOG Working Paper No. 003
- [41] _____. 2015. Remittances in the face of disasters: A case study of rural Samoa. *Environment, Development and Sustainability*, 17(3), 653-672.
- [42] Lucas, R. E. & Stark, O. 1985. Motivations to remit: Evidence from Botswana. *Journal of political Economy*, 93(5), 901-918.
- [43] _____. 2000. *Macroeconomic Theory*. Erlangga Publisher. Jakarta
- [44] Marquette, C. 1997. *Population and environment relationships in developing countries: a select review of approaches and methods*. CMI Working paper WP 1997: 15. Chr. Michelsen Institute
- [45] Nizar, M. A. 2014. *The Effect of Workers' Remittances on Exchange Rates of Rupiah* (No. 65728). University Library of Munich, Germany.
- [46] Obstfeld, M. & Rogoff, K. S. 1996. *Foundations of international Macroeconomics* (Vol. 30). Cambridge, MA: MIT press

- [47] Oiconita, N. 2006. Analysis of national exports and output in Indonesia: the period 1980-2004 studies on causality and cointegration. Doctoral dissertation, FE-UI.
- [48] _____. 2012. Demographic patterns and trends in Central Ghana: baseline indicators from the Kintampo Health and Demographic Surveillance System. *Global health action*, 5(1), 19033.
- [49] Philip, K. & Amstrong, G. 2001.. Marketing principles. Erlangga Publisher, Jakarta.
- [50] Rahardja, P. & Manurung, M. 2001. Macroeconomic Theory. Faculty of Economics, University of Indonesia. Jakarta
- [51] Ratha, D. 2003. Workers' remittances: An important and stable source of external development finance, in *Global Development Finance 2003: Striving for Stability in Development Finance*. Washington DC: The World Bank,157-175
- [52] Ratha, D. & Mohapatra, S. 2007. Increasing the macroeconomic impact of remittances on development. World Bank.
- [53] _____. 2011. Impact of migration on economic and social development: A review of evidence and emerging issues.
- [54] Rao, B. B. & Hassan, G. M. 2011. A panel data analysis of the growth effects of remittances. *Economic modelling*, 28(1), 701-709.
- [55] Roodman, D. 2009. How to do xtabond2: An introduction to difference and system gmm in stata. *Stata Journal*, 9 (1), 86-136.
- [56] Rosyidi, Suherman. 2003. Introduction to Economic Theory; Approach to Micro and Macroeconomic Theories. PT raja grafito persada. Jakarta.
- [57] _____. 2004. Macroeconomic Sciences. Seventeenth Edition. Jakarta: PT. Global Media Education
- [58] _____. 2011. Long run and short run effects on education levels: Case in Malaysia. *International Journal of Economic Research*, 2(6), 77-87.
- [59] Shera, A., & Meyer, D. 2013. Remittances and their impact on Economic Growth. *Periodica Polytechnica. Social and Management Sciences*, 21(1), 3.
- [60] _____. 2010. Remittances and Economic Growth: Empirical Evidence from Bangladesh, India and Sri Lanka (discussion paper). The University of Western Australia.
- [61] Stark, O. 1999. Altruism and beyond: An economic analysis of transfers and exchanges within families and groups. Cambridge University Press.
- [62] Suseno & Iskandar Simorangkir. 2004.. Exchange Rate Policy System. Bank Indonesia. Jakarta

- [63] Tambunan, T. 2003. Development of the agricultural sector in Indonesia. Ghalia Indonesia
- [64] _____. 2015. Foreign remittances, foreign direct investment, foreign imports and economic growth in Pakistan: a time series analysis. *Arab Economic and Business Journal*, 10(2), 82-89.
- [65] Rosdiana, H. & Tarigan, R. 2005. *Taxation Theory and Application*. Jakarta: RajaGrafindo Persada.
- [66] _____. 2006. *Economic Development*. Erlangga. Jakarta.
- [67] _____. 2012. A novel technique to measure the total evaporation and its components during sprinkler irrigation. In *Proceedings of the ICID and Irrigation Australia 2012 Conference and Trade Show*. Irrigation Australia Ltd..
- [68] _____. 2003. Low back pain in schoolchildren: the role of mechanical and psychosocial factors. *Archives of disease in childhood*, 88(1), 12-17.
- [69] Widodo, S. T. 1990. *Economic indicators*. Yogyakarta: Kanisius Publisher.
- [70] Windmeijer, F. 2005. A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of econometrics*, 126(1), 25-5