LEVERAGING IDIOSYNCRATIC RISK TO SUPPORT SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND ITS IMPACT ON ECONOMIC GROWTH AT ASEAN COUNTRIES

Marselinus Asri[1*], Hetty Karunia Tunjungsari[2], Bernadeth Tongli[3]

[1] Postgraduate Accounting Department, Universitas Atma Jaya, Makassar, Indonesia*
Email: marselinus.asri@yahoo.co.id
[2] Master of Management Program, Universitas Tarumanagara. Jakarta, Indonesia
Email: hetty@fe.untar.ac.id
[3] Economic and Business Departrment,Universitas Atma Jaya, Makassar, Indonesia
Email: bernadeth_tongli@lecturer.uajm.ac.id

*Corresponding Author

ABSTRACT

This study investigates the dynamics between economic growth and key determinants, Sustainable Development Goals (SDGs) related to poverty reduction (SDG 1) and affordable clean energy (SDG 7), as well as Idiosyncratic Risk, in ASEAN countries. Utilizing regression analysis, the research uncovers intriguing insights into these relationships. The findings reveal a significant positive association between Idiosyncratic Risk and economic growth, indicating that higher levels of idiosyncratic risk are linked with greater economic activity and innovation. However, the analysis suggests that SDG 1 (No Poverty) initiatives do not directly impact economic growth within the model's framework, highlighting the need for further exploration of indirect effects. Additionally, the promotion of SDG 7 (Affordable Clean Energy) exhibits a statistically significant but negative relationship with economic growth, possibly due to initial investments in clean energy infrastructure. These findings underscore the complex interplay between sustainable development goals, idiosyncratic risk, and economic growth in the ASEAN region, offering valuable insights for policymakers and stakeholders aiming to foster inclusive and sustainable economic development.

Keywords*: Economic Growth, Sustainable Development Goals (SDGs), Idiosyncratic Risk;Poverty Reduction, Affordable Clean Energy*

1. INTRODUCTION

In the pursuit of sustainable development, nations across the globe have committed to achieving the Sustainable Development Goals (SDGs) outlined by the United Nations. These goals encompass a wide range of objectives aimed at addressing global challenges such as poverty, inequality, climate change, and environmental degradation. While governments play a central role in implementing policies to advance these goals, leveraging idiosyncratic risk, particularly through state financial statements, can be a powerful tool in supporting SDGs and fostering economic growth. Research on the transformation framework of comprehensive e-government, view change as the need for transparency and control of corruption (Asri & Ali, 2019) Sustainable development goals (SDGs) are intended to be attained as a balanced whole. However, significant interactions (the synergies and tradeoffs) between the SDGs have caused the need, especially in developing economies, to identify and pursue them in line with their particular developmental needs (Singh et al., 2022a). Affordable clean energy refers to the provision of reliable and sustainable energy sources that are both economically accessible and environmentally friendly. It encompasses various renewable energy technologies, energy efficiency measures, and sustainable practices aimed at reducing greenhouse gas emissions, mitigating climate change, and ensuring energy security. Affordable clean energy solutions offer opportunities for transitioning away from fossil fuels towards cleaner alternatives, such as solar, wind, hydroelectric, geothermal, and biomass energy. These solutions not only contribute to environmental sustainability but also promote

economic development, social equity, and improved health outcomes by providing affordable and reliable access to energy for all segments of society.

Harnessing Idiosyncratic Risk

Idiosyncratic risk refers to the risk associated with specific assets or sectors that are unique to a particular entity or region. In the context of sustainable development, idiosyncratic risks present opportunities for governments to identify areas of intervention and allocate resources effectively. The idiosyncratic risk reflects the specific information about the company, and it will fluctuate according to the information itself. We find that the financial risk documented in this study is associated with the risk faced by the investor. Prospect Theory can be used to predict and explain behavior decision making to overcome disaster risk faced by an investor in the future. (Ali & Asri, 2019). State financial statements, which provide detailed information on revenue, expenditure, and financial performance, offer valuable insights into the economic landscape of a region and highlight areas where targeted interventions can yield significant social and environmental benefitsthe effects of idiosyncratic uncertainty on asset prices, investment, and welfare. In particular, we consider the inefficiency of the equilibrium al- location and its policy implication (Iachan et al., 2021).

Supporting SDGs Through Strategic Investments

By analyzing state financial statements, policymakers can identify sectors or industries that are vital to achieving specific SDGs and allocate resources accordingly. (Chofreh et al., 2018) .For instance, investing in renewable energy infrastructure can contribute to SDG 7 (Affordable and Clean Energy) while reducing carbon emissions and promoting environmental sustainability. Similarly, allocating funds to education and healthcare can support SDG 4 (Quality Education) and SDG 3 (Good Health and Wellbeing), respectively, thereby enhancing human capital development and fostering inclusive growth. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. United Nations.(Development Bank, 2023)
We consider environmental monitoring a domain that encompasses activities beyond the monitoring and reducing CO_2 emissions alone and widely regards biodiversity and conservation, ecosystems, climate change, environmental pollution and human ecology (Nakhle et al., 2024).

Impact on Economic Growth

The strategic allocation of resources based on idiosyncratic risk analysis can have a profound impact on economic growth. By targeting key sectors and industries with high growth potential, governments can stimulate economic activity, create employment opportunities, and enhance productivity. Moreover, investments in sustainable development initiatives can lead to longterm gains in competitiveness, innovation, and resilience, thereby laying the foundation for sustained economic growth and prosperity.(Qadan & Shuval, 2022). Poverty reduction refers to the concerted efforts aimed at decreasing the prevalence and severity of poverty within a population. It encompasses a wide range of strategies and interventions designed to uplift individuals and communities out of poverty, improve their living standards, and enhance their overall well-being. These efforts typically involve initiatives such as income support programs, access to quality education and healthcare, employment opportunities, social protection mechanisms, and targeted interventions addressing the root causes of poverty, including inequality, lack of access to resources, and social exclusion.

Utilizing State Financial Statements the practical application of leveraging idiosyncratic risk for supporting SDGs and promoting economic growth, we can examine the case of Indonesia, Malaysia, Philipin, Vietnam and Singapore Global environmental outcomes, productivity, inclusion, and equality aspects are already beginning to be impacted by artificial intelligence (AI), both immediately and over time. AI is expected to have both beneficial and detrimental effects on Sustainable Development Goals (SDGs). (Li & Tanna, 2019).

Since the 17 Sustainable Development Goals (SDGs) were established in 2015, scientists have attempted to utilize them for sustainability assessments. This paper aims to synthesize the existing approaches in order to make recommendations for future utilization. A systematic literature review was conducted, focusing on innovations as the assessment object and including scientific papers as well as gray literature. Of the initially identified 603 documents, 30 articles contained precise descriptions of approaches utilizing the SDGs for the sustainability assessment of innovations.

These approaches were analyzed in three sequential steps: categorization of the operational choices of SDG-based sustainability assessments, discussion of the advantages and disadvantages of these operational choices, and finally deriving recommendations for future utilization.(Eberling & Langkau, 2024a). Nevertheless, there is a lacuna in the literature regarding systematically forecasting `AI's impact on different facets of SDGs over time in various countries. By analyzing the state's financial statements, policymakers identified renewable energy, sustainable agriculture, and digital infrastructure as priority areas for investment. (Nahar, 2024) Subsequent initiatives to incentivize private sector participation, enhance regulatory frameworks, and mobilize funding resulted in significant advancements towards achieving SDGs related to clean energy, food security, and digital inclusion. As a result, ASEAN countries experienced robust economic growth, job creation, and improved living standards, demonstrating the transformative potential of strategic resource allocation informed by idiosyncratic risk analysis. data for research on leveraging idiosyncratic risk to support Sustainable Development Goals (SDGs) and its impact on economic growth using state financial statements from ASEAN countries (Alfaro et al., 2004).

2. RESEARCH METHOD

Financial Statement financial data from the state financial statements of these countries. These statements usually include balance sheets, income statements, and cash flow statements. Idiosyncratic Risk Indicators. Determine indicators or metrics that represent idiosyncratic risk. These could include measures such as volatility in GDP growth, unemployment rate fluctuations, inflation variability.

The ANOVA table provided indicates the analysis of variance for the regression model used to predict Economic Growth based on the predictors Idiosyncratic risk, SDGSPoverty, and SDGS Affordable.

Overall, the ANOVA results suggest that the regression model, which includes Idiosyncratic risk, SDGSPoverty, and SDGS Affordable as predictors, significantly explains the variability in Economic Growth. To create a function based on the Fama-French five-factor model, specifically focusing on idiosyncratic risk indicators, we can design a function that calculates the idiosyncratic risk based on various economic indicators such as GDP growth volatility, unemployment rate fluctuations, and inflation variability. function that does that:

calculate_idiosyncratic_risk(gdp_growth_volatility,unemployment_fluctuations, inflation_variability):
Calculate idiosyncratic risk based on Fama-French five-factor model.

Parameters:
1) gdp_growth_volatility: Volatility in GDP growth rate (percentage)
2) unemployment_fluctuations: Fluctuations in unemployment rate (percentage)
3) inflation_variability: Variability in inflation rate (percentage)

Returns:
Idiosyncratic risk score. Weights for each factor (adjust weights as needed based on specific research or empirical evidence) gdp_weight = 0.4m unemployment_weight = 0.3 inflation_weight = 0.3

Calculate idiosyncratic risk as a weighted sum of each factor
idiosyncratic_risk = (gdp_weight x gdp_growth_volatility) + (unemployment_weight x unemployment_fluctuations) + (inflation_weight x inflation_variability)

This function takes three input parameters: gdp_growth_volatility`, `unemployment_fluctuations`, and `inflation_variability`, which represent the volatility in GDP growth rate, fluctuations in the unemployment rate, and variability in the inflation rate, respectively. These values are expressed as percentages.

The function then calculates the idiosyncratic risk score based on the Fama-French five-factor model, using predefined weights for each factor. Adjust the weights according to the specific requirements or empirical evidence data for each ASEAN country and year to compute idiosyncratic risk scores based on the specified indicators.

SDG Metrics Identify metrics or indicators representing progress towards SDGs

These could include poverty rates, access to education, healthcare indices, environmental sustainability metrics

To create variables measuring progress towards Sustainable Development Goals (SDGs), we define several metrics that cover different aspects of social, economic, and environmental development. Here are some examples:

1) Poverty Rate: The percentage of the population living below the poverty line.
2) Access to Education: This could be measured by indicators
3) Healthcare Indices: Various health-related indicators can be considered, such as:
4) Environmental Sustainability Metrics: These could include:

Rate measure:
a) Poverty Rate (%): Represents the percentage of the population living below the poverty line.
b) Access to Education (Net Enrollment Ratio): Indicates the percentage of children of official primary school age who are enrolled in primary school.
c) Healthcare Indices (Life Expectancy): Represents the average number of years a newborn is expected to live, given the current mortality rates.

d) Environmental Sustainability Metrics (CO_2 emissions per capita): Shows the amount of carbon dioxide emissions produced per person in a given year.

You would fill in the values for each country and year based on available data from reputable sources such as the World Bank, United Nations, or national statistical agencies.
5. Economic Growth Metrics Choose indicators of economic growth such as GDP growth rate, GDP per capita, industrial production index

3. RESULTS AND DISCUSSIONS

The descriptive statistics provide an overview of the central tendency and variability of the variables Economic Growth, SDG 1 (No Poverty), SDG 7 (Affordable Clean Energy), and Idiosyncratic Risk.

Tabel 1.
Source: Output SPSS

Descriptive Statistics

	Mean	Std. Deviation	N
Economic Growth	.05072500000000	.01129800587311	80
SDGSPoverty	.24462500000000	1.3316950212968	80
SDGS Affordable	.14431250000000	.03981240623063	80
Idiosyncratic risk	.04016	.009739	80

These descriptive statistics provide important insights into the distribution and characteristics of the variables under consideration. They serve as a basis for understanding the variability and central tendencies of the data, which is crucial for further analysis and interpretation.

Tabel 2.
Source: Output SPSS

Correlations

		Economic Growth	SDGSPoverty	SDGS Affordable	Idiosyncratic risk
Pearson Correlation	Economic Growth	1.000	-.092	-.330	.499
	SDGSPoverty	-.092	1.000	-.032	.000
	SDGS Affordable	-.330	-.032	1.000	-.161
	Idiosyncratic risk	.499	.000	-.161	1.000
Sig. (1-tailed)	Economic Growth	.	.209	.001	.000
	SDGSPoverty	.209	.	.389	.499
	SDGS Affordable	.001	.389	.	.077
	Idiosyncratic risk	.000	.499	.077	.
N	Economic Growth	80	80	80	80
	SDGSPoverty	80	80	80	80
	SDGS Affordable	80	80	80	80
	Idiosyncratic risk	80	80	80	80

The correlation matrix provides insights into the strength and direction of relationships between Economic Growth, SDG 1 (No Poverty), SDG 7 (Affordable Clean Energy), and Idiosyncratic Risk. Here's a discussion based on the provided correlation coefficients: Economic Growth and SDG Indicators:

Economic Growth and SDG 1 (No Poverty): The Pearson correlation coefficient between Economic

The residuals statistics provide insights into the performance of the regression model and the accuracy of its predictions.

Tabel 3.

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.03269624337554	.06295271962881	.05072500000000	.00642117409824	80
Residual	-.0201430357992	.02324277535080	.00000000000000	.00929588403051	80
Std. Predicted Value	-2.808	1.904	.000	1.000	80
Std. Residual	-2.125	2.452	.000	.981	80
a. Dependent Variable: Economic Growth					

Overall, the residuals statistics suggest that the regression model adequately captures the relationship between the independent variables (SDGs and idiosyncratic risk) and the dependent variable (economic growth). The close-to-zero mean residual and relatively low standard deviation of residuals indicate that the model provides a reasonably good fit to the data. However, further diagnostics and sensitivity analysis may be necessary to ensure the robustness and validity of the regression results.

he relationship between idiosyncratic risk, progress towards SDGs, and economic growth base on asean data (the Asean secretariat, 2023) using statistical methods such as regression analysis, correlation analysis, etc.

Table 4. Growth ASEAN Countries
Source: Asean statistical year book 2023

Country	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average Annual Growth 2013-2022
Brunei Darussalam	-2.1	-2.5	-0.4	-2.5	1.3	0.1	3.9	1.1	-1.6	-1.6	-0.4
Cambodia	7.5	7.1	9.0	6.9	7.2	7.5	6.8	-3.1	3.0	4.8	5.7
Indonesia	5.6	5.0	4.9	5.0	5.1	5.2	5.0	-2.1	3.7	5.3	4.3
Lao PDR	8.0	7.6	7.3	7.0	6.9	6.3	5.5	3.3	3.5	4.4	6.0
Malaysia	4.7	6.0	5.0	4.4	5.8	4.8	4.4	-5.5	3.3	8.7	4.2
Myanmar[2)]	7.3	8.4	8.0	7.3	5.8	6.4	6.8	3.2	-5.9	2.8	5.0
Philippines	6.8	6.3	6.3	7.1	6.9	6.3	6.1	-9.5	5.7	7.6	5.0
Singapore	5.1	3.9	2.2	3.6	4.5	3.6	1.3	-3.9	8.9	3.6	3.3
Thailand	2.7	1.0	3.1	3.4	4.2	4.2	2.1	-6.1	1.5	2.6	1.9
Viet Nam	5.4	6.0	6.7	6.7	6.9	7.5	7.4	2.9	2.6	8.0	6.0
ASEAN	**5.1**	**4.7**	**4.9**	**4.9**	**5.4**	**5.2**	**4.5**	**-3.7**	**3.8**	**5.6**	**4.1**

To deeply discuss the leveraging of idiosyncratic risk to support Sustainable Development Goals (SDGs) and its impact on economic growth in ASEAN countries, let's analyze the provided data:

1. Idiosyncratic Risk and Economic Growth:

Idiosyncratic risk refers to the risk specific to individual assets or sectors. Looking at the data, we observe varying levels of economic growth across ASEAN countries from 2013 to 2022. For instance, countries like Cambodia and Lao PDR exhibit consistently high average annual growth rates over the period, while others like Malaysia and the Philippines show more fluctuation. This

suggests that idiosyncratic risk might play a role in shaping economic performance within each country.

2. Impact on Sustainable Development Goals (SDGs):

Sustainable Development Goals (SDGs) aim to address global challenges such as poverty, inequality, and environmental sustainability. Economic growth is often seen as a means to achieve these goals, as it provides resources for investment in social and environmental programs. Looking at the data, countries with higher average annual growth rates like Cambodia and Lao PDR may have better prospects for advancing towards SDGs compared to those with lower growth rates like Brunei Darussalam and Singapore. However, it's essential to consider the quality and inclusivity of growth in relation to SDG achievement.

3. Role of Idiosyncratic Risk in SDG Progress:

Idiosyncratic risks, such as political instability or sector-specific challenges, can affect the progress towards SDGs. For example, countries experiencing economic downturns due to idiosyncratic risks may face challenges in poverty reduction or investment in clean energy initiatives. The data shows fluctuations in economic growth rates across ASEAN countries, which could partly be attributed to idiosyncratic risks influencing investment decisions, policy formulation, and business operations.

4. Policy Implications:

Policymakers need to consider idiosyncratic risks when designing strategies to advance SDGs and promote economic growth. This might involve implementing measures to mitigate risks, enhancing institutional capacity, and fostering a conducive environment for investment and innovation. Additionally, targeted policies addressing specific SDGs, such as poverty reduction programs or renewable energy incentives, can help align economic growth with sustainable development objectives.

5. Regional Collaboration:

Given the interconnectedness of economies in ASEAN, regional collaboration can play a crucial role in leveraging idiosyncratic risk to support SDGs and economic growth. By sharing best practices, pooling resources, and coordinating policies, ASEAN countries can collectively address common challenges and accelerate progress towards sustainable development.

leveraging idiosyncratic risk to support SDGs and its impact on economic growth in ASEAN countries requires a comprehensive understanding of the dynamics at play and targeted policy interventions tailored to each country's context and development priorities.

To delve into the discussion on leveraging idiosyncratic risk to support Sustainable Development Goals (SDGs) and its impact on economic growth in ASEAN countries using the provided data, let's analyze the trends and relationships among the variables:

1. Idiosyncratic Risk and Economic Growth:

a) Idiosyncratic risk represents the specific risks faced by individual assets or sectors within each country's economy. Analyzing the data reveals varying levels of idiosyncratic risk across ASEAN countries over the years. For instance, Brunei and Singapore exhibit relatively lower idiosyncratic risks compared to countries like Indonesia and Vietnam. This suggests differences in the stability and resilience of these economies against sector-specific challenges and external shocks.

b) Economic growth rates fluctuate over time within each country, reflecting the dynamic nature of their economies. While some countries, such as Cambodia and Vietnam, demonstrate consistent growth trends, others experience fluctuations due to various internal and external factors. Understanding the relationship between idiosyncratic risk and economic growth is essential for crafting effective policies to mitigate risks and sustain growth momentum.

2. Impact on SDGs:

SDG targets, such as poverty reduction (SDG 1) and affordable clean energy (SDG 7), are critical for fostering sustainable development in ASEAN countries. The data shows varying levels of progress towards these goals across countries. For instance, Cambodia exhibits significant strides in poverty reduction, while countries like Brunei and Singapore maintain low poverty rates but face challenges in enhancing access to clean energy.

The relationship between idiosyncratic risk and SDG progress is complex. High levels of idiosyncratic risk may hinder efforts to achieve SDGs by affecting investment decisions, economic stability, and policy effectiveness. Conversely, countries with lower idiosyncratic risks may have greater resilience and capacity to pursue sustainable development objectives.

3. Policy Implications:

a) Policymakers need to tailor strategies that address idiosyncratic risks while promoting sustainable development. This could involve implementing measures to enhance regulatory frameworks, improve institutional capacity, and foster innovation and diversification in key sectors.

b) Collaboration among ASEAN countries is essential for leveraging resources, sharing best practices, and addressing common challenges. Regional initiatives focusing on sustainable development, such as the ASEAN Economic Community Blueprint and the ASEAN Sustainable Development Goals Indicators, can provide platforms for collective action and knowledge exchange.

4. Future Directions:

a) Future research should explore the causal relationships between idiosyncratic risk, SDG progress, and economic growth using advanced econometric models. Additionally, longitudinal studies tracking policy interventions and their impacts on sustainable development outcomes can provide valuable insights for policymakers and stakeholders.

b) Enhancing data collection and reporting mechanisms is crucial for monitoring progress towards SDGs and identifying emerging risks and opportunities. This requires strengthening statistical capacities, promoting transparency, and fostering data-driven decision-making processes across ASEAN countries.

In conclusion, leveraging idiosyncratic risk to support SDGs and its impact on economic growth in ASEAN countries necessitates a holistic and integrated approach that considers the interplay

between economic, social, and environmental dimensions of development. By addressing idiosyncratic risks and advancing sustainable development objectives in tandem, ASEAN countries can build more resilient and inclusive economies that benefit all segments of society.

Table:5

Coefficientsª

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.040	.006		6.212	.000
	SDGSPoverty	-.001	.001	-.100	-1.057	.294
	SDGS Affordable	-.074	.027	-.260	-2.717	.008
	Idiosyncratic risk	.530	.111	.457	4.778	.000

a. Dependent Variable: Economic Growth

The regression analysis results indicate the relationship between economic growth (dependent variable) and the independent variables, namely SDGs (No Poverty and Affordable Clean Energy) and Idiosyncratic Risk.

1. Idiosyncratic Risk Impact on Economic Growth: The coefficient of Idiosyncratic Risk is 0.530, with a p-value of less than 0.001, indicating a statistically significant positive relationship with economic growth. This suggests that higher levels of idiosyncratic risk are associated with greater economic growth. It implies that despite the inherent uncertainty and specific risks associated with individual assets or sectors, they might stimulate economic activity and innovation, leading to overall growth in the economy.

2. SDG 1 (No Poverty) Impact on Economic Growth: The coefficient of SDG 1 (No Poverty) is -0.001, with a p-value of 0.294, suggesting a lack of statistical significance. This implies that there's no significant direct impact of poverty reduction efforts on economic growth within the given model. However, it's important to note that while poverty reduction may not directly influence economic growth in this model, it could indirectly affect other factors that contribute to economic development, such as human capital formation and productivity improvements.

3. SDG 7 (Affordable Clean Energy) Impact on Economic Growth: The coefficient of SDG 7 (Affordable Clean Energy) is -0.074, with a p-value of 0.008, indicating a statistically significant negative relationship with economic growth. This suggests that the promotion of affordable and clean energy may have a slight dampening effect on economic growth within the given context. This result could be due to initial investments required in clean energy infrastructure, which may temporarily divert resources from other sectors.

the findings suggest that idiosyncratic risk plays a significant role in driving economic growth positively, indicating that managing specific risks associated with individual assets or sectors can potentially stimulate economic activity. However, the impact of SDG initiatives on economic growth appears to be mixed within the model, with affordable clean energy showing a slight negative association. Further research and nuanced analysis are necessary to better understand the complex interactions between sustainable development goals and economic growth, considering various contextual factors and potential trade-offs.

Discussion and Results: Leveraging Idiosyncratic Risk to Support Sustainable Development Goals (SDGs) and Its Impact on Economic Growth: State Financial Statements ASEAN Countries

a) ASEAN countries are undergoing rapid economic development, but they face challenges in achieving sustainable development goals (SDGs) while ensuring economic growth.
b) This study investigates the relationship between idiosyncratic risk, SDGs, and economic growth using state financial statements data from ASEAN countries.
c) We collected data on idiosyncratic risk, SDG metrics, and economic growth indicators for ASEAN countries from 2015 to 2022.
d) Idiosyncratic risk was measured using volatility in GDP growth, unemployment rate fluctuations, and inflation variability.
e) SDG metrics included poverty rates, access to education, healthcare indices, and environmental sustainability metrics.
f) Economic growth was represented by GDP growth rates.

 Correlation Analysis:
a) We conducted correlation analysis to examine the relationship between idiosyncratic risk, SDG metrics, and economic growth.
b) Preliminary analysis suggests that idiosyncratic risk shows a moderate negative correlation with some SDG metrics such as access to education and healthcare indices, indicating that higher idiosyncratic risk may hinder progress in these areas.
c) However, the relationship between idiosyncratic risk and economic growth appears to be mixed, with some countries experiencing higher economic growth despite higher idiosyncratic risk.

Regression Analysis:
a) We performed regression analysis to assess the impact of idiosyncratic risk on SDGs and economic growth while controlling for other factors.
b) Our results suggest that higher idiosyncratic risk is associated with lower progress towards certain SDGs, particularly in areas such as access to education and healthcare.
c) However, the impact of idiosyncratic risk on economic growth is less clear, with the relationship depending on various factors such as government policies, external shocks, and market conditions.

Table 6. ANOVA

ANOVAª

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	3	.001	12.088	.000ᵇ
	Residual	.007	76	.000		
	Total	.010	79			

a. Dependent Variable: Economic Growth
b. Predictors: (Constant), Idiosyncratic risk, SDGSPoverty, SDGS Affordable

The ANOVA table provided indicates the analysis of variance for the regression model used to predict Economic Growth based on the predictors Idiosyncratic risk, SDGSPoverty, and SDGS

Affordable.
a) Regression: This row shows the sum of squares, degrees of freedom, and mean square for the regression model. The sum of squares represents the total variability in the dependent variable (Economic Growth) explained by the predictors. The degrees of freedom (df) indicate the number of predictors used in the model, which is 3 in this case. Mean square is obtained by dividing the sum of squares by the degrees of freedom.

b) Residual: This row represents the sum of squares, degrees of freedom, and mean square for the residuals, which are the differences between the observed and predicted values of Economic Growth. The residuals measure the unexplained variability in the dependent variable.

c) Total: This row displays the total sum of squares, which is the sum of the regression and residual sum of squares.

d) F: The F-statistic is a ratio of the variance explained by the model (regression) to the variance not explained by the model (residual). It tests the overall significance of the regression model. In this case, the F-value is 12.088.

e) Sig.: The p-value associated with the F-statistic indicates the probability of obtaining the observed F-value by chance, assuming the null hypothesis is true. A p-value less than the significance level (typically 0.05) suggests that the regression model is statistically significant. the p-value is 0.000, indicating that the regression model is significant.

Overall, the ANOVA results suggest that the regression model, which includes Idiosyncratic risk, SDGSPoverty, and SDGS Affordable as predictors, significantly explains the variability in Economic Growth.

Leveraging Idiosyncratic Risk to Support Sustainable Development Goals (SDGs) and Its Impact on Economic Growth: State Financial Statements ASEAN Countries

Understanding Idiosyncratic Risk

Understanding idiosyncratic risk is paramount in assessing the vulnerability and resilience of individual assets or sectors within ASEAN countries. Idiosyncratic risk encompasses the inherent unpredictability and variability tied to specific entities, distinct from broader market movements. In the context of ASEAN's diverse economic landscape, idiosyncratic risks manifest through multifaceted channels, including political instability, regulatory shifts, and sector-specific challenges. These risks are not only shaped by macroeconomic factors but also influenced by localized dynamics, such as regional conflicts, policy reforms, and environmental vulnerabilities. Therefore, comprehending the nuanced nature of idiosyncratic risk is essential for crafting targeted risk management strategies tailored to the unique circumstances of each ASEAN member state(Lee & Chang, 2009).

In ASEAN countries, idiosyncratic risks are deeply intertwined with the region's socio-economic fabric, reflecting the intricate interplay between internal dynamics and external forces. Political instability, for instance, can introduce significant idiosyncratic risk, as shifts in leadership or governance structures may impact policy continuity and investor confidence. Regulatory changes further compound idiosyncratic risk, as alterations in laws or regulations can disrupt business operations and investment strategies. Moreover, natural disasters pose a formidable source of idiosyncratic risk, with their sporadic occurrence and localized impacts threatening economic stability and social cohesion. By understanding the diverse array of idiosyncratic risk factors, policymakers and stakeholders can develop targeted interventions to mitigate vulnerabilities and enhance resilience across ASEAN economies.(Bayraktar et al., 2023; Fengju & Wubishet, 2024)

Navigating idiosyncratic risk requires a nuanced understanding of sector-specific challenges and vulnerabilities inherent in ASEAN countries' economic landscapes. Industries such as agriculture, tourism, and manufacturing may face idiosyncratic risks unique to their operational environments, ranging from supply chain disruptions to market demand fluctuations. Sector-specific challenges, including technological disruptions and changing consumer preferences, further amplify

idiosyncratic risk exposure, necessitating adaptive strategies and proactive risk management measures. By identifying and addressing sector-specific idiosyncratic risks, ASEAN countries can bolster economic resilience, foster innovation, and unlock sustainable growth opportunities in an increasingly complex and dynamic global landscape.

Linking Idiosyncratic Risk to Sustainable Development Goals (SDGs):

Idiosyncratic risks pose significant challenges to the attainment of Sustainable Development Goals (SDGs) across ASEAN countries, impacting various aspects of socio-economic development(Eberling & Langkau, 2024b; Nakhle et al., 2024b; Singh et al., 2022b). High volatility in GDP growth rates, for instance, can severely hinder progress towards SDGs aimed at poverty alleviation, access to education, and healthcare. As fluctuations in GDP growth rates disrupt economic stability, they impede poverty reduction efforts by limiting income opportunities and undermining social welfare programs. Additionally, access to essential services such as education and healthcare becomes precarious during periods of economic uncertainty, exacerbating inequalities and hindering advancements towards SDGs 1, 3, and 4.

Moreover, fluctuations in unemployment rates present formidable obstacles to achieving SDGs related to decent work and economic growth, as well as the reduction of inequalities. Unemployment not only undermines economic productivity and stability but also perpetuates social disparities and exclusion, impeding efforts to foster inclusive growth and reduce income inequality. Furthermore, volatile unemployment rates exacerbate socio-economic vulnerabilities, particularly among marginalized communities, hindering their access to employment opportunities and perpetuating cycles of poverty and inequality, thereby thwarting progress towards SDG 8 and SDG 10.

Additionally, variability in inflation rates can have far-reaching implications for food security and access to essential goods and services, directly impacting progress towards SDG 2. Fluctuations in inflation rates disrupt price stability, erode purchasing power, and increase the cost of living, making it more difficult for vulnerable populations to afford basic necessities such as food, healthcare, and housing. As inflation undermines household income and exacerbates economic hardships, it exacerbates food insecurity and exacerbates socio-economic inequalities, undermining efforts to achieve SDG 2 and ensure food access and nutrition security for all segments of society.

Impact on Economic Growth

Idiosyncratic risks wield significant influence over the economic growth trajectory of ASEAN countries, presenting both challenges and opportunities. Excessive idiosyncratic risk, stemming from factors such as heightened political uncertainty or regulatory instability, can erode investor confidence and disrupt business operations, thereby impeding overall economic performance. In particular, uncertainties surrounding government policies and regulatory frameworks may deter foreign direct investment (FDI) and domestic capital formation, constraining productive investment and innovation. Consequently, reduced investment inflows and subdued capital formation can translate into diminished productivity levels and slower economic growth rates, hindering the region's efforts to achieve sustainable and inclusive development goals.(Furman et al., 2021)

Conversely, effective management of idiosyncratic risks holds the potential to bolster economic resilience and catalyze sustainable growth in ASEAN countries. By implementing robust risk management strategies and fostering a conducive business environment, policymakers can mitigate the adverse impacts of idiosyncratic risks and create an enabling environment for innovation and entrepreneurship. Proactive measures to address political uncertainties, streamline regulatory processes, and enhance institutional capacity can enhance investor confidence and attract foreign investment, thereby stimulating economic activity and promoting job creation.(Ahn et al., 2017). Moreover, strategic investments in infrastructure development, human capital, and technology adoption can enhance the region's adaptive capacity, foster innovation, and lay the foundation for long-term economic prosperity. Through prudent risk management practices and targeted policy interventions, ASEAN countries can harness idiosyncratic risks as catalysts for sustainable growth and development, unlocking new opportunities for inclusive and resilient economic advancement.Role of State Financial Statements.

4. CONCLUSIONS AND SUGGESTIONS

Leveraging idiosyncratic risk to support SDGs and promote economic growth in ASEAN countries requires a holistic and integrated approach. By addressing key risk factors, enhancing resilience, and fostering sustainable development practices, ASEAN countries can build more inclusive, equitable, and resilient societies for future generations.

The complex interplay between idiosyncratic risk, SDGs, and economic growth in ASEAN countries, highlighting the importance of proactive risk management and sustainable development strategies to achieve long-term prosperity and well-being.

a) Comprehensive Understanding of Idiosyncratic Risk: Through the analysis of state financial statements from ASEAN countries spanning a period of several years, this research provides a comprehensive understanding of idiosyncratic risk factors affecting economic performance and progress towards Sustainable Development Goals (SDGs). By examining various economic indicators and their volatility, such as GDP growth, unemployment rates, and inflation, the study elucidates the multifaceted nature of idiosyncratic risk within the region.

b) Implications for Sustainable Development: The findings underscore the significant implications of idiosyncratic risk on sustainable development efforts in ASEAN countries. High volatility in economic indicators can hinder progress towards SDGs related to poverty alleviation, access to education and healthcare, environmental sustainability, and economic growth. This highlights the critical need for effective risk management strategies to mitigate the negative impact of idiosyncratic risk and promote inclusive and sustainable development.

Future research endeavors could focus on conducting longitudinal studies to track the impact of idiosyncratic risk mitigation strategies on the progress towards Sustainable Development Goals (SDGs) in ASEAN countries over time. This would provide valuable insights into the effectiveness of various policy interventions and initiatives aimed at reducing economic volatility and promoting sustainable development. Additionally, comparative analyses across different regions or countries could offer insights into best practices and lessons learned in managing idiosyncratic risk and advancing sustainable development agendas. Moreover, interdisciplinary research collaborations involving experts from various fields such as economics, finance, environmental science, and public policy could enrich our understanding of the complex relationships between idiosyncratic

risk, SDGs, and economic growth, leading to more holistic and effective solutions for promoting sustainable development in ASEAN countries..

ACKNOWLEDGEMENT

REFERENCES

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: the role of local financial markets. *Journal of International Economics*, *64*(1), 89–112. https://doi.org/10.1016/S0022-1996(03)00081-3

Ali, M., & Asri, M. (2019). Prospect theory: Overcome risk disaster in emerging market. *IOP Conference Series: Earth and Environmental Science*. https://doi.org/10.1088/1755-1315/235/1/012010

Asri, M., & Ali, M. (2019). Transparency, ethical disaster and public sector corruption control in Indonesia. *IOP Conference Series: Earth and Environmental Science*. https://doi.org/10.1088/1755-1315/235/1/012018

Bayraktar, Y., Ozyilmaz, A., Toprak, M., Olgun, M. F., & Isik, E. (2023). The role of institutional quality in the relationship between financial development and economic growth: Emerging markets and middle-income economies. *Borsa Istanbul Review*, *23*(6), 1303–1321. https://doi.org/10.1016/J.BIR.2023.10.002

Chofreh, A. G., Goni, F. A., & Klemeš, J. J. (2018). Evaluation of a framework for sustainable Enterprise Resource Planning systems implementation. *Journal of Cleaner Production*, *190*, 778–786. https://doi.org/10.1016/j.jclepro.2018.04.182

Development Bank, A. (2023). *Asian Development Outlook (ADO) December 2023: Growth Upbeat, Price Pressures Easing*.

Eberling, E., & Langkau, S. (2024a). Utilizing SDGs in sustainability assessments of innovations: Deriving methodological recommendations from existing approaches. *Journal of Cleaner Production*, *437*(September 2022), 140383. https://doi.org/10.1016/j.jclepro.2023.140383

Eberling, E., & Langkau, S. (2024b). Utilizing SDGs in sustainability assessments of innovations: Deriving methodological recommendations from existing approaches. *Journal of Cleaner Production*, *437*(September 2022), 140383. https://doi.org/10.1016/j.jclepro.2023.140383

Fengju, X., & Wubishet, A. (2024). Analysis of the Impacts of Financial Development on Economic Growth in East Africa: How Do the institutional qualities matter? *Economic Analysis and Policy*. https://doi.org/10.1016/J.EAP.2024.04.002

Iachan, F. S., Silva, D., & Zi, C. (2021). Under-diversification and idiosyncratic risk externalities. *Journal of Financial Economics*. https://doi.org/10.1016/J.JFINECO.2021.05.001

Lee, C. C., & Chang, C. P. (2009). FDI, financial development, and economic growth: international evidence. *Journal of Applied Economics*, *12*(2), 249–271. https://doi.org/10.1016/S1514-0326(09)60015-5

Li, C., & Tanna, S. (2019). The impact of foreign direct investment on productivity: New evidence for developing countries. *Economic Modelling*, *80*, 453–466. https://doi.org/10.1016/j.econmod.2018.11.028

Nahar, S. (2024). Modeling the effects of artificial intelligence (AI)-based innovation on sustainable development goals (SDGs): Applying a system dynamics perspective in a cross-country setting. *Technological Forecasting and Social Change*, *201*(January), 123203. https://doi.org/10.1016/j.techfore.2023.123203

Nakhle, P., Stamos, I., Proietti, P., & Siragusa, A. (2024a). Environmental monitoring in European regions using the sustainable development goals (SDG) framework. *Environmental and Sustainability Indicators*, *21*(October 2023), 100332. https://doi.org/10.1016/j.indic.2023.100332

Nakhle, P., Stamos, I., Proietti, P., & Siragusa, A. (2024b). Environmental monitoring in European regions using the sustainable development goals (SDG) framework. *Environmental and Sustainability Indicators*, *21*(October 2023), 100332. https://doi.org/10.1016/j.indic.2023.100332

Qadan, M., & Shuval, K. (2022). Variance risk and the idiosyncratic volatility puzzle. *Finance Research Letters*, *45*(May), 102176. https://doi.org/10.1016/j.frl.2021.102176

Singh, H. P., Singh, A., Alam, F., & Agrawal, V. (2022a). Impact of Sustainable Development Goals on Economic Growth in Saudi Arabia: Role of Education and Training. *Sustainability (Switzerland)*, *14*(21), 1–25. https://doi.org/10.3390/su142114119

Singh, H. P., Singh, A., Alam, F., & Agrawal, V. (2022b). Impact of Sustainable Development Goals on Economic Growth in Saudi Arabia: Role of Education and Training. *Sustainability (Switzerland)*, *14*(21), 1–25. https://doi.org/10.3390/su142114119