



## Journal of International Economics and Management

Journal homepage: <http://jiem.ftu.edu.vn>

### How does Japanese ODA contribute to economic growth of ASEAN countries?

Hien Phuc Nguyen<sup>1</sup>

*Foreign Trade University, Ha Noi, Vietnam*

Anh Ngoc Quang Huynh

*University of Economics Ho Chi Minh City, Ho Chi Minh City, Vietnam*

Ulrike Reisach

*Neu-Ulm University of Applied Sciences, Neu-Ulm, Germany*

Xuyen Le Thi Kim

*Foreign Trade University, Ha Noi, Vietnam*

**Received:** 24 January 2022; **Revised:** 08 July 2022; **Accepted:** 18 July 2022

<https://doi.org/10.38203/jiem.022.2.0049>

#### Abstract

Japan has provided ODA funding for promoting economic development in ASEAN countries for a long time. This study aims to verify how Japan's ODA contributes to economic growth of the ASEAN countries during the period of 2008-2020. Based on the Cobb-Douglas production function, we build a model to estimate the effects of the ODA funding on economic growth. The results show that the ODA exhibits a significantly positive relationship with economic growth of these countries. A one percent increase in the ODA inflow contributes to the economic growth by 0.226 percent. Capital and labor are important factors driving the economic growth while FDI has a negligible impact.

**Keywords:** Japanese ODA, Economic growth, ASEAN countries

#### 1. Introduction

Official Development Assistance (ODA) is used to refer to a commitment to fostering social progression and bringing a better life with greater freedom. ODA is also used by the international system to support, cooperate and promote economic and social development of all member countries of the United Nations through the Charter announced at the San Francisco conference

<sup>1</sup> Corresponding author: [hiennguyenphuc@ftu.edu.vn](mailto:hiennguyenphuc@ftu.edu.vn)

on June 26, 1945. ODA fund will be supported by developed countries to supplement resources in developing countries that face low levels of income (Ramiarison, 2010).

The Association of Southeast Asian Nations (ASEAN) is an organization that promotes the cooperation of political, economic, cultural, and social exchanges among countries in Southeast Asia. The development of ASEAN countries are motivated by foreign aid. They are making efforts to develop through the achievements that neighboring countries in Northeast Asia such as Japan, South Korea, Chinese Taipei, and Hong Kong (China) have been achieved.

Among leading investing countries including the United States, the United Kingdom, Germany, and other developed countries, Japan has experienced a remarkable increase in ODA outflows and become one of the largest donors of ODA since the late 1980s. The major beneficiaries of Japanese ODA range from industrial countries to the developing world, especially ASEAN countries of which members have been significantly benefited from Japanese ODA. Japan has given a priority in ODA and support to the developing countries including the ASEAN that make active efforts to promote sustainable economic growth. Within the Japanese ODA, special loans are aimed at expanding and modernizing transport and community infrastructure and stimulating private investment, consumption, new jobs, and economic growth (MOFA, 2020).

The relationship between Japan and the ASEAN countries has been sharpened through the ASEAN-Japan Comprehensive Economic Partnership (AJCEP), which was signed in 2008 with trade and investment terms of business along with the government’s support package.

The Japanese government has been working closely with the ASEAN nations to provide numerous forms of financial aid to the region’s growth and stability, which go along with Japan’s development, security, and prosperity. As a result, the ASEAN has received a large portion of Japanese ODA, which has been an extremely important support for decades. Although Japanese ODA is increasingly distributed to more regions, the flow to the ASEAN still maintains a significant volume in Asia (Table 1).

**Table 1.** The distribution of Japanese ODA to the regions, 1970-2020

*Unit: Percent*

<b>Year</b>	<b>ASEAN</b>	<b>Asia</b>	<b>ASEAN/Asia</b>
1970	38.9	94.4	41.2
1980	36.3	72.8	49.9
1990	34.7	61.7	56.3
2000	33.2	60.1	55.3
2010	26.8	53.1	50.4
2017	25.7	52.3	49.1
2018	13.1	61.1	21.3
2019	34.1	62.0	54.9
2020	14.1	17.0	82.9

**Source:** MOFA (2020)

Since the 1970s, nearly 40% of the total Japanese ODA has been allocated to the ASEAN countries. Nonetheless, it has been sharply decreased to 26.8% in 2010 and 14.1% in 2020 (Table 1). Vietnam has received a significant increase in ODA, of which a large proportion has come from Japan since 2011. As an exception, in 2013, Myanmar replaced Vietnam to be the largest ODA recipient in the region when it was transformed into a democratic country. The amount of ODA to Myanmar accounted for more than 20% of the total ODA disbursed to the region that year. From 2018 to 2020, Vietnam has remained one of the largest ODA recipients in the ASEAN (MOFA, 2021).

The economies of the ASEAN countries have been strongly recovered from the global economic meltdown in 2008. Their economic growth increased from an average of 2.5% in 2009 to 7.5% in 2010. The economic growth remained relatively high at 4.45% on average in the period from 2008 to 2020 (ASEAN Statistical Book 2018 and 2021). This growth can be explained by different views. In terms of the “Big Push Theory”, the injection of a large amount of capital from the ODA acts as a big push, that increases investment in many different sectors in the recipient countries towards self-sustaining growth. When a country hits its targets of sustained growth, it will stop receiving aid. It will then have a negative capital flow because its repayment is more than what it receives. A question arises here as to whether Japanese ODA supports the operations aimed at economic growth in the ASEAN region during the period between 2008 and 2020. ODA can be a burden because it is a loan, which could lead to an increase in national public debt. On the contrary, ODA is financed for infrastructure construction activities. The inappropriate use of ODA leads to a shift from an economic development aid to non-developed administrative baggage spending, defensive spending, or debt service payments, thereby causing waste as well as more serious losses.

This paper contributes to the existing literature in two main folds. First, even though there is a discussion of Japanese ODA on the “new lives” in Southeast Asia from the 1960s to the 2000s (Araki, 2007), this study provides solid and sound evidence that this effect can be found in the post-financial crisis period. Second, this study relies on the grounded theoretical framework entitled “the Cobb-Douglas production” to interpret the empirical results. Therefore, our empirical study would become more reliable. It is also worth mentioning that this study attempts to answer a central question of how does the Japanese ODA supports the economic growth in 8 ASEAN countries including Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, and Vietnam. More importantly, the strategic partnership between Japan and the ASEAN countries is attracting many scholars (Trinidad, 2018; Bobowski, 2019). Therefore, the paper would explain how Japan promotes the development of the ASEAN countries by increasing its influential power on economic growth while other strands of literature look at other continents (McArthur and Sachs, 2019; Musibau *et al.*, 2019).

The remaining of our paper is structured as follows. The literature on the association between ODA and economic growth will be presented in section 2. Section 3 discusses the data collection, data processing, and descriptive statistics. Findings and results are elaborated in section 4. Section 5 concludes the study.

## 2. Literature review

The concept of ODA was originally proposed by the Development Assistance Committee of the OECD (DAC). It is described as financial packages purposely designed to promote economic development and welfare growth in developing countries. Contributions made by the government agencies in developed countries to developing countries are referred to as bilateral ODA. Contributions made by international organizations to developing countries are called multilateral ODA. Concessional loans with aid factors are the most common. Researchers on ODA are concerned about the urgency and efficiency of economic growth in the ODA receiving countries.

The growth and development paradigm show that the provision of capital and energy as well as productivity and technological progress are determinants of economic sustainability. According to Easterly *et al.* (2003), it is assumed that the poverty trap stems from a variety of factors such as low capital resources, weak savings, low productivity, and rapid population growth with high unemployment and low GDP growth. Therefore, there is a need for a big push from foreign aid and investment so that the developing countries will be able to take off and sustain their development. A big push with ODA funding increases investment in various sectors, improves infrastructure, and leads to self-sustaining growth of developing countries. According to the Harrod-Domar growth model, which is proposed by Domar (1946), the maximum potential growth rate of a closed economy is determined by the saving rate and the capital-output ratio. Chenery and Strout (1966) expand the model with a foreign exchange shortage, leading to institutional gaps. Foreign aid can fill those gaps. Therefore, the effectiveness of ODA for increased investment and economic growth is asserted.

According to Papanek (1973), foreign aid, foreign investment, other capital flows, and domestic savings explain economic growth in 34 countries in the period of 1950-1960. Foreign aid is found to be the biggest factor influencing economic growth. Subsidy, which is different from domestic savings, can compensate for differences in foreign exchanges as well as budget deficits. Snyder (1993) analyzes the link between assistance inflows and GDP growth rate and find a positive and significant effect. Galiani *et al.* (2017) apply a semi-experimental approach to analyze data from more than 35 countries and discover a positive connection between aid and economic growth. Similar results are confirmed by the analysis of data from 37 developing countries in the period of 1985 and 2018 (Azam and Feng, 2022). In contrast, Knack (2000) argues that higher funding leads to a reduction in the quality of governance, which is manifested in bureaucracy, corruption, and the rule of law. He proposes reducing the dependence on aid sources, encouraging debt repayment, effectively controlling aid funds, and reducing the pressure to reform policies and institutions.

Using modern economic growth theories, Fayissa and El-Kaissy (1999) show that the factors including foreign aid, domestic savings, human capital force, and exports are positively correlated with economic growth. Similar results are obtained when Chenery and Strout (1966) confirm that foreign aid inflows contribute to economic growth by assisting in the creation of domestic capital. For the developing countries, when no state involvement is contemplated

and while foreign aid has a largely beneficial influence on growth, state involvement can statistically lessen the influence of foreign aid over time (Singh, 1985).

Different targets of assistance have a distinct influence on the development of an economy. In West African countries, Ouattara and Strobl (2003) analyze each type of foreign aid including project aid, program aid, technical assistance, and food aid with special different characteristics. Using a disaggregated approach and a dynamic regression model, the authors show that (i) aid can replace public savings and supplement the budget, (ii) low-level effective aid can aggravate dependence on other countries, while technical support and food aid help to close the gap for West African countries. According to Chenery and Carter (1973), the effect of ODA is different between among countries. In Iran, Thailand, Kenya, and South Korea, foreign aid boosts economic growth. Negative effects are, however, found in the economies of India, Colombia, Ghana, Tunisia, Ceylon, and Chile. Burnside and Dollar (2004) argue that the quality of a nation's institutions and policies is also the determinant of the effectiveness of aid. There is a strong positive relationship between aid and economic growth.

Nevertheless, Murphy and Tresp (2006) and Easterly *et al.*, (2003) find that by expanding the dataset, the relationship between aid and state policy on economic growth in developed countries has disappeared. Hence, a reasonable macroeconomic policy does not determine the effective contribution of the use of funds to sustainable economic growth. In the same vein, Duc (2006) attempts to verify the effectiveness of foreign aid on the economic growth of the developing countries using data from thirty countries collected from 1975 to 2000. The results show a negative and significant relationship between foreign aid and the economic growth of most developing countries, except for South Asian countries. This evidence indicates that for developing countries the effectiveness and positivity of foreign capital depends partly on the distinct characteristics of different economies as well as the use of the ODA capital. Notwithstanding the current literature, Liew *et al.* (2012) apply the least squares, random and fixed effects models to analyze the link between foreign aid and economic growth in East Asian and Africa in the period of 1985-2010. Their findings prove that there is a negative connection between foreign aid and the countries' economic growth. Dreher and Langlotz (2015) also confirm a similar result for 96 countries during the period between 1974 and 2009. Yiew and Lau (2018), using panel data for 95 developing countries, show that the relationship between aid and economic growth is U-shaped, meaning that initially a negative effect of aid on economic growth is observed. Then aid contributes positively to economic growth. In contrast, Abate (2022) employs a panel data collected from 2002 to 2019 in 44 developing countries to examine whether too much inflow of aid is beneficial for recipient's countries or not. The results show an inverted U-shape for the relationship between aid and economic growth, meaning that aid is positively associated with growth at lower level of 8% to 9% of GNI, and has a detrimental impact at a higher level. From the above studies, it is shown that the effects of foreign aid on economic growth is not clear with different empirical results, which are due to different data and methods, verification, geographical location, and specific characteristics of each economy.

Therefore, the topic of the relationship between ODA and economic growth still attracts many researchers and remains open, especially when countries in the ASEAN region are taken into consideration.

### 3. Research methodology

#### 3.1 Theoretical framework and research design

How economic growth is impacted by aid is unclear in terms of geography in the literature. Hence, we follow the study by Liew *et al.* (2012) to construct an econometric model to examine the effect of aid on economic growth rates over 13 years in ASEAN countries. A wide range of econometric models including the pooled ordinary least squares (POLS), random-effect (RE), and fixed-effect (FE) models to investigate the potential linkage of foreign aid on economic growth are applied.

Our model differs from the extant literature by the dataset from Southeast Asian countries for the period of 2008 and 2020. The yearly data were collected before incorporating it into the Solow growth model. The Cobb-Douglas production function is written as follows:

$$Y_{it} = A_{it} K_{it}^{\alpha_2} L_{it}^{\alpha_3} \quad (1)$$

where the total production is Y. K denotes the capital input. L means the labor. The superscripts represent the output elasticities of capital and labor in the order. The subscripts (i) and (t) are the individual terms and time period horizon. From Equation (1), we standardize the natural logarithm model of Cobb-Douglas into a linear form as follows:

$$\text{GDP}_{it} = \alpha_2 \text{Capital}_{it} + \alpha_3 \text{Labor}_{it} + A_{it} \quad (2)$$

where GDP denotes the growth rate of the gross domestic production. The two variables Capital and Labor denote the amount of capital as well as the volume of labor forces in the economy. The remaining factor (A) demonstrates the total factor productivity. Total factor productivity is used to explain the output growth, which is driven by other factors of production. More importantly, this factor is also known as the omitted factor. It is highlighted that two parameters, consisting of  $\alpha_2$  and  $\alpha_3$ , contribute to the explanation for the elasticity of output explained by Capital and Labor, respectively. From this point, we specified total factor productivity as follows:

$$A_{it} = \alpha_1 + \alpha_4 \text{ODA}_{it} + \alpha_5 \text{FDI}_{it} + \varepsilon_{it} \quad (3)$$

where  $\text{ODA}_{it}$  is an inflow of foreign aid and  $\text{FDI}_{it}$  is the inflow of foreign direct investment. Note that  $\alpha_1$  is a constant, and  $\alpha_4$ ,  $\alpha_5$  are the elasticity of output with respect to  $\text{ODA}_{it}$  and  $\text{FDI}_{it}$ .  $\varepsilon_{it}$  is the error term. One of the most important assumptions is the growth of foreign aid and foreign direct investment inflows having the connectedness in terms of the total factor productivity growth, which improves the economic growth and the aid as well. Therefore, the extant literature suggests the correction by emphasizing the role of capital goods or technology and is associated with technology transfer (Morrissey, 2001). Furthermore, foreign aid has no

association with investment and saving rates. Thus, by substituting (3) to (2), we obtain the final regression model:

$$GDP_{it} = \alpha_1 + \alpha_2 Capital_{it} + \alpha_3 Labor_{it} + \alpha_4 ODA_{it} + \alpha_5 FDI_{it} + \varepsilon_{it} \quad (4)$$

where  $GDP_{it}$  represents the real GDP of the ASEAN countries.  $Labor_{it}$  is the country's total labor force.  $Capital_{it}$  stands for capital stock, which is measured by domestic savings. Total official development assistance inflows are  $ODA_{it}$  and foreign direct investment inflows are  $FDI_{it}$ . All variables are expressed in a natural logarithm term. In terms of econometric approach, we follow the existing literature with POLS, FEM, and REM estimation methods to tackle the problems of simple and robust-OLS for the panel data. The use of FDI in the econometric model to control the effects of ODA on economic growth has been employed in the literature (Dhahri and Omri, 2020). Therefore, our study has a new context when using the foreign direct investment as the control variable, which is apart from the capital as well as labor forces in the theoretical framework.

### 3.2 Data

Our study is conducted using the secondary data, stretching in the period from 2008 to 2020. All of the variables' data were extracted from World Development Indicators 2020 (World Bank), except for the data of Japanese ODA, which was collected from the OECD.STAT (ODA disbursements to countries and regions) and Ministry of Foreign Affairs of Japan's (MOFA) ODA White Paper 2020. After reviewing the extant literature, we find appropriate control variables, which might drive the economic growth in the ASEAN region. It is also emphasized that the feasibility and availability of variables are the main reason to be considered. Table 2 summarizes the effects of these determinants in the growth literature.

**Table 2.** Summary of variables

Variables	Definition	Expected direction
ODA	Natural logarithm of total ODA inflows from Japan to the ASEAN countries including bilateral and multilateral ODA	(+) (-)
FDI	Natural logarithm of inflows of foreign direct investment to the ASEAN countries	(+)
Capital	Natural logarithm of capital stock measured by domestic savings	(+)
Labor	Natural logarithm of total labor force of a country	(+)

**Source:** Liew *et al.* (2012)

## 4. Results and Discussions

We employed a wide range of econometric models including POLS, RE, and FE. We use the Breusch-Pagan LM test to compare between POLS and RE. We use the Hausman test to compare RE and FE. These tests are used to define the best-fit model for the estimation. Table 3 shows the regression results of POLS, RE, and FE. The results provide evidence of

a positive impact of the ODA on the ASEAN nations' economic growth. In four models, the ODA factor is statistically significant at 1%.

**Table 3.** Summary of regression results (POLS, REM, FEM)

	<b>Model 1</b> <b>Pool OLS</b>	<b>Model 2</b> <b>Random effect</b>	<b>Model 3</b> <b>Fix effect</b>
VARIABLES	GDP	GDP	GDP
ODA	0.240*** (0.067)	0.226*** (0.063)	0.211*** (0.060)
Capital	0.597*** (0.043)	0.556*** (0.046)	0.512*** (0.045)
Labor	0.603*** (0.104)	0.499*** (0.139)	0.455*** (0.262)
FDI	0.035 (0.061)	0.002 (0.065)	-0.002 (0.063)
Constant	-3.638*** (1.088)	-1.413 (1.966)	15.56 (4.408)
Observations	103	103	103
R <sup>2</sup>	0.903	0.902	0.278

**Note:** The figures in parentheses are the standard error. \*\*\* denotes statistical significance at the 1% level. Capital denotes the capital stock measured by domestic savings while FDI represents the foreign direct investment. Labor is the labor force.

**Source:** The authors' calculation

The Breusch and Pagan Lagrangian Multiplier (BPLM) test and Hausman test were conducted to select a best-fit model. The POLS is not a good model. The Hausman test suggests to use the FEM, which is a more appropriate estimator for this study. The Modified Wald test for groupwise heteroscedasticity in fixed-effect regression model and the Wooldridge test for autocorrelation in panel data were conducted. The results indicated that our model faces autocorrelation and heteroscedasticity. Therefore, we overcome the shortage problem by using the Lagrangian-Multiplier test and the FEM with the robust result can correct these aforementioned errors. Our final results were tabulated in Table 4.

The between R<sup>2</sup> is 0.1775. Hence, the model accounts for 17.75% of the variance between separate panel units. The within R<sup>2</sup> is 0.6881, meaning that the model accounts for 68.81% of how the dependent variable changes for each of the panel units. The overall R<sup>2</sup> is 0.2783 that means the dependent variable could be explained by 27.83% of independent variables in the model. Tables 3 and 4 show that ODA, Capital, and Labor are statistically significant at

1% while FDI is not significant in these models. This can be explained by the fact that in the period from 2008 to 2020, these ASEAN countries witnessed a dramatic growth of GDP while there was a strong fluctuation in FDI inflow.

**Table 4.** Summary of corrected regression results

VARIABLES	Model 3 Fix effect	Model 4 Fixed Effects Robust	Model 3 Fix effect
	GDP	GDP	GDP
ODA	0.211*** (0.060)	0.226*** (0.063)	0.211*** (0.060)
Capital	0.512*** (0.045)	0.556*** (0.046)	0.512*** (0.045)
Labor	0.455*** (0.262)	0.499*** (0.139)	0.455*** (0.262)
FDI	-0.002 (0.063)	0.002 (0.065)	-0.002 (0.063)
Constant	15.56 (4.408)	-1.413 (1.966)	15.56 (4.408)
Observations	103	103	103
R <sup>2</sup> between	0.177	0.177	0.278
R <sup>2</sup> within	0.688	0.688	
R <sup>2</sup> overall	0.278	0.278	

**Notes:** Dependent variable: GDP. The figures in parentheses are the standard errors. \*\*\* denotes statistical significance at 1% level.

**Source:** The authors' estimation

Model 4 (Table 4) means the ODA impact positively on GDP economic growth of ASEAN countries. An 1% increase in the ODA inflow contributes to economic growth of 0.226%. The economic rationale behind this is that the ODA supports the development of social and economic infrastructure, services, and production. ODA also develops the labor markets and create more jobs for the local people (Blair and Winters, 2020), and impacts the long-run economic growth (Adebayo and Kalmaz, 2020). To put it another way, socio-economic arrangements and packages, consisting of developing the infrastructure, improving the life quality with social welfare, empowering the poor might be the sustainable channel to develop an economy. The government that has received ODA would improve their institutional quality and economic governance, which have persistent and long-term effects on attracting more ODA.

It is surprising that the FDI factor was not statistically significant in models from 1 to 4 even though it is a prominent channel to transfer technology and foster economic growth. In fact, there was a strong fluctuation of FDI flow into the region during the period while the GDP remained large. This finding is in line with Lee and Tan (2006), which show heterogeneous impacts of FDI on economic growth in the ASEAN region. The empirical findings also indicate that an increase of 1% in labor force will raise economic growth by 0.49% (Table 4). This implies that the workforce is the key component to economic growth in these ASEAN countries (Hanushek and Kimko, 2000). In this study, the labor force is a control variable. We see that labor has a greater influence than ODA. Capital stock in terms of domestic savings also has a positive relationship with GDP with the highest coefficient, which is statistically significant at 1% level. It means capital stock has the strongest impact on economic growth in the ASEAN countries. An increase of 1% in the saving capital is associated with a GDP increase of 0.556% (Table 4). This result of the capital factor is also consistent with the extant literature (Driffield and Jones, 2013; Raheem and Adeniyi, 2015; Sahoo and Sethi, 2017). To sum up, our findings shed light on the relationship between ODA and economic growth of the ASEAN countries and confirm the existing literature.

## 5. Conclusion

The ODA capital flow is an important capital resource and is deemed to directly drive the economic growth of a country. By applying POLS, REM, and FEM models, the results show that the Japanese ODA positively contributes to economic growth of eight ASEAN member countries, including Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, and Vietnam in the period of 2008-2020. This result is consistent with the previous studies. An increase in the ODA flow induces higher economic growth in the ASEAN countries. Our findings indicate that a 1% increase in the ODA capital flow leads to an increase in economic growth by 0.226 percent in the ASEAN countries. ODA has become an inevitable financial source to develop the regional countries. Without ODA, the ASEAN countries might struggle with the lack of financial capital while developing infrastructure, improving human resources and technological advancement. Sound economic development of these ASEAN countries relies not only on their own resources and efforts but also on technical and financial ODA, which comes with international collaboration from Japan.

Understanding that the ODA is an important supplement to the recipients' own efforts, these ASEAN countries should mobilize more ODA for implementation of infrastructure projects and governmental packages. Because Japanese ODA is always dependent on the request of the recipient government, the government must assess which area is the most important in terms of benefits and drawbacks. Unless the government manages the ODA well, the financial burden might be a severe problem for the whole economy.

We find a positive relationship between capital and labor force on economic growth. These findings back up the view that capital is the most important determinant of GDP while the positive impact of FDI is insignificant. Our results shows that the capital and labor factors are more important than the ODA factor. Hence, by continuing to take full advantage of ODA and

use it effectively, the ASEAN countries should improve their internal capacity by accumulating capital and labor. The ASEAN countries should have priority policies on their capital market and human resource development. The ODA can be oriented to serve the mentioned development.

Our study has two limitations. First, the data availability in the ASEAN countries are quite heterogeneous. We have to clean up the data with the missing of Brunei and Timor-Leste. When data are available, further analysis can be done. Second, our study sheds a light on the relationship between Japanese ODA and economic growth with FDI as a control factor. It will be interesting to observe how the capital flow moves. Concomitantly, the expansion of other ODA providers would be new path for those who want to assess the effectiveness of ODA on economic growth in the ASEAN countries. The future research can be extended by looking at the impacts of the Japanese ODA and other determinants on economic growth with the mediating role of environmental consequences (Nasir *et al.*, 2019). Since Japan is interested in sustainable development, its ODA directions should be cautious. In addition, thanks to the development of advanced methodologies such as machine learning, or neural network analysis, the future studies can benefit from using these approaches to find the causal relationship between capital flow and economic growth (Huynh, 2020).

**Acknowledgment:** This research is funded by Foreign Trade University under research program number FTURP02-2020-02.

## References

- Abate, C.A. (2022), “The relationship between aid and economic growth of developing countries: does institutional quality and economic freedom matter?”, *Cogent Economics & Finance*, Vol. 10 No. 1, 2062092.
- Adebayo, T.S. and Kalmaz, B.D. (2020), “Ongoing debate between foreign aid and economic growth in Nigeria: a wavelet analysis”, *Social Science Quarterly*, Vol. 101 No. 5, pp. 2032 - 2051.
- Araki, M. (2007), “Japan's official development assistance: the Japan ODA model that began life in Southeast Asia”, *Asia Pacific Review*, Vol. 14 No. 2, pp. 17 - 29.
- Azam, M. and Feng, Y. (2022). “Does foreign aid stimulate economic growth in developing countries? Further evidence in both aggregate and disaggregated samples”, *Quality & Quantity*, Vol. 56 No. 2, pp. 533 - 556.
- Blair, R.A. and Winters, M.S. (2020), “Foreign aid and state-society relations: theory, evidence, and new directions for research”, *Studies In Comparative International Development*, Vol. 55, pp. 123 - 142.
- Burnside, C. and Dollar, D. (2004), “Aid, policies, and growth revisited”, *American Economic Review*, Vol. 94, pp. 781 - 784.
- Bobowski, S. (2019), “Official Development Assistance (ODA) of Japan in the twenty-first century: implications for connectivity of ASEAN region”, in *Eurasian Economic Perspectives*, Springer, Cham, pp. 207 - 235.
- Chenery, H.B. and Strout, A.M. (1966), “Foreign assistance and economic development”, *The American Economic Review*, Vol. 56 No. 4, pp. 679 - 733.

- Chenery, H.B. and Carter, N.G. (1973), “Foreign assistance and development performance, 1960-1970”, *American Economic Association*, Vol. 63 No. 2, pp. 459 - 468.
- Dhahri, S. and Omri, A. (2020), “Does foreign capital really matter for the host country agricultural production? Evidence from developing countries”, *Review of World Economics*, Vol. 156 No. 1, pp. 153 - 181.
- Domar, E.D. (1946), “Capital expansion, rate of growth and employment”, *Econometrica*, Vol. 14, pp. 137 - 147.
- Dreher, A. and Langlotz, S. (2015), “Aid and growth. New evidence using an excludable instrument”, CESifo Working Paper Series 5515, CESifo Group Munich.
- Driffield, N. and Jones, C. (2013), “Impact of FDI, ODA and migrant remittances on economic growth in developing countries: a systems approach”, *The European Journal of Development Research*, Vol. 25 No. 2, pp. 173 - 196.
- Duc, V.M. (2006), “Foreign aid and economic growth in the developing countries: a cross-country empirical analysis”, Available at <http://cnx.org/content/m13519/latest/> (Accessed 02 January, 2022).
- Easterly, W., Levine, R. and Roodman, D. (2003), “New data, new doubts: a comment on Burnside and Dollar’s “Aid, policies, and growth” (2000)”, *American Economic Review*, Vol. 94 No. 3, pp. 774 - 780.
- Fayissa, B. and El-Kaissy, M.I. (1999), Foreign aid and economic growth of developing countries (LDCs): further evidence”, *Studies in Comparative International Development*, Vol. 34, pp. 37 - 50.
- Galiani, S., Knack, S., Xu, L.C. and Zou, B. (2017), “The effect of aid on growth: evidence from a Quasi-experiment”, *Journal of Economic Growth*, Vol. 22, pp. 1 - 33.
- Hanushek, E.A. and Kimko, D.D. (2000), “Schooling, labor-force quality, and the growth of nations”, *American Economic Review*, Vol. 90 No. 5, pp. 1184 - 1208.
- Huynh, T.L.D. (2020), “The effect of uncertainty on the precious metals market: new insights from Transfer Entropy and Neural Network VAR”, *Resources Policy*, Vol. 66, 101623.
- Knack, S. (2000), “Aid dependence and the quality of overniece: a cross-country empirical analysis”, World Bank Policy Research Paper.
- Lee, H.H. and Tan, H.B. (2006), “Technology transfer, FDI and economic growth in the ASEAN region”, *Journal of the Asia Pacific Economy*, Vol. 11 No. 4, pp. 394 - 410.
- Lewis, L., Williams, M. and Olds, T. (2012), “The active cycle of breathing technique: a systematic review and meta-analysis”, *Respiratory Medicine*, Vol. 106 No. 2, pp. 155 - 172.
- Liew, C., Mohamed, M.R. and Mzee, S.S. (2012), “The impact of foreign aid on economic growth of East African countries”, *Journal of Economics and Sustainable Development*, Vol. 3 No. 12, pp. 129 - 138.
- McArthur, J.W. and Sachs, J.D. (2019), “Agriculture, aid, and economic growth in Africa”, *The World Bank Economic Review*, Vol. 33 No. 1, pp. 1 - 20.
- MOFA. (2020), “Specific Initiatives of Japan’s Development Cooperation”, *White Paper on Development Cooperation*, pp. 90 - 103.

- MOFA. (2021), "Japan's COVID-19 related cooperation towards achieving UHC", *Japan 's Response to COVID -19 for Developing Countries*, pp. 1 - 2.
- Morrissey, O. (2001), "Does aid increase growth", *Progress in Development Studies*, Vol. 1. No. 1, pp. 37 - 50.
- Murphy, R.G. and Tresp, N.G. (2006), *Government policy and the effectiveness of foreign aid*, Department of Economics, Boston College.
- Musibau, H.O., Yusuf, A.H. and Gold, K.L. (2019), "Endogenous specification of foreign capital inflows, human capital development and economic growth", *International Journal of Social Economics*, Vol. 46 No. 3, pp. 454 - 472.
- Nasir, M.A., Huynh, T.L.D. and Tram, H.T.X. (2019), Role of financial development, economic growth & foreign direct investment in driving climate change: a case of emerging ASEAN, *Journal of Environmental Management*, Vol. 242, pp. 131 - 141.
- Ouattara, B. and Strobl, E. (2003), "Disaggregating the aid and growth relationship", School of Economic Studies Discussion Paper No. 0414, University of Manchester, Manchester.
- Papanek, G.F. (1973), "Aid, foreign private investment, saving, and growth in less developed countries", *Journal of Political Economy*, Vol. 81, pp. 120 - 130.
- Raheem, I.D. and Adeniyi, O.A. (2015), "Capital inflows and outflow and economic growth in Sub-Saharan Africa", *International Journal of Economics and Business Research*, Vol. 10 No. 1, pp. 66 - 80.
- Ramiarison, H.A. (2010). "Assessing the developmental role of foreign aid in developing countries: a special reference to the role of Japan's Aid in Far East Asia", Working paper No. 462, Institute of Developing Economies, Japan External Trade Organization.
- Sahoo, K. and Sethi, N. (2017), "Impact of foreign capital on economic development in India: an econometric investigation", *Global Business Review*, Vol. 18 No. 3, pp. 766 - 780.
- Singh, R.D. (1985), "State intervention, foreign economic aid, savings and growth in LDCs: some recent evidence", *KYKLOS*, Vol. 38, pp. 216 - 232.
- Snyder, D.W. (1993), "Donor bias toward small countries: an overlooked factor in the analysis of foreign aid and economic growth", *Applied Economics*, Vol. 25, pp. 481 - 488.
- Trinidad, D.D. (2018), "What does strategic partnerships with ASEAN mean for Japan's foreign aid?", *Journal of Asian Security and International Affairs*, Vol. 5 No. 3, pp. 267 - 294.
- Yiew, T.H. and Lau, E. (2018), "Does foreign aid contribute to or impeded economic growth", *Journal of International Studies*, Vol. 11 No. 3, pp. 21 - 30.