IJIBEC
Vol 7 No 1 2023

International Journal of Islamic Business and Economics

Available at https://e-journal.uingusdur.ac.id/index.php/IJIBEC/

ISSN
2599-3216
E-ISSN
2615-420X

Nexus of Finacial Inclusion and Human Development as an Important Role in Economic Growth: Evidence from ASEAN Countries

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Article Info

Article History:
Received : 14 Pebruary 2023
Accepted : 27 April 2023
Published : 1 June 2023

Abstract

This study aims to analyze the interaction between the financial inclusion index and HDI, the financial inclusion index and HDI nexus with GDP. The financial stability problem in developing ASEAN countries is still motivated by the high level of banking NPLs. This study uses panel data with the Generalized Method of Moment as an analytical method. The selection of the vulnerable research year is motivated by the phenomenon. The result showed ATM and Human Development Index have a positive impact on GDP growth and also shows that financial inclusion and the human development index are important drivers of ASEAN-7 economic growth. Determining financial inclusion as a national strategy in several countries places the financial sector as a vital indicator of change. However, it should be remembered for the relevant authorities that the fact that ASEAN banks still have problems with NPLs is too high, so further attention is needed on the concept of prudence in the process of increasing the implementation of financial inclusion indicators so as not to become a boomerang for banking liquidity.

Keywords:

ASEAN; Financial inclusion; GDP; Human Development Index; Nexus

DOI: 10.28918/ijibec.v7i1.6921

JEL: B22, B65, F65

1. Introduction

The direction of the national economy is determined by the intermediatory role of the country's banking sector. Banks play an essential role in the economic movement, especially in the flow of creditor-debtor money (Nguyen, 2022; Bhegawati, 2020; Le, Le, Tran, Duong, Dao, & Do, 2021). Since the banking assets have a reasonably larger proportion in the state's financial system, the public trust in the banking sector plays a significant role in helping the banks fulfil their due role in the economy (Putera, 2022). Banks function as important financial institution that accommodates funds from the public to be channelled to the community through credit loans and other deposits to improve people's living standards (Ruschchyshyn et al., 2021; Zavadska, 2017). Thus, the banking sector has an important role in predicting Human Development Index (HDI) as well as Gross Domestic Product (GDP) for a given country.

The concept of inclusive finance systems emerged after the 2008 global financial crisis due to subprime mortgages that created a credit bubble in the US, inclusive finance means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered responsibly and sustainably (Vo, Nguyen, & Van, 2021). Further, the event of the bursting of the credit bubble had a negative domino effect on the banking sector (Nguyen et al., 2022). The ASEAN countries responded to the 2008 financial crisis through several policies surrounding monetary and fiscal control. On the fiscal side, ASEAN countries agreed to change the international financial system by increasing export activities and opposing protectionism. On the monetary side, the IMF, as a global monetary federation, decided to increase banking capital reserves to overcome the 2008 financial crisis and set a macroprudential framework as a sub-elemental banking policy.

Inclusive finance describes the access of the community towards formal financial services which are fast and appropriate and to improve quality of life (Ariani, Yuyetta, & Hardiningsih, 2020). Financial institutions will facilitate economic activity in the community in terms of loans and deposits and the movement of money between communities. Implementing inclusive finance can increase social and economic inclusion, and an inclusive financial system can overcome economic problems and social gaps in society (Maulana & Umam, 2017). The importance of implementing financial inclusion places financial institutions at the national strategic level in several countries. The financial inclusion ratings of ASEAN countries are similar. In 2014 the highest financial inclusion in ASEAN was owned by Thailand and Malaysia, followed by Indonesia, Vietnam, the Philippines, Myanmar, and Cambodia (Loo, 2019). The implementation of financial inclusion is done through different strategic approaches in each country but in general, the results are achieved through the availability of appropriate financial services, product services, and responsible finance (Dai-Won, Jung-Suk, & Hassan, 2018).

Implementing financial inclusion in several countries has contributed to the success of the 2030 Sustainable Goals Development (SDGs) goals of the United Nations (Ma'ruf & Aryani, 2019). Several Islamic countries have experienced that most instances of financial inclusion are the hard work of both convetional and Islamic banking in various fields. Given the steller increase in Islamic banking in the ASEAN countris coupled with a higher Islamic population specially in Malaysia, and Indonesia, followed by Brunei Darussalam, financial inclusion is an integral part of the economy (Ledhem & Mekidiche, 2021) . The emergence of Islamic banking is expected to be able to unearth the full potential of unbanked Muslim consumers in accessing formal banking services (Jibril et al., 2021). Financial inclusion also plays an essential role in facilitating the lower middle-class community to access banking services to meet economic needs (Ratnawati, 2020). With ease of access, problems related to poverty, economic disparities, and income inequality in society can be resolved. With the ease of access engrained in financial inclusion policies, problems related to poverty, economic disparities, and income inequality in society can be resolved. The financial inclusion policies also help the disadvantaged sections of society to be able to connect to banking products that can improve the quality of people's living standards (Ababio, Attah-

Botchwey, Osei-Assibey, & Barnor, 2020).

Islam is one of the most dominant religions in the ASEAN region. ASEAN economies play a considerable role in the development of the Islamic economy in the world, where most of the global Islamic banking assets come from the Asian region (Chowdhury & Haron, 2021; Lebdaoui & Wild, 2016). The increase in Islamic banking in Asia continues to grow, and awareness begins to grow along with the performance of *Islamic Sharia* regulations that are in demand by Muslims and non-Muslims alike. Awareness of this performance positively impacts the growth of Islamic banking in various countries (Juhandi, Rahardjo, Tantriningsih, & Fahlevi, 2019). However, Islamic banking in the ASEAN region, which is part of the Asian region, is still faced with the problem of non-performing loans, which is relatively high, and this positions financial inclusion as an opportunity as well as a threat to Islamic banking in ASEAN.

On other hand, despite the ASEAN region's rapid economic growth in previous decades, which lifted millions out of poverty, income inequality remains a persistent challenge. Financial inclusion is frequently viewed as a crucial component of inclusive development because it enables economic agents to plan longer-term purchases and investments, engage in productive activities, and deal with unforeseen short-term shocks (Park & Mercado, 2015; Sanjaya & Nursechafia, 2016; Zulfiqar et al., 2016). Policymakers can better plan and implement programs that will increase access to financial services, which will reduce the incidence of poverty and income inequality, by having an understanding of the relationship between financial inclusion, poverty, and income inequality at the national level (Raza, Tang, Rubab, & Wen, 2019). Given the gap in existing literature as discussed above the current research aims to discuss the effectiveness of financial inclusion in achieving economic development goals and alleviating social gaps (Jong-Hee, 2015).

Previous researchers have investigated the relationship between financial inclusion, HDI and banking performance in the country's economic growth mostly in separate states. The current research contributes to the literature by conducting this kind of investigation in all ASEAN countries, which has rarely been studied by other researchers in the region. Ababio et al. (2020) and Matakenya et al (2020) reported that low human development in a country is caused by low financial inclusion. They also reported that implementing financial inclusion through the banking sector efficiently encourages human development. The human development index indicator has a positive relationship with an increased role of banks in financial inclusion. It will also encourage the quality of life and positively support society. Further, an increase in human development will improve certain national income indicators, especially in terms of savings and investment. Kumari (2022) also analyzed the relationship between financial inclusion through the financial inclusion index and human development in India and verified that a unidirectional relationship between financial inclusion and the human development index exists. The study reported that increasing access to and use of formal banking services will increase the community's ability to meet the needs of life, especially primary needs, to encourage individual quality to increase.

Febriyati et al. (2020), Febriyati et al. (2022) and Sakanko et al. (2020) investigated the number of account ownership and increased access to banking not only shape inclusive growth but also increases employment opportunities, thus indirectly boosting national income. The research further suggested that the existence of stakeholder intervention is extremely important, as it will help the government be efficient enough to tighten the income level of the community. This process in return will increase economic activity and create more jobs. This situation can be further improved by improving the qualifications of the workforce. On the other hand, financial inclusion will also support financial system stability because it can solve issues related to access to banking services. Financial inclusion encourages public participation in economic activities by providing easy access for the unbanked community who have not been covered by banking services thus decreasing social inequality between communities. Laili and Kusumaningtias (2020) concluded that Islamic financial institutions' application of financial inclusion was quite efficient in supporting Micro, Small and Medium Enterprises (MSME) performance. The existence of banking services will significantly help the limited capital of MSME actors in the form of loan funds (credit). The additional capital will encourage business expansion to obtain higher profitability. Anwar and Amri (2017) reported that all financial inclusion indicators positively influence GDP with the increase in the number of banking offices, they will be able to absorb and channel funds to the public. With this, the distribution of credit will be more excellent, which is expected to stimulate the investment cycle in Indonesia. The expansion of banking infrastructure, especially ATMs, will facilitate the process of transactions between people, which is expected to accelerate the circulation of money in the community to encourage state revenues from economic activities.

This study focuses on the nexus between financial inclusion and the human development index in developing countries in ASEAN. This research will provide insights into the relationship between financial inclusion, HDI, and its impact on banking performance which is integral to the country's economic growth. The selection of research objects in developing countries in ASEAN was motivated by the similarity of economic conditions and banking performance in terms of conventional and sharia. This study's results suggest a higher need for rigorous research in this area, especially in developing countries, because of the high credit risk through NPL. Financial inclusion opens access to financial services for all levels of society, and NPL problems will likely surface as new in the banking world. The novelty of this research is that HDI, financial inclusion, and economic growth have a significant role in economic growth in ASEAN. The nexus of the three indicators above has not been widely studied by previous researchers. Our results have a significant impact on the financial, banking sector, government policies and also on the financial decision-making of the common person. Overall the research contributes to social and economic growth in the ASEAN countries.

Developing countries need a lot of capital for economic development. Development in most developing countries is hampered by limited funds. The previous literature found that countries with modern infrastructure, such as good roads, water pipes, stable electricity, etc has a higher tendency to attract FDI inflows because it has played an essential role in motivating investors to invest or foreign direct investment (FDI) (Gunawardhana & Damayanthi, 2020). Likewise, limited sources of funds hinder economic development in Islamic countries. So that the problem of fixed money in the Islamic economy can also be overcome by raising additional capital from abroad in the form of FDI.

2. Method

This research is quantitative research with secondary data. The data is collected through observation techniques and available resources and rigorously analyzed through computational statistical methods. The secondary data of the study was obtained through a third party, namely the World Bank, St. FRED, and the International Monetary Fund (IMF). 2010-2020 was chosen as the vulnerable year of research because of recent economic

phenomena which have significantly impacted the ASEAN economy, for example, the 2008 financial crisis, the British exit (Brexit), and the COVID-19 pandemic in early 2020.
Financial inclusion will be measured through indicators of access and availability. Economic growth as the dependent variable will be measured through the country's GDP, banking performance will be proxied using banking capital assets, and HDI will be proxied using HDI scores for each country. The research object focuses on developing countries in ASEAN, namely Indonesia, Malaysia, Thailand, Myanmar, Cambodia, the Philippines, and Brunei Darussalam. This study uses the Generalized Method of Moment (GMM) model, a dynamic panel model characterized by the lag of the dependent variable between the independent variables. (Ullah & Bagh, 2019) and is a refinement of the instrumental variable method by Arellano and Bond in 1991. The following is the equation of the GMM model due to the inclusion of instrument variables in the model.

$$GDPgrowth_{it} = \alpha_{it} + LogDPaccount_{it} + LogATM_{it} + HDI_{it} + Capital\ Asset_{it} + GDPgrowth\alpha_{it-1} + \varepsilon_{it}$$

3. Result and Discussion

Result

The unit root test detects the random walk trend component in time series data. In this test, the Levin, Lin &Chut, and PP-Fisher approaches are used with the null hypothesis that there is a unit root in the data. Unit root tests become an essential test data requirement cointegrated to detect the direction of the same trend between variables.

The Generalized Method of Moment analysis uses a dynamic model characterized by the lag of the dependent variable on the independent variable. The probability of decision-making in the unit root test using the Levin, Lin & Chu t approach (unit root as a whole) and PP-Fisher (individual unit root) is 0.05 with the provision that if the variable probability value is above 0.05, then there is a unit root. The data takes a degree of integration test (first different), and a variable probability value below 0.05 indicates that there is no unit root in the data or the data is in a stationary condition.

Table 1. Unit Root Result

Variable	**Level**			**First Difference**		**Desc.**	**Second Difference**		
	Levin, Lin & Chu t*	PP-Fisher	**Desc.**	Levin, Lin & Chu t*	PP-Fisher		Levin, Lin & Chu t*	PP-Fisher	**Desc.**
LogDPaccount	0,1666	0,3894	Unstationary	0,0505	0,0389	Unstationary	0,0000	0,0000	Stationary
LogATM	0,0000	0,0000	Stationary	0,0000	0,0669	Unstationary	0,0000	0,0000	Stationary
HDI	0,0000	0,0000	Stationary	0,0000	0,0000	Stationary	0,0000	0,0000	Stationary
GDP growth	1,0000	0,9258	Unstationary	0,3045	0,1193	Unstationary	0,0000	0,0000	Stationary

Capital Asset	0,0014	0,4808	Unstationary	0,0000	0,0000	Stationary	0,0000	0,0000	Stationary

Source: Eviews 9 output

In the results of table 1 above, it can be seen that at the level, there are three variables in a non-stationary condition or a unit root. This condition is indicated by the probability value of the results of Levin, Lin &Chut, and PP-Fisher, which is above 0.05, so that it is concluded at the level of the condition. Data is not stationary. The data stationarity test continued at the first difference level. The result was that the unit root was still found in the LogDPaccount, LogATM, and GDP growth variables with a probability value of results above 0.05. At the second difference level, all test variables, namely LogDPaccount, LogATM, GDP growth, HDI, and Capital Assets, are stationary or have a probability below a significant alpha score of 0.05 so that the data analysis process can be continued to the cointegration test stage.

In testing using the Generalized Method of Moment, it is necessary to test the instrument's validity to see the possibility of bias in the estimation parameters due to the inappropriate use of instrumental variables in the equation. In this study, the Sargan Specification Test will be used as suggested by Arellano and Bondwhere as the null hypothesis that there are valid conditions of moment found in the model to test the validity of the instrument variables. Decision-making uses a probability level of 0.05. If the probability value is above 0.05, then there are conditions of the moment, while the probability value below 0.05 describes the absence of the state of the moment on the instrument.

Table 2**.**Validity Instrument Test Result

Method	**Probability (J-Statistic)**
Hipotesis Null (Ho) : *Condition of Moment Valid*	
SarganSpesification test	8,1E-22

Source: Eviews 9 output

The cointegration test through the Sargan Specification Test approach shows that the condition of the moment is found. The instrument's condition is valid with a probability value above 0.05, which is 8.1E-22.

For investigating the nexus/relationship between the Human Development Index (HDI) and the Financial Inclusion Index, LogDPaccount is the number of deposit accounts with commercial banks, credit unions, and credit cooperatives per 1,000 adults and LogATM as the Number of Automated Teller Machines (ATMs) per 100,000 adults. I will use the Granger causality test to see the relationship between variables.

Table 3. Causality Test Result

	F-Statistic	**Probability**
LOGATM does not Granger Cause HDI	1,67666	0,2006
HDI does not Granger Cause LOGDPACCOUNT	31,2956	7,00E-07
HDI does not Granger Cause LOGATM	25,259	5,00E-06
LOGATM does not Granger Cause HDI	1,67666	0,2006

Source: Eviews 9 output.

In table 3 above, it can be concluded that there is no significant relationship between the indicators of the financial inclusion index and the Human Development Index (HD). In the direction of the relationship, it can be seen that there is a positive relationship between variables, indicating an alignment of directions between variables. An increase in the financial inclusion index will improve society's quality because financial inclusion will open economic access for low-class people to meet their life needs.

The Generalized Method of Moment (GMM) model is a dynamic panel model characterized by the lag of the dependent variable between the independent variables. It is a refinement of the instrumental variable method (Arellano & Bond, 1991). The generalized Method of Moment is a regression analysis on dynamic data, namely data with a lag (time-lapse) in the study.

Table 4. Generalized Method of Moment Test Result

Variable	**Value**	
LogDPaccount	Koef.	-0,034826
	t-stat.	-0,17013
	Prob.	0,8657
LogATM	Koef.	1,234513
	t-stat.	2,518292
	Prob.	0,0153
Human Development Index	Koef.	3,280744
	t-stat.	2,24786
	Prob.	0,0294
Capital Asset	Koef.	0,173646
	t-stat.	0,177092
	Prob.	0,8602

Source: Eviews 9 output.

Based on the results of the GMM test table, it can be seen that the ATM Log and Human Development Index (HDI) only significantly influence economic growth in ASEAN-7. The significance value of the influence is reflected in the probability value below the alpha score of 0.05. ATM logs significantly positively affect GDP growth in ASEAN-7, meaning that an increase in ownership and use of ATMs by the public will increase economic growth in 7 ASEAN countries. The Human Development Index has a significant positive effect on GDP growth in ASEAN-7, meaning that the higher the quality of society, the more positive the economy will be. The high quality of society illustrates independence in meeting needs so that the consumption-production cycle will run quite efficiently.

Discussion

Nexus Financial Inclusion Index and Human Development.

The results suggest that the nexus between financial inclusion and human development indexes have a positive relationship. This indicates a unidirectional relationship between the two variables. Strengthening financial inclusion by the central bank will push the human development index higher. The human development index is the most critical indicator in achieving development, as the most crucial actor in the development of community participation in national development efforts will undoubtedly determine the country's success. The increasing human development index reflects the improvement in the community's quality of life, which is measured through income, health, and education. HDI's relationship with inclusive finance is reflected in the goal of inclusive finance, which provides access for the unbaked community, most of whom have low education and income level.

One of the causes of the ineffectiveness of financial inclusion in a country is low public financial literacy, knowledge of products and services that are still not widely known by the non-banking community, and public perceptions regarding the difficulty of formal financial customer requirements causing inclusive finance to still not run optimally in developing countries. The linkage theory of development and finance by Greenwood and Jovanovic reveals that the concept of economic development, increasing capital allocation, and aggregate growth will focus on the poor and maximize the role of finance in development. Greenwood and Jovanovic's development theory applies to developing countries, considering that the cycle of poverty is still very high, in contrast to developed countries with a more stable economic activity cycle (Rivera, 2016).

With the development of inclusive finance, it is hoped that it will be able to provide access services for more people so that the majority of the community. Since development implies human development, improving the financial system can mean more people can obtain funds to meet basic needs such as food, clothing, shelter, education and medical and engage in economic activities to earn a basic income. These findings strengthen the research of Matekenya et al. (2020) related to the human development index and financial inclusion, which states that there is a positive relationship between the two variables, the implementation of policies related to reducing formal financial barriers and usage costs can also be applied to build financial inclusion in a country. Government and banking coordination in improving financial service infrastructure to socializing the importance of financial services also needs to be carried out towards financial inclusion.

This result of research also related with the result of research Raza et al. (2019) and showed the positive impact of financial inclusion on human development, Access to easy and sufficient credit from formal banks can protect low-income individuals from abuse by local money lenders, because in the absence of an institutional banking to provide credit, local money lenders provide loans at exorbitant interest rates.

In countries with problems of uneven income growth, they can develop the financial sector and expand financial infrastructure that can reduce income inequality to poverty alleviation. Poverty is the biggest obstacle to increasing human development. Increasing access to banking services to the public has an incidental impact on opportunities for improving education and health, which will advance human development (Abdelghaffar et al., 2021). Financial inclusion enables increased resilience and opportunities for low-income communities, encouraging micro-business owners to start businesses and earn income. This is achieved by the collective efforts of both governments and banks (Datta & Singh, 2019). Although financial inclusion aims to improve people's welfare, its implementation must still use risk control and other instruments to control risk so that the implementation of financial inclusion can efficiently improve people's living standards (Musau et al., 2019).

ATM and Economic Growth.

An automatic Teller Machine is an electronic machine that automatically provides services to customers through cash withdrawals and transactions between individuals to process payments for public consumption. The emergence of ATMs is a form of innovation in the financial sector. By utilizing technological advances, ATMs make it easier for banking service users to carry out financial transactions without incurring greater costs and time. Changes in people's consumption patterns towards online, especially during the COVID-19 pandemic period, forced all people to use online services, making non-cash payment methods the main choice in society, placing ATMs as popular payment tools in the modern era (Agarwal & Brem, 2017; Yakean, 2020).

These positive findings support the theory of planned behavior, where attitudes, norms, and behavioral control influence the use of technology. This theory explains that a decrease in the currency's value in circulation increases intermediation efficiency so that the use of the money supply will experience a reduction due to electronic transactions, one of which is ATMs. This study supports the findings of Osuigwe (2022), who concluded that there was a relationship between Nirmala (2011), and Lintangsari et al. (2018), who concluded that there was a positive relationship between ATM and economic growth. Using ATMs will facilitate the transaction process in the community and encourage efficiency in the financial sector. Although there is still a large gap between active and non-ATM ATM users in developing countries with this problem, financial inclusion becomes very important for economic growth to be more accurate (Williams et al., 2017).

It's also intriguing to note that widespread use of credit and debit cards promotes economic expansion. Economic development appears to be hampered by bank concentration, as indicated by the ratio of assets held by the three largest banks to the assets of all banks. This is consistent with theoretical predictions that a decentralized, bank-based financial system could make better use of relationship lending and soft information, leading to more effective capital allocation and fewer financing obstacles (Burgof & Gehrung, 2019)

Human Development and Economic Growth.

Human development is defined as measuring the community's quality of life, especially regarding the utilization of development outcomes, including income, health, education, and other development indicators. The United Nations Development Program (UNDP) introduced the concept of human development in 1990 is not just about increasing economic wealth but also about increasing the quality of human existence. It emphasizes people, their possibilities, and their decisions. This concept is used to measure success in building quality of human life.

Growth in the economy and humanity both serve as strategic tools for achieving this objective. Therefore, there is a dual connection between causality and economic growth and human development. High levels of development for humans are feasible thanks to economic development (Elisitia & Syahzuni, 2018). As an essential element in development, of course, the role of the community will determine the victory in the country's development because the community will be the leading actor. He will evaluate how the direction of development will proceed. Eligibility and human quality will determine how successful it is in meeting the needs of life. In terms of work competition, the quality of individuals will determine success in earning income.

The concept of human development is fundamental to shaping the character of the future successors of the nation because, in the future, the level of competition will be increasingly severe with qualified quality. It is hoped that the community will be able to compete in getting income to meet the needs of life. Elistia and Syahzuni (2018) reveal that the existence of economic growth will encourage a high level of human development and vice versa. A high-quality community development index will increase a country's economic growth opportunities. Appiah et al. (2019) revealed that human development is essential to the success of Africa's economic growth and development. The excellent quality community role will primarily support economic growth, where economic growth can support sustainable human development. One of the most important measures of a nation's economic progress is its Human Development Index, which is thought to play a significant part in economic growth. The Human Development Index makes it possible to more precisely evaluate the nation's accomplishments (Hoa, Liem, & Phuoc, 2016).

4. Conclusion

The study's results suggest that the financial inclusion index and human development relationship are positively insignificant. The direction of the relationship between the two variables is direct and positive, indicating an alignment of trends between variables. The results show that an increase in the financial inclusion index will significantly improve the quality of society, suggesting that financial inclusion will open economic access for underprivileged sections of society, and they will be hugely beneficial in meeting their day-to-day living needs. Further, using the Generalized Method of Moment Analysis method, the study results show that the ATM Log variable has a significant and positive impact on GDP growth in ASEAN-7. The results are significant for the general public, suggesting that increased ownership and use of ATMs by the community will boost economic growth in the selected ASEAN-7, namely Indonesia, Malaysia, Thailand, Myanmar, Cambodia, the Philippines, and Brunei Darussalam. The results also prove that the Human Development Index significantly positively impacts GDP growth in ASEAN-7. The results suggest a positive relationship between quality of life and the quality of the economy. The community's high quality or standard of life illustrates independence in meeting their economic and financial needs and suggests that the consumption-production cycle will function efficiently.

Overall this study emphasizes that inclusive finance can be implemented efficiently to increase economic development and achieve optimal community welfare. Determining financial inclusion as a national strategy in several countries places the financial sector as a vital indicator of change. However, the results should be interpreted cautiously as the relevant regulatory authorities in the ASEAN banks still have problems with NPLs if the rate is too high. This study suggests that further attention is needed to investigate these variables in light of NPLs data. A prudent financial management policy by the banking sector and financial inclusion policy by the government is the need of the hour.

References

Ababio, J. O., Attah-Botchwey, E., Osei-Assibey, E., & Barnor, C. (2020). Financial inclusion and human development in frontier countries. *International Journal Financial Ecnomic*, 1–18.

Abdelghaffar, R. A., Emam, H, A., & Samak, N. A. (2021). Financial inclusion and human development: is there a nexus? *Journal of Humanities and Applied Social Sciences*. https://doi.org/10.1108/JHASS-11-2021-0178

Agarwal, N., & Brem, A. (2017). The Frugal Innovation Case of Solar-powered Automated Teller Machines (ATMs) of Vortex Engineering in India. *Journal of Entrepreneurship and Innovation in Emerging Economies*, *3*(2), 115–126. https://doi.org/10.1177/2393957517717895

Anwar, K., & Amri, A. (2017). Pengaruh Inklusi Keuangan terhadap PDB Indonesia. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan Fakultas Ekonomi Dan Bisnis Unsyiah*, *2*(3), 454–462.

Chowdhury, M. A. M., & Haron, R. (2021). The efficiency of Islamic Banks in the Southeast Asia (SEA) Region. *Future Business Journal*, *7*(1), 1–16. https://doi.org/10.1186/s43093-021-00062-z

Datta, S. K., & Singh, K. (2019). Variation and Determinants of Financial Inclusion and association with Human Development: A Cross Country Analysis. *IIMB Management Review*.

Febriaty, H., Rahayu, S. E., & Nasution, E. Y. (2020). PENGARUH INKLUSI KEUANGAN PADA ERA DIGITAL ECONOMI TERHADAP PERTUMBUHAN EKONOMI INDONESIA. *Seminar of Social Sciences Engineering & Humaniora*.

Febriaty, H., Rahayu, S. E., & Nasution, E. Y. (2022). Peran Inklusi Keuangan dalam Mengatasi Ketimpangan Pendapatan di Indonesia. *Jurnal Samudra Ekonomi & Bisnis*, *13*(1).

Kumari, M. (2022). Financial Inclusion and Human Development in India: An Inter-State Analysis. *International Journal of Economics Development Research*, *3*(1), 1–12.

Laili, N. Y., & Kusumaningtias, R. (2020). Efektivitas Inklusi Keuangan Syariah dalam Meningkatkan Pemberdayaan UMKM (Studi Pada BMT Dasa Tambakboyo). *Jurnal Ilmiah Ekonomi Islam*, *6*(03), 436–443.

Lebdaoui, H., & Wild, J. (2016). Islamic banking presence and economic growth in Southeast Asia. *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(4), 551–569. https://doi.org/10.1108/IMEFM-03-2015-0037

Ma'ruf, A., & Aryani, F. (2019). Financial Inclusion and Achievements of Sustainable Development Goals (SDGs) in ASEAN. *GATR Journal of Business and Economics Review*, *4*(4), 147–155. https://doi.org/10.35609/jber.2019.4.4(1)

Matakenya, W., Moyo, C., & Jeke, L. (2020). Financial inclusion and human development: Evidence from Sub-Saharan Africa. *Development Southern Africa*. https://doi.org/https://doi.org/10.1080/0376835X.2020.1799760

Musau, S., Muathe, S., & Mwangi, L. (2019). Financial Inclusion, Bank Competitiveness and Credit Risk of Commercial Banks in Kenya. *International Journal of Financial Research*, *9*(1). https://doi.org/https://doi.org/10.5430/ijfr.v9n1p203

Nguyen, T. D., Du, Q. L. T., & McMillan, D. (2022). Measuring financial inclusion: a composite FI index for the developing countries.Journal of Economics and Development. *Journal of Economics and Development*, *23*(1).

Osuigwe, O. C. (2022). Financial Innovation And Economic Growth In Nigeria. *International Journal of Innovative Social Sciences & Humanities Research*, *10*(2), 36–51.

Park, C.-Y., & Mercado, R. J. (2015). Financial Inclusion, Poverty, and Income Inequality in Developing Asia. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2558936

Rivera, M. A. (2016). The synergies between human development, economic growth, and tourism within a developing country: An empirical model for ecuador. *Journal of Destination Marketing & Management*. https://doi.org/http://dx.doi.org/10.1016/j.jdmm.2016.04.002

Ruschchyshyn, N., Mulska, O., Nikolchuk, Y., Ruschchyshyn, M., & Vasyltsiv, T. (2021). The impact of banking sector development on economic growth: Comparative analysis of Ukraine and some EU countries. *Investment Management and Financial Innovations*, *18*(2).

Sakanko, M. A., David, J., & Onimisi, A. M. (2020). Advancing inclusive growth in Nigeria: the role of financial inclusion in poverty, inequality, household expenditure, and unemployment. *Indonesian Journal of Islamic Economics Research*, *2*(2), 70–84.

Sanjaya, I. ., & Nursechafia, N. (2016). Financial Inclusion and Inclusive Growth: A Cross-Province Analysis in Indonesia. *Bulletin of Monetary, Economics and Banking*, *18*(3), 281–306.

Ullah, K., & Bagh, T. (2019). *Finance and Management Scholar at Riphah International University Islamabad, Pakistan, Faculty of Management Sciences*. *10*(8), 101–107. https://doi.org/10.7176/RJFA

Williams, H. T., Adegoke, A. ., & Dare, A. (2017). ROLE OF FINANCIAL INCLUSION IN ECONOMIC GROWTH AND POVERTY REDUCTION IN A DEVELOPING ECONOMY. *Internal Journal of Research in Economics and Social Sciences (IJRESS)*, *7*(5), 265–271.

Yakean, S. (2020). Advantages and Disadvantages of a Cashless System in Thailand during the COVID-19 Pandemic. *Journal of Asian Finance, Economics and Business*, *7*(12), 385–388. https://doi.org/10.13106/jafeb.2020.vol7.no12.385

Zavadska, D. (2017). Determining the Role of Bank in The Financing Innovate Development Processes of the Economy. *Baltic Journal of Economic Studies*, *4*(3), 68–73.

Zulfiqar, K., Chaudhary, M. ., & Aslam, A. (2016). Financial Inclusion and its Implication for Inclusive Growth in Pakistan. *Pakistan Economic and Social Review*, *54*(2), 297–325.