FINANCIAL MARKET DEVELOPMENT AND ECONOMIC GROWTH: EVIDENCE FROM ASEAN AND CEE REGION

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Abstract: Developed financial markets act as a catalyst in promoting greater economic growth for nations. Healthy financial market growth among nations is found to improve good job creations and aid economic growth in line with Sustainable Development Goal 8. Developing economies could emulate the growth principles from developed economies on financial market development. This paper analyzes the impact of financial market development and economic growth in middle-income and high-income countries of ASEAN and CEE countries from 2002 to 2019. Annual time series data were sourced from World Bank using stock market development indicators. The panel data based on the random effect model was employed to determine the correlation between stock market capitalization and total stock traded from the total value positively impact economic growth. In contrast, the relationship between the stock traded of domestic share and GDP growth is negative. To foster greater economic growth, countries and policymakers need to focus on developing the financial market sector and maintaining the macroeconomic stability.

Key words: Finance-growth nexus, FDI, middle-income economies, high-income countries, SDG8

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Introduction

All of the countries worldwide aim to promote rapid and sustainable economic growth. In general, this target seems to have been achieved in the last two decades, except during the global financial crisis. The World Bank (2019c) shows that the world's Gross Domestic Product (GDP) reached USD 87 trillion in 2019, which is 169% growth since 1999 (USD 32 trillion). The world economy has experienced only one negative change in the last 20 years, during the global financial crisis in 2009, which is -1.7% (World Bank, 2019b).

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The Association of Southeast Asian Nations (ASEAN) and Central and Eastern European Countries (CEECs) are economic regions in Asia and Central Europe. Most ASEAN members are developing and middle-income economies, except Singapore, with income per capita reaching USD 50,176 as of 2018 (World Bank, 2019a). The average income per capita of Indonesia, Malaysia, Philippines and Thailand is USD 4,993 in 2018, while the three CEE economies (Hungary, Poland, and Slovenia) have an average income per capita three times higher than ASEAN in the same year (World Bank, 2019c).

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However, CEE economies are recognized as high-income countries with an average income per capita of USD 15,517 in 2018. There is a huge disparity of income per capita between the countries. For instance, income per capita in Hungary and Poland is around USD 12,900 compared to Slovenia with USD 20,700 in 2018. Besides, with a 650 million population and having a GDP of USD 2.9 trillion, ASEAN has a contribution of around 3.4% to the global economy in 2018, as of USD 86 trillion (Vu, 2020). This region also experiences robust annual economic growth, reaching 5.07% from 2002 to 2019, compared to CEE selected economies that grew 3.45% on average in the same period (World Bank, 2019b).

Previous studies have integrated economic growth into several variables, for example, tax evasion, social norms and economic development (Bethencourt & Kunze, 2019); competitiveness, wealth, and intellectual capital to economic growth (Herciu & Ogrean, 2015); the depth of Islamic finance, financial intermediation and sustainable economic growth (Saleem et al., 2021); social norms and growth (Bethencourt & Kunze, 2020); financial market development and economic performance (Ono, 2017); financial development and GDP growth with macroeconomic indicators used as control variables (Guru & Yadav, 2019; Saleem & Ashfaque, 2020). Additionally, the impact of export market orientation on the Chinese economy was studied by Imran et al. (2018).

Financial market development plays an essential role in creating various benefits for the economy (Guru & Yadav, 2019). Well-developed financial markets will reduce inequality by providing people a chance to own part of the company's shares and creating opportunities to get capital gains and potential dividends from portion of the company's profits (Musonera & Safari, 2008). At the corporate level, the capital market is also an intermediary for companies to obtain funding sources. Wasmer and Weil (2004) describe company growth as supported by sufficient capital through equity financing will create new job opportunities, relevant to United Nations Sustainable Development Goal 8 (UN SDG8) to encourage full employment by 2030. Furthermore, a stable financial market attracts capital inflow from domestic and foreign, capable of promoting economic growth.

Previous studies by Bist (2018) and Pradhan et al. (2019) revealed a positive relationship between financial market development and GDP growth. However, some studies are inconsistent with previous findings. For example, Ram (1999) examined financial developments on economic growth using multiple growth

regression models in 95 countries and found the opposite conclusion by stating that financial development does not boost economic performance.

However, there is a conspicuous lack of studies focusing the financial market development and its impact on economic growth in middle-income and highincome economies like ASEAN and CEE regions. Importantly, considering the conflicting evidence from previous studies, this paper aims to answer how stock markets in developing and developed countries help to contribute to economic growth.

The study contributes to the existing literature in two ways. Firstly, to the best of our knowledge, this study provides novel evidence of finance-growth nexus from middle-income and high-income countries from two diverse markets (i.e., ASEAN and CEE). Furthermore, the results provide a comprehensive analysis of financial market development and economic growth with the leading macroeconomic indicators as control variables.

Literature Review

The impact of the financial sector on economic growth has been a topic of discussion from decades, rooted back from the theory of Schumpeter (1912). The theory suggests that financial intermediaries play a defining role in promoting economic growth. However, two intermediation models exist to contribute to country's development, i.e., bank-based and market-based. Later, Levine and Zervos (1998) widened the scope of finance-growth debate by studying the bank-and market-based intermediation models. Furthermore, the presence of bank- or market-based financial model largely depends on the level of banking or market development in a country (Levine, 2002; Osoro & Osano, 2014). Based on the research question, this section has provided the literature review focusing on the financial market development (stock market) and its impact on economic growth.

Financial Market Development and Economic Growth

A growing financial market sector provides an alternative source of funding for companies. From a microeconomics perspective, capital structure sources from the financial market provide benefits related to low costs and risk mitigation when an interest rate shock occurs (Singh & Weisse, 1998). The capital structure uses more debt and less equity to increase the risk by shareholders. According to Campbell and Rogers (2018), policies related to selecting funding sources are known as the corporate finance trilemma. Therefore, financial managers need to find the optimal point between risk and return before making a corporate capital structure decision.

At the macroeconomic level, economic growth is also connected with the financial industry's development and economic development in the long run (Ginevičius et al., 2021; Meyer et al., 2017). A growing and transparent financial sector will foster economic growth (Levine & Zervos, 1998). Demirgüç-Kunt and Levine (1996) formulated financial market development indicators using various proxies, such as market capitalization of recorded domestic companies as the rate of GDP, associated with the stock market size. The higher market size is predicted to be

able to attract capital and diversify risk. This study also considers the percentage of stocks traded or the turnover ratio of domestic shares. This variable represents the liquidity of the stock market, which is expected to reduce investment costs and attract more investors. Another stock market development variable is the total value of stock traded as a percentage of GDP is associated with the stock market valuation. The market seems to be overvalue when the percentage of total stock traded is more than 100% and undervalue if the result is lower than 50%.

According to Islam et al. (2020), the financial sector's progress promotes FDI to boost economic growth. Azam et al. (2016) performed another study that looked at the relationship between financial market and economic growth in four Asian countries, revealed that there is cointegration between capital market development and economic growth in Bangladesh, India, Singapore and China. Other empirical evidence, such as Owusu (2018), finds that capital market developments significantly impact South Africa's economic growth. Qamruzzaman and Wei (2018) also depict a causal relationship between financial innovation and Bangladesh's economic growth.

Moreover, Tang et al. (2007) analyze the correlation between financial markets and GDP growth in the selected Asian countries over 24 years (1980-2004). The result depicts that the stock market has causality and cointegration to GDP growth in China, Philippines, Singapore and Taiwan. Recent evidence of the stock market positively correlates to economic growth conducted by Regan (2017) in the Asia Pacific region and Sehrawat and Giri (2017) in India. More recently, Pradhan et al. (2019) reveal that stock market development has cointegration to growth in the G-20 economies.

Macroeconomic Variables and Economic Growth

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Several influential pieces of literature on macroeconomic variables and economic growth, such as Fischer (1993), depict inflation correlated negatively to economic growth. However, Ghosh and Phillips (1998) found a different fact that there is a positive relationship between controllable inflation and economic growth. Furthermore, Balls and O'Donnell (2002) explain that low and stable inflation plays a vital role in monetary policy to foster economic growth and job creation. A similar finding from Öztürk et al. (2014) shows that inflation targeting affects both developed and developing economies positively. Also, Sanusi et al. (2017) found that inflation plays a vital role in developing financial markets. Thanh (2015) reveals inflation will be dangerous for economic growth if it is more than the threshold level of 7.84%. Furthermore, inflation and unemployment are dynamically associated in the long run, which could have a crucial intervening role in defining other macroeconomic factors (Meyer & Meyer, 2019; Sági et al., 2020; Victor et al., 2018). Also, inflation concerning food items is asymmetrically affected by macroeconomic factors (Abdallah & Fekete Farkas, 2019; Ebrahimi et al., 2019). Therefore, the threshold level is defined as the inflection point on which positive or negative effects on economic growth.

The differences in previous researchers' findings have made the correlation between macroeconomics indicators and economic growth a relevant discussion until now. Not only does the correlation of inflation and economic growth often provide different results, but it also applies to other variables, such as unemployment and FDI. Karfakis et al. (2014) examine the relationship between unemployment and economic performance in Iran by applying the autoregressive distributed lag (ARDL) model to find a significant and negative impact of unemployment on economic growth. In contrast, Victoria (2019) adopts the VAR Granger Causality to evaluate the correlation between unemployment and growth in Nigeria from 1981 to 2016. The result depicts the fact that there is no granger cause between unemployment and GDP growth.

Economic growth is also often integrated with foreign direct investment. Lee and Chang (2009) look at the correlation between FDI and economic performance in 37 countries for 32 years, from 1970 to 2002. Applying panel cointegration and panel error correlation model, they found that overall FDI driven by financial development will promote growth. Furhermore, Ślusarczyk and Kot (2012) and Gherghina et al. (2019) argued the causality correlation between FDI and economic growth in Central and Eastern European Countries from 2003 to 2016.

Research Methodology

Data and Sample

The data are documented from the World Bank covering the period of last 18 years, from 2002 to 2019. Selected countries from ASEAN and CEE regions are chosen based on the data availability from World Development Indicators (WDI). Therefore, Indonesia, Malaysia, Singapore, Thailand and Philippines represent countries in the ASEAN region. For CEE economies, the available data only covers three countries, namely Hungary, Poland and Slovenia. Apart from the availability of the above data, the consideration of selecting ASEAN and CEE economies, including 1) the GDP of the countries in the research sample reached USD 3.5 trillion in 2019, growing 374% over 20 years. This growth was twice as high as the world economic growth in the same period of 169%; 2) stock market capitalization of sample countries increased by 586% from 2002 to 2018, while world capital market capitalization grew only 201% for 18 years.

Existing literature allows the choice of dependent, independent, and control variables. Following Paun et al. (2019), Bongini et al. (2017), Pradhan et al. (2019) and Ginevičius et al. (2021), the authors took GDP constant price annual growth rate. Whereas stock market capitalization (MCD) takes as a percentage of GDP, the stock traded in total (STT) as a percentage of GDP and in domestic share (STD) taken as a percentage of GDP are selected to represent the stock market development. Furthermore, inflation (INF), unemployment (UNP) and foreign direct investment (FDI) as a percentage of GDP are considered for this study represent the macroeconomic indicator and control variables.

Econometric Model

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The study aims to analyze the impact of financial market development on the economic growth of selected countries in ASEAN and CEE regions. However, this study used a few macroeconomic indicators to serve as control variables in the proposed model. Following Baltagi (2008), Hsiao (2014) and Bell and Jones (2015), the researchers employed panel regression model as specified in Equation (1), (2), and (3).

$$y_{jt} = \theta_t + \gamma_{jt} X_{ajt} + \delta_{jt} X_{bjt} + \varepsilon_{jt} - - - - - - (1)$$

$$\therefore \varepsilon_{jt} = v_j + \mu_{jt}$$

$$y_{jt} = (\theta_t + v_j) + \gamma_{jt} X_{ajt} + \delta_{jt} X_{bjt} + \mu_{jt} - - - (2)$$

$$y_{jt} = \theta_t + \gamma_{jt} X_{ajt} + \delta_{jt} X_{bjt} + (v_j + \mu_{jt}) - - - (3)$$

 y_{jt} represents the explained variable, i.e., GDP of *j* country at year *t*. Whereas θ_t shows the intercept at time *t*. X_a illustrates the dependent variables representing financial development indicators of selected *j* country at year *t*. Similarly X_b demonstrates the control variables representing macroeconomic indicators that may affect the economic growth of *j* country at year *t*. γ_{jt} and δ_{jt} are the coefficients of dependent and control variables, respectively. Furthermore, in order to capture the panel effect in the proposed model, the error term is decomposed into individual effect v_j and time effect μ_{jt} . The study tested the data for the presence of unobserved individual effect, i.e., panel effect using F-test by running Pooled OLS regression. The null hypothesis of individual effect to be zero is tested using F-test against the alternative of the presence of individual effect.

Result and Discussion

Descriptive Statistics

Table 1 provides the descriptive statistics of the selected variables. GDP growth rate and inflation appeared to be the most stable variable. However, market capitalization having the highest standard deviation is the most unstable variable.

Table 1. Descriptive Statistics							
Variables	Mean	St. Dev.	Min.	Max.			
GDP	4.255	2.666	-7.55	14.53			
INF	3.325	3.185	-5.99	18.15			
UNP	5.353	3.583	0.25	19.89			
FDI	5.595	10.466	-41.06	54.65			
MCD	74.945	67.224	10.33	297.98			
STD	38.229	26.755	1.89	149.27			
STT	30.198	34.485	0.28	210.72			

 Table 1. Descriptive Statistics

Table 2 provides the evidence of correlation among the variables of interest. Market capitalization is appeared to have the strongest correlation with GDP. It is expected that GDP and market capitalization are positively correlated. However, foreign direct investment and GDP have the weakest correlation. Furthermore, among independent variables, the strongest correlation exists between MCD and total stock traded volume (STT). Therefore, after running the pooled regression, the authors tested for multicollinearity by using VIF. The level of VIF for all the explanatory variables is below 10, which gives satisfactory evidence for the absence of multicollinearity (Mansfield & Helms, 1982).

Variables	GDP	INF	UNP	FDI	MCD	STD	STT
GDP	1						
INF	0.226	1					
UNP	-0.259	0.047	1				
FDI	0.042	-0.098	-0.011	1			
MCD	0.322	-0.223	-0.392	0.408	1		
STD	-0.110	0.051	-0.156	0.251	0.091	1	
STT	0.237	-0.183	-0.374	0.373	0.835	0.481	1

Table 2. Correlation matrix

Empirical Results

Following equation 1, the authors ran pooled OLS regression without considering the individual and time effect. Table 3 provides the results for the significance level of all the independent variables based on pooled regression. Pooled OLS provides a rough and easy way of analyzing data, but this approach cannot capture the element of panel effect, which may be presented in the data set due to differences in intercepts for all entities Hsiao (2014). However, to find the panel effect, the researchers performed F-test with the null hypothesis that all the individual effect is zero. With Prob > F = 0.0037, the study rejects the null hypothesis of the same intercept and concludes that there is significant evidence of the presence of panel effect in the data. Therefore, based on equations 2 and 3, the authors employed Panel Fixed and Random effect regression on the data. Hausman test is performed to test the null hypothesis in favor of random effects. However, Prob. > $\gamma 2$ = 0.9746 suggests that the random effect model is appropriate for the given panel data. Furthermore, following Breusch and Pagan (1980), Lagrange multiplier test is performed to test for the null hypothesis in favor of pooled OLS. The null hypothesis of langrage Multiplies test suggests that each cross-section has the same intercept $(\theta_t + v_i)$ and variance of random effect is zero. Hence, the value of Prob. > $\gamma 2 = 0.0067$ gives the evidence to reject the null hypothesis, which means Random effect model is appropriate for the analysis.

To check the stability and robustness of the model, Breusch-Pagan / Cook-Weisberg test is employed to check whether homoscedasticity of the errors,

Wooldridge test for serial correlation, and Ramsey RESET test for model misspecification. The results of mentioned diagnostic tests are given in Table 3, which gives satisfactory evidence of model fitness, absence of serial correlation, multicollinearity, and heteroskedasticity.

	Regression Analysis						
Variables	Pooled OLS	Fixed Effect	Random Effect				
MCD	0.006	0.007	0.003				
	(0.83)	(0.60)	(0.31)				
STD	-0.028**	-0.038**	-0.039**				
512	(-2.40)	(-2.24) 0.038**	(-2.51)				
STT	0.019		0.036**				
511	(1.20)	(2.16) 0.234***	(2.12) 0.244 ^{***}				
INF	0.273***						
INF	(4.28) -0.123 ^{**}	(3.20) -0.172**	(3.47) -0.165**				
UNP	-0.123**	-0.172**	-0.165**				
UNP	(-1.99)	(-2.09)	(-2.13)				
FDI	-0.003	0.015	0.014				
FDI	(-0.15)	(0.65)	(0.61)				
Canat	4.052***	4.098***	4.419***				
Const.	(5.44)	(3.65)	(3.83)				
Prob. > F	0.0000	0.0001	0.0000				
R-sq.	0.2549	0.459	0.489				
F-Test	Prob. > F = 0.0037						
Hausman Test	$Prob. > \chi^2 = 0.9746$						
BP LM test	$Prob. > \chi^2 = 0.0067$						
Diagnostic tests							
Breusch-Pagan/Cook-		$Perh > r^2 = 0.8252$					
Weisberg test	Prob. > $\chi^2 = 0.8252$						
Wooldridge test	Prob > F = 0.2367						
Ramsey RESET Test	msey RESET Test $Prob > F = 0.0962$						

Table 3. Regression Results

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively

Discussion

Based on the statistical test performed to select an appropriate model, Random effect is considered suitable for the analysis. Table 3 gives the results of all three econometric models, i.e., Pooled OLS, Fixed effect and Random Effect regression. However, parameters estimated through random effect would be the central focus in this section.

The findings reveal a positive but not significant correlation between market capitalization and GDP. The result of the study is in conformity with the study of Asteriou and Spanos (2019), which revealed that market capitalization improves

economic growth in EU economies. The average MCD increased in the ASEAN and CEE selected countries, starting from 45% in 2002 and jump to 72% in the next 18 years. The rapid increase in MCD reflects that the market size in the region is experiencing growth.

In contrast, the study finds a negative and statistically significant relationship between the stock traded to domestic share (STD) and economic growth. This finding seems to be different from the general previous literature, which found that the relationship between STD and GDP is positive. The higher of STD will foster the economy to grow through the dynamic of stock market trading for the host country. However, in this study, there is a negative correlation between STD and economic growth because there is decreasing STD over the study period. It starts from 38% at the end of 2002 and closes at 25% in 2019. The decline in STD illustrates the low liquidity of the capital market during the study period, reflecting both domestic and global investors' low transaction. The result is also similar to the new evidence from Elhassan and Braima (2020), which found that STD negatively impacts GDP growth in the Khartoum Stock Exchange in Sudan.

Furthermore, STT is measured as the total value of stock traded as a percentage of GDP in ASEAN and CEE selected economies. The finding shows that the relationship between STT and economic growth is positive and significant. The higher STT is associated with developing the stock market within countries, which has a multiplier effect on investment and the economy. Based on World Bank data, STT in ASEAN and CEE countries increased over the study period from 2002 to 2019.

Notably, macroeconomic variable in this study appeared to have a better predicting power to translate economic growth. The analysis reveals that inflation has positively and significantly correlated with economic growth in ASEAN and CEE selected countries from 2002 to 2019. This finding similar to Ha et al. (2019), who explain that the anticipated inflation boosts economic growth, financial stability and poverty reduction. In the ASEAN and CEE selected economies, the average inflation over the study period is 3.3%. From a policy perspective, inflation range from 3 to 7 percent is beneficial for economic growth (Khan & Naushad, 2020).

In addition, the study results find a negative but significant relationship between unemployment and economic growth. This finding is consistent with the theory of this study. It depicts that unemployment harms economic growth because decreasing job availability will change individual or household earnings. In aggregate, a high unemployment rate will reduce national real income and make domestic consumption also decrease to lower economic growth. In the short term, unemployment can be reduced through public employment services (PES), such as training and subsidized employment. Meanwhile, PES and wage subsidies are effective approaches to reduce unemployment (Fredriksson, 2021). Furthermore, Bauermann (2020) describes the strategy to reduce the unemployment rate during the recession; it can be done by reducing employee working hours rather than layoffs and government transfers to encourage public demand to effectively overcome unemployment.

Another imperative finding of research is that FDI positively impacts economic growth in ASEAN and CEE selected economies. Higher FDI is associated with economic and political stability. In other words, it also represents the transparency and ease of doing business for a global player. As a result, it will escalate capital inflow and attract investment. Therefore, increasing FDI will have a spillover effect on the corporation and a country to lift the host economy.

Conclusions

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This study focuses on economic growth, which is associated with macroeconomic indicators and financial market development over the period 2002 to 2019. The trend of GDP growth in these countries is relatively stable with an average of 4.3% in the last 18 years, higher than the World's economic growth in the same period as 2.9%. These variables were analyzed by applying a panel data regression based on the random effect model in ASEAN and CEE regions.

This study indicates that economic growth is influenced by the stock market development and the macroeconomic stability. The government's policies to maintain sustainable growth in financial markets provide opportunities for income equality for individuals, as reflected by the increase in GDP per capita, which is in line with UN SDG8. To accelerate the growth of financial market, ASEAN and CEE regions should encourage the potential local companies to conduct initial public offering (IPO) and attract more domestic and foreign investors to participate in the financial market by providing effective protection of shareholders' right and maintaining macroeconomic stability as a precondition of the development of the efficient financial sector.

The limitations of this study are related to the relatively small variable, only financial market development over the last 18 years from 2002 to 2019. A more extensive study can be examined with a more extended period and larger samples incorporating other research variables, such as fiscal compliance, shadow economy and stock market volatility.

References

- Abdallah, M. B., Fekete Farkas, M., (2019). The effects of food price volatility on macroeconomic variables in Tunisia. V. International Winter Conference of Economics PhD Students and Researchers,
- Asteriou, D., Spanos, K., (2019). The relationship between financial development and economic growth during the recent crisis: Evidence from the EU. *Finance Research Letters*, 28, 238-245.
- Azam, M., Haseeb, M., Samsi, A. B. and Raji, J. O., (2016). Stock market development and economic growth: Evidences from Asia-4 countries. *International Journal of Economics and Financial Issues*, 6(3), 1200-1208.

Balls, E., O'Donnell, G., (2002). The Benefits of Maintaining Low and Stable Inflation. In Reforming Britain's Economic and Financial Policy (pp. 58-70). Springer.

Baltagi, B. H., (2008). Forecasting with panel data. Journal of forecasting, 27(2), 153-173.

- Bauermann, T. (2020). Governmental policies to reduce unemployment during recessions: Insights from an ABM. Ruhr Economic Papers.
- Bell, A., Jones, K., (2015). Explaining fixed effects: Random effects modeling of timeseries cross-sectional and panel data. *Political Science Research and Methods*, 3(1), 133-153.
- Bethencourt, C., Kunze, L., (2019). Tax evasion, social norms, and economic growth. *Journal of Public Economic Theory*, 21(2), 332-346.
- Bethencourt, C., Kunze, L., (2020). Social norms and economic growth in a model with labor and capital income tax evasion. *Economic Modelling*, *86*, 170-182.
- Bist, J. P., (2018). Financial development and economic growth: Evidence from a panel of 16 African and non-African low-income countries. *Cogent Economics & Finance*, 6(1), 1449780.
- Bongini, P., Iwanicz-Drozdowska, M., Smaga, P. and Witkowski, B., (2017). Financial development and economic growth: The role of foreign-owned banks in CESEE countries. *Sustainability*, 9(3), 335.
- Breusch, T. S., Pagan, A. R., (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *The review of economic studies*, 47(1), 239-253.
- Campbell, G., Rogers, M., (2018). Capital structure volatility in Europe. International Review of Financial Analysis, 55, 128-139.
- Demirgüç-Kunt, A., Levine, R., (1996). Stock markets, corporate finance, and economic growth: an overview. *The World Bank Economic Review*, 10(2), 223-239.
- Ebrahimi, P., Alipour, H., Gholampour, A. and Ahmadi, M., (2019). Social networks, exchange rate fluctuation, and economic growth: ARDL approach. *Tékhne*, *17*(1), 1-9.
- Elhassan, T., Braima, B., (2020). Impact of Khartoum Stock Exchange Market Performance on Economic Growth: An Autoregressive Distributed Lag ARDL Bounds Testing Model. *Economies*, 8(4), 86.
- Fischer, S., (1993). The Role of Macroeconomic Factors in Growth. No. w4565. In: *National Bureau of Economic Research.*
- Fredriksson, D., (2021). Reducing unemployment? Examining the interplay between active labour market policies. *Social Policy & Administration*, 55(1), 1-17.
- Gherghina, Ş. C., Simionescu, L. N., Hudea, O. S., (2019). Exploring foreign direct investment–economic growth nexus—Empirical evidence from central and eastern European countries. *Sustainability*, 11(19), 5421.
- Ghosh, A., Phillips, S., (1998). Warning: Inflation may be harmful to your growth. Staff Papers, 45(4), 672-710.
- Ginevičius, R., Nazarko, J., Gedvilaitė, D. and Dacko-Pikiewicz, Z., (2021). Quantifying the economic development dynamics of a country based on the Lorenz curve.
- Guru, B. K., Yadav, I. S., (2019). Financial development and economic growth: panel evidence from BRICS. *Journal of Economics, Finance and Administrative Science*, 24(47), 113-126.
- Ha, J., Kose, M. A. and Ohnsorge, F., (2019). Understanding inflation in emerging and developing economies. World Bank Policy Research Working Paper, 8761.
- Herciu, M., Ogrean, C., (2015). Wealth, competitiveness, and intellectual capital–sources for economic development. *Procedia Economics and Finance*, 27, 556-566.

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Hsiao, C., (2014). Analysis of panel data. Cambridge university press.

- Imran, M., Jian, Z., Urbański, M. and Nair, S. L. S., (2018). Determinants of firm's export performance in China's automobile industry. *Sustainability*, *10*(11), 4078.
- Islam, M. A., Khan, M. A., Popp, J., Sroka, W. and Oláh, J., (2020). Financial development and foreign direct investment—The moderating role of quality institutions. *Sustainability*, 12(9), 3556.
- Karfakis, C., Katrakilidis, C. and Tsanana, E., (2014). Does output predict unemployment? A look at Okun's law in Greece. *International Labour Review*, *153*(3), 421-433.
- Khan, N., Naushad, M., (2020). Inflation Relationship With the Economic Growth of the World Economy. *Available at SSRN 3542729*.
- Lee, C.-C., Chang, C.-P., (2009). FDI, financial development, and economic growth: international evidence. *Journal of applied economics*, *12*(2), 249-271.
- Levine, R., (2002). Bank-based or market-based financial systems: which is better? *Journal* of financial Intermediation, 11(4), 398-428.
- Levine, R., Zervos, S., (1998). Stock markets, banks, and economic growth. American economic review, 537-558.
- Mansfield, E. R., Helms, B. P., (1982). Detecting multicollinearity. *The American Statistician*, 36(3a), 158-160.
- Meyer, D. F., Masehla, T. and Kot, S., (2017). The relationship between economic growth and economic development: A regional assessment in South Africa. J. Advanced Res. L. & Econ., 8(4(26)), 1377-1385.
- Meyer, N., Meyer, D. F., (2019). Examining the impact of entrepreneurial activity on employment and economic growth: The case of the Visegrád countries. *Polish Journal* of Management Studies, 20.
- Musonera, E., Safari, V., (2008). Establishing a Stock Exchange in Emerging Economies: Challenge and Opportunities. *The Journal of International Management Studies*, 3(2).
- Ono, S., (2017). Financial development and economic growth nexus in Russia. Russian Journal of Economics, 3(3), 321-332.
- Osoro, J., Osano, E., (2014). Bank-based Versus Market-based Financial System: Does Evidence Justify the Dichotomy in the Context of Kenya? *Kenya Bankers Association Centre for Research on Financial Markets and Policy Working Paper, Series, 10.*
- Owusu, E. L., (2018). Stock Market Development and Economic Growth: New Evidence from South Africa. Open Journal of Economics and Commerce, 1(2), 42-52.
- Öztürk, S., Sözdemir, A. and Ülger, Ö., (2014). The effects of inflation targeting strategy on the growing performance of developed and developing countries: Evaluation of pre and post stages of global financial crisis. *Procedia-Social and Behavioral Sciences*, 109, 57-64.
- Paun, C. V., Musetescu, R. C., Topan, V. M. and Danuletiu, D. C., (2019). The impact of financial sector development and sophistication on sustainable economic growth. *Sustainability*, 11(6), 1713.
- Pradhan, R. P., Arvin, M. B., Norman, N. R. and Bahmani, S., (2019). The dynamics of bond market development, stock market development and economic growth. *Journal of Economics, Finance and Administrative Science*, 25(49), 119-147.
- Qamruzzaman, M., Wei, J., (2018). Financial innovation, stock market development, and economic growth: An application of ARDL model. *International Journal of Financial Studies*, 6(3), 69.

- Ram, R., (1999). Financial development and economic growth: Additional evidence. *The Journal of Development Studies*, 35(4), 164-174.
- Regan, M., (2017). Capital markets, infrastructure investment and growth in the Asia Pacific region. *International Journal of Financial Studies*, 5(1), 5.
- Sági, J., Chandler, N. and Lentner, C., (2020). Family businesses and predictability of financial strength: a Hungarian study. *Problems and Perspectives in Management*, 18(2), 476.
- Saleem, A., Ashfaque, M., (2020). An Analysis of Profitability Determinants of Islamic Banks: Empirical Study of Malaysia vs Pakistan. *International Journal of Business Reflections*, 1(2), 135-157.
- Saleem, A., Sági, J. and Setiawan, B., (2021). Islamic Financial Depth, Financial Intermediation, and Sustainable Economic Growth: ARDL Approach. *Economies*, 9(2), 49.
- Sanusi, K. A., Meyer, D. and Ślusarczyk, B., (2017). The relationship between changes in inflation and financial development. *Polish Journal of Management Studies*, 16(2), 253-265.
- Schumpeter, J. A., (1912). Theorie der Wirtschaftlichen Entwicklung. Leipzig: Dunker & Humblot. *The Theory of Economic Development*.
- Sehrawat, M., Giri, A., (2017). A sectoral analysis of the role of stock market development on economic growth: empirical evidence from Indian economy. *Global business review*, 18(4), 911-923.
- Singh, A., Weisse, B. A., (1998). Emerging stock markets, portfolio capital flows and longterm economic growth: Micro and macroeconomic perspectives. World development, 26(4), 607-622.
- Slusarczyk, B., Kot, S., (2012). Polish government impact on foreign direct investments. Polish Journal of Management Studies, 6(1), 45-54.
- Tang, H. P., Habibullah, M. S. and Puah, C.-H., (2007). Stock market and economic growth in selected Asian countries. *Journal of Economics, Finance and Administrative Sciences*, 7, 43-52.
- Thanh, S. D., (2015). Threshold effects of inflation on growth in the ASEAN-5 countries: A Panel Smooth Transition Regression approach. *Journal of Economics, Finance and Administrative Science*, 20(38), 41-48.
- Victor, V., Fekete Farkas, M. and Jeeson, F., (2018). Inflation unemployment dynamics in Hungary-A structured cointegration and vector error correction model approach. *Theoretical & Applied Economics*, 25(2), 195-204.
- Victoria, K. S., (2019). A causal relationship between unemployment and economic growth.
- Vu, K., (2020). ASEAN economic prospects amid emerging turbulence: Development challenges and implications for reform. Washington: Brookings Institution.
- Wasmer, E., Weil, P., (2004). The macroeconomics of labor and credit market imperfections. *American economic review*, 94(4), 944-963.
- World Bank., (2019a). Adjusted Net National Income per Capita (current US\$)
- World Bank., (2019b). GDP Growth (annual %)
- World Bank., (2019c). Gross Domestic Product (GDP in current US\$)

ROZWÓJ RYNKU FINANSOWEGO I WZROST GOSPODARCZY: DOWODY Z REGIONU ASEAN I CEE

Streszczenie Rozwinięte rynki finansowe działają jak katalizator w promowaniu większego wzrostu gospodarczego dla narodów. Stwierdzono, że zdrowy wzrost rynków finansowych między narodami poprawia tworzenie dobrych miejsc pracy i wspomaga wzrost gospodarczy zgodnie z Celem Zrównoważonego Rozwoju 8. Gospodarki rozwijające się mogą naśladować zasady wzrostu z gospodarek rozwiniętych w zakresie rozwoju rynków finansowych. Niniejszy artykuł analizuje wpływ rozwoju rynków finansowych i wzrostu gospodarczego w krajach o średnich i wysokich dochodach krajów ASEAN i CEE w latach 2002-2019. Roczne dane szeregów czasowych pozyskiwano z Banku Światowego przy użyciu wskaźników rozwoju giełdy. Do określenia korelacji między rozwojem giełdy a wzrostem gospodarczym wykorzystano dane panelowe oparte na modelu efektu losowego. Wyniki badania pokazują, że kapitalizacja rynkowa i całkowita wartość akcji w obrocie od łącznej wartości pozytywnie wpływają na wzrost gospodarczy. Natomiast relacja między akcjami będącymi przedmiotem obrotu w akcjach krajowych a wzrostem PKB jest ujemna. Aby wspierać większy wzrost gospodarczy, kraje i decydenci muszą skoncentrować się na rozwoju sektora rynku finansowego i utrzymaniu stabilności makroekonomicznej.

Słowa kluczowe: powiązanie finansów ze wzrostem, BIZ, gospodarki o średnich dochodach, kraje o wysokich dochodach, SDG8

金融市场发展和经济增长:来自东盟和中东欧地区的证据

抽象的:发达的金融市场是促进各国经济增长的催化剂。根据可持续发展目标 8,各国之间健康的金融市场增长可以改善良好的就业机会并促进经济增长。发展中经 济体可以效仿发达经济体在金融市场发展方面的增长原则。本文分析了2002-2019年东盟和中东欧国家中等收入和高收入国家金融市场发展和经济增长的影响。年 度时间序列数据来源于世界银行,使用股票市场发展指标。采用基于随机效应模型的 面板数据确定股市发展与经济增长的相关性。研究结果表明,总市值和总交易量对经 济增长产生积极影响。相比之下,国内股票交易量与GDP增长呈负相关。为了促进更 大的经济增长,国家和政策制定者需要专注于发展金融市场部门和维护宏观经济稳定 关键词:金融-增长关系,FDI,中等收入经济体,高收入国家,SDG8