



FINANCIAL, MARKETS, ENVIRONMENTAL STABILITY EFFECT ON ECONOMIC DEVELOPMENT AND SUSTAINABLE DEVELOPMENT GOALS, EVIDENCE DEVELOPED AND EMERGING COUNTRIES

Finanças, mercados, impacto da estabilidade ambiental no desenvolvimento econômico e nos objetivos de desenvolvimento sustentável, evidência de países desenvolvidos e emergentes

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ABSTRACT

The study seeks to investigate the developed and emerging countries forecasting the financial business market, environmental strategy and impact on sustainable development Goals and the country's economic development from 1991 to 2021. Annually date of Stock Market Index, exchange rate index, Sustainable development index, eco-efficiency and Countries GDP of developed countries, i.e. UK, USA, Canada, Australia, Japan, Germany, France and emerging countries, i.e. Brazil, Malaysia, Thailand, Philippines, China, Indonesia, India, and Pakistan has been considered as sample data for this study. Unit root test (ADF) for stationary test, Johansen's Co-integration test, Granger Causality, GMM (panel data) applied to test the short run/long-run impact, association, and behavior of variables. Models 1& 2 result of finance sustainability with Stock Market Index, exchange rate index, SDGs ~ GDP, and eco-efficiency indicates highly significant and asymmetrical relationships exist with countries growth as similar with Models 3 & 4 SDGs. UK, France in developed markets and India, Thailand and Malaysia in emerging countries markets high influencing potential. Meanwhile, Australia and USA in developed and China, Indonesia, and Pakistan Markets in emerging have more space for investor. The Robustness test validates the finding of study. Financial sustainability implication and recommendation are cleared for investors; forecast market behavior, financing efficiency, investment diversification, multi corporations and exchange management have make significant investment decision. Further, these finding helps policy makers and regulatory authorities to design appropriate finance strategies for market-economic sustainability.

Key word: Foreign Finance, SDGs, Environment, Market-Economic Sustainability.

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FINANÇAS MERCADOS, ESTABILIDADE AMBIENTAL EFEITO NO DESENVOLVIMENTO ECONÔMICO E OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL, EVIDÊNCIA PAÍSES DESENVOLVIDOS E EMERGENTES

*Financial, markets, impact of environmental stability on economic development and sustainable development goals,
evidence from developed and emerging countries*

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RESUMO

O estudo busca investigar os países desenvolvidos e emergentes prevendo o mercado de negócios financeiros, a estratégia ambiental e o impacto nos Objetivos de desenvolvimento sustentável e no desenvolvimento econômico do país de 1991 a 2021. A data anual do Índice do Mercado de Ações, índice de taxa de câmbio, índice de desenvolvimento sustentável, ecoeficiência e PIB dos países desenvolvidos, ou seja, Reino Unido, EUA, Canadá, Austrália, Japão, Alemanha, França e países emergentes, ou seja, Brasil, Malásia, Tailândia, Filipinas, China, Indonésia, Índia e Paquistão foram considerados como dados de amostra para este estudo. Teste de raiz unitária (ADF) para teste estacionário, teste de cointegração de Johansen, causalidade de Granger, GMM (dados em painel) aplicado para testar o impacto, associação e comportamento de curto e longo prazo das variáveis. Os modelos 1 e 2 resultam da sustentabilidade financeira com o índice do mercado de ações, índice de taxa de câmbio, ODS ~ PIB e ecoeficiência indicam que existem relações altamente significativas e assimétricas com o crescimento dos países, semelhantes aos ODS dos modelos 3 e 4. Reino Unido, França em mercados desenvolvidos e Índia, Tailândia e Malásia em mercados de países emergentes com alto potencial de influência. Enquanto isso, a Austrália e os EUA nos mercados desenvolvidos e a China, Indonésia e Paquistão nos emergentes têm mais espaço para investidores. O teste de robustez valida o achado do estudo. A implicação e a recomendação de sustentabilidade financeira são liberadas para os investidores; prever o comportamento do mercado, eficiência de financiamento, diversificação de investimentos, multicorporações e gerenciamento de câmbio tomaram decisões de investimento significativas. Além disso, essas descobertas ajudam os formuladores de políticas e as autoridades reguladoras a projetar estratégias de financiamento apropriadas para a sustentabilidade econômica de mercado.

Palavras-chave: Finanças Externas, ODS, Environment, Market-Economic Sustainability.

INTRODUCTION

In past two decades external finance from developed countries, but also developing increase important source of external development finance. External financial development leading trend topic for research, foreign direct investment and remittances are major source of external finance and those sharply rose between 1990 and 1996 during East Asian financial crisis. World are interesting to rapid industrial and economic development. Most developed and emerging countries have to attain economic prosperity by opening up to worldwide trade and embracing foreign direct investment. Yen Currency appreciation against American and Asian currencies leads to an increase the FDI by the japan manufacturing sector and other Asian sectors (Baek et al., 2001).

Study applied the following research methodology for indication of results and policy recommendation. First we define the variable; second we develop hypothetical arguments, why various types of external financing, such as FDI, foreign worker remittances and markets index can influence on economic development, eco-efficiency and sustainable development Goals. Third we develop a strategy and Datasets used for examine the hypotheses, fourth we applied test for analysis the variable and hypothesis examination, fifth section discuss present and empirical results, finally conclusion section comprises and a brief discussion on policy, research contributions, recommendation and implication of this study. Therefore, Pollution problem is world biggest challenges and Eco-efficiency is most significant, while Sustainable development Goals Paris agreement UN Agenda-2030 countries promised to improve the social, economic and environmental condition of world. Foreign financing tool i.e. foreign direct investment and foreign worker remittances are key role toward economic-markets progress and capacity building of financial stability.

How Can Foreign Financing encourage Eco-efficiency and Sustainable development Goals?

Improving slums and urban eco-efficiency are most significant. Developmental challenges for world, two global scale initiatives for world problem; one was Millennium Development Goals (2000-2015) and second was Sustainable development Goals Paris agreement UN Agenda-2030. World leaders pledged to improve the social, economic and environmental condition of world. Goal 7D of the MDGs and SDGs 11.1 were external finance significant effect till 2020 in live standard of slum dwellers (Patel, Joseph et al. 2019, Traverso and Nangah Mankaa 2023). There goals were put the international community to make effort and there foreign financing key role toward capacity building. For instance, Executive Director of UN-habitat highlights the importance of foreign direct investment for development, planning, policies, financial and legal system (Gibberd 2022, Abubakar and Alshammari 2023). In addition, donors, financial organization award the world target and approved multi-project toward social, economic and environmental sustainability. Second, personal effort by foreign worker in term of foreign remittances, overseas workers send foreign remittances in their home countries for families and friend support and investment purpose. Recent research indicated FDI and Remittances were highly significant impact on eco-efficiency, economic development and Sustainable development Goals (JAMIL, RASHEED et al. 2023).

How Can Foreign Financing encourage economic growth?

Foreign direct investment is a source of financing physical capital that deficit to propel economic development having reaction of cost and benefits to the host countries (Tvaronavičienė & Lankauskienė, 2011). Remittances are temporary movements of labour to another nation were understood as an export, workers transfer remittances as compensation of employee's part of payment for exporting labour services (IMF). Countries are unlike foreign aid due to its burden on public budgets as more likely external finance source remittances benefit for budget friendly. For external finance (FDI inflow and foreign remittances) countries make policies and strategy with promoting FDI with development of new product methods, technology transfer, multi-national corporation, and foreign remittances with abroad employment opportunities, and skill improvement (Osano and Koine 2016). Countries Balance of payment issue overcome with the help of export products and enhances foreign financing (JAMIL, SHAHZAD et al. 2023).

How Can Stock Market Index encourage economic growth?

Stock Market Index trading on a public exchange is essential for countries' economic growth. Companies raise capital through external financing or public funding and use the fund to pay off debts or increase the business. In this way, companies have advantages as Stock Market Index trading to avoid incurring debt and paying interest charges.

Previous studies do not focus on this direction, and it's valuable and equally useful for countries and foreign investors, policymakers and regulators of Stock Market Index and exchange rates. The fluctuation of Markets has afraid the indigenous, foreign investors and is seeking to invest new horizons stock and exchange rate markets.

Stock Market Index of every country plays an important role in country development. Stock indicator of growth considers as economic growth of the nations. Microeconomic indicators and the impact of Stock Market Index is a leading research topic of every country (Fama 1981, Lee 1992, Ghosh, Gulde et al. 1997, Nasseh and Strauss 2000, Al-Zararee and Ananzeh 2014, Ajaz, Nain et al. 2017) are most considerable studies. Empirical studies investigating the link among financial development of public and Stock Market Index and growth have on quite limited Goldsmith (1969) (Pagano 1993, Levine 2003) report showing a significant relationship among level of development of finance, financial assets divided by GDP as economic growth (p.48). Schumpeter (1912) and (Witt 2016) argued technology development is the competitive advantage and a strength for long-run countries economic growth. The cause of the financial sector has innovation ability to extend credit to the entrepreneurs. Stock exchange and exchange rate were high significant impact on countries economic growth (JAMIL, KHAN et al. 2023).

How Can Exchange rate encourage economic growth?

An Important debate question is whether the exchange rate fluctuation influences countries' economic growth. Growth theory and exchange rate literature suggested the exchange rate has consequences on the medium-term growth of nations, the Effect of adjustment of Stock and other essential determinants such as investment, financial developments, and international trade on economic growth. Economic theory also supports the exchange rate impact analysis on economic growth—empirical studies a small number which examine the cross-countries context of stock and exchange rate impacts on growths. There was no systematic difference in the growth rate of cross countries exchange rate, 136 cross countries analysis and period was 1960 to 1989 (Ghosh, Gulde et al. 1997). In 1990s researchers fail to recognize association between economic growth and exchange rate (IMF 1997) also confirm these results (Levy-Yeyati and Sturzenegger 2005). Devaluation of currency was a positive impact on economic development. Devaluation currency leads to cheaper goods, services and customer demand lead to increase the export of countries (Salvatore, 2005). Another expansionary devaluation of currency output was evidenced currency devaluation enhance the foreign investment and trade balance (Acar, 2000). The exchange rate with economic development in manufacturing sector has positive and insignificant impact on economic growth (Azid et al., 2005). Exchange rate was positive effect on GDP, trade, stock and negative on FDI (Mahmood et al., 2011). Instability was more harmful when developing countries adopt flexible exchange rate and financial trading openings (Barguelli et al., 2018).

There was a positive relationship between the exchange rate and FDI (Ibrahim et al., 2013). Market was not measurable due to high instability stock markets, exchange rate and economic indicators. In 1991 Asia markets bust due to policymaker innovation in the Stock market positive impact on foreign investors. Many foreign investors come into the market and investment in equity markets (Nishat, Shaheen et al. 2004). Eco-efficiency, threshold and market incentive significant have impact on economic growth (He, Huang et al. 2023). The role of financial factors in eco-efficient construction system and eco-efficient governance system have positive, impact of finance and venture capital encouraging innovation, and upgrading, need to eliminate financial barriers for green technology development (Li and Yang 2023).

Foreign investor perspective, there was need to a cross-border securities, especially in developing countries, which work and provide support to investor for investment point of view. Foreign investors have a great attention showing in currently and past to invest in Stock Market Index. This study would positively impact on foreign investors and government financial policymakers for risk minimize as confidence on markets. This study will be beneficial for research scholars and government decision-makers.

1 LITERATURE REVIEW

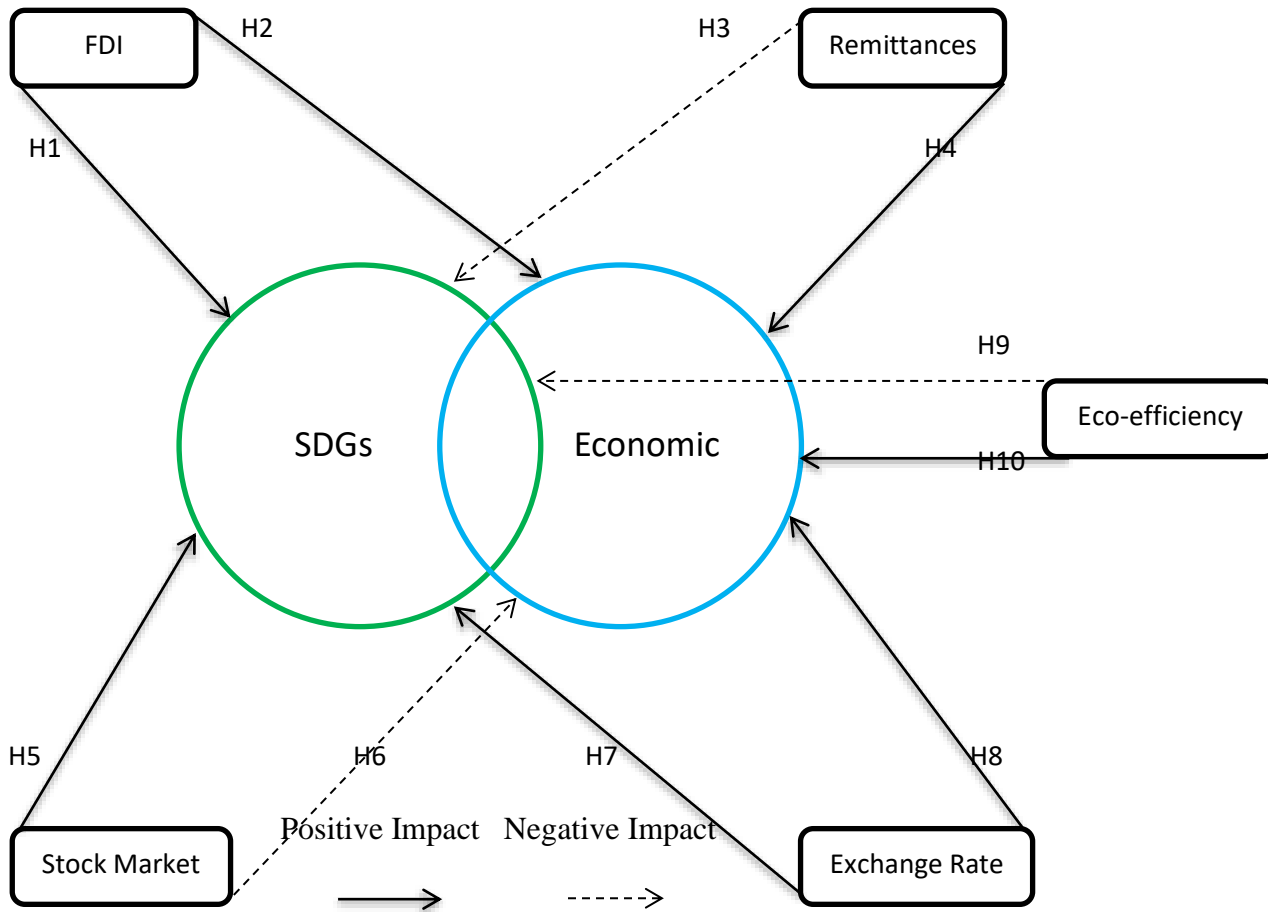
Since the 1990, financial inflow of FDI and Remittance into developing countries was drastically increased, and now mostly countries expectation that foreign financing could be a major development resource (Monterrey conference 2002). The potential path association foreign finance and economic growth was straight-ward; foreign financing fosters economic growth by enhancing capital stocks to countries, which can be control on domestic investment. In addition, FDI and Remittances may allow technology and knowledge transfer source of developed to developing countries (Uttama & Peridy, 2010; Rivera-Batiz & Romer, 1991). Countries expectation regarding foreign financing and economic development, while FDI negative relate to slums development and remittances positive relate to slums developments (Davis, 2006; Woo & Jun 2020). The Foreign Finance is based on developing countries labour-intensive in foreign industries. However, host country expect to economic development with helping factor of foreign financing lead to bust markets and better living conditions of people ((JAMIL, SHAHZAD et al. 2023) Klein, Aaron, & Hadjimichael, 2001; Gohou & Soumaré, 2012).

Studies have a vast research literature according developing and developed countries that identifying the impact of foreign financing, Stock Market Index, exchange rates, SDGs and Eco-efficiency on countries Development. Studied reported the association of macro-economic variables link growth rate with Tehran's Stock Market Index and indicate a long-run positive association between Stock Market Index and economic development. Sustainability's in the stock and Exchange markets played an important role in sustainability and market trends (Mashayekh, Moradkhani et al. 2011, SUBHAN, TAYYAB et al. 2023). The multi Regression model was used to determine the connection between Indian Stock Market Index and Macro-economic Variables indicate Indian Stock Market Index were long-run association with Marco Economic variables of Exchange rate. (Sharma and Mahendru 2010). Iran Stock market and the growth of Iran associated (Oskooe 2010). Stock Market Index and macro-economic variables like SDGs, exchange rate, trade, FDI no causality relationship exists (Imran et al., 2009). An indicator of Economy financial health was a stock market. (Nowbutsing and Odit 2009, JAMIL, KHAN et al. 2023). Unidirectional Causality was exists Stock Market Index price to investment spending in Bangladesh and India (Darrat and Mukherjee 1986, Mukherjee and Naka 1995). External finance and South east Europe (Bucevska 2022). Foreign capital inflows and economic growths (Khurshid, Sharif et al. 2023). Remittance, FDI and environment significance for Asian countries economic development (Patra and Sethi 2023, Rahman, Cai et al. 2023). The effect of foreign financing diversifies remittances will be effective in markets-economic and commercially and FDI has useful for emerging countries village up-gradation (Yoo and Woo 2023). FDI and Foreign reserve positive and significant impact on countries growth essential contributions for markets, financial and economic (Jamil, Rasheed et al. 2023). A study of developed, emerging and frontier markets assessment indicates Exchange rate regimes have positive significance for economic development (Jamil 2022). Exchange rate and markets shortly effect on economic growth of countries (SUBHAN, TAYYAB et al. 2023). Quality Management (Yang, Naveed et al. 2023). Remittance and FDI has significant for Nigeria, external financing have significant influenced on investment (MBAGWU 2023) south east European countries and economic development (Bucevska and Naumoski 2023, Kheng, Pan et al. 2023). Financial inflow FDI, and Remittances has key factor in countries development (JAMIL, RASHEED et al. 2023, Makina and Magwedere 2023).

However, few empirical studies have been conducted to understand the type of external financing i.e., foreign remittances and FDI effect on economy and living condition development in developing countries (Ratha and Mohapatra 2007, Unceta, Gutierrez et al. 2010, Nwaogu and Ryan 2015, Afolabi Ibikunle, Uzoehina et al. 2022). This study attempts to conclude the effects of foreign financing on economy, and Environment that lead to Sustainable World. For this purpose, first study theoretically explores each type of foreign financing I.e., FDI and foreign remittances estimate positive effect in sustainability because Foreign Remittances and FDI give additional financial resources. Moreover, the different type of external finance also aims to improving living condition of families. However, the effect of each type of external finance might perform different in different regions. Therefore, study contends that foreign financing effect on recipient countries economy (Azeez and Begum 2009, Shera and Meyer 2013, Bird and Choi 2020). Study has assumed that developing countries different challenges of less resource, highly

concentrated populations and poor living condition. Therefore, Inclusion of foreign finance might improve resources, environment, economy and living conditions of people (Buch and Kuckulenz 2010, Bhattacharya, Inekwe et al. 2018, Cazachevici, Havranek et al. 2020). Foreign financing may direct influence on politics. Empirical evidence indicates foreign finance produce economic development and sustainability. Foreign-currency denomination will increase external finance crisis, finance instability risk and sudden stop growth, foreign finance decrease the foreign currency deficiency in country and reduce unbalancing flow of foreign reserve (Cubeddu, Hannan et al. 2023).

Figure 1 - Model Structure and Hypothesis Indication



According to the empirical literature review of above, we design a structure and hypothesis of study. Figure 1 indicated the structure and hypothesis relationships. Therefore, hypothesis of study are;

- H1: Foreign Direct Investment positive impact on Sustainable Development Goals.
- H2: Foreign Direct Investment positive impact on Economic Development.
- H3: Foreign Worker Remittances negative impact on Sustainable Development Goals.
- H4: Foreign Worker Remittances Positive impact on Economic Development.
- H5: Stock Market Index positive impact on Sustainable Development Goals.
- H6: Stock Market Index negative impact on Economic Development.
- H7: Exchange Rate positive impact on Sustainable Development Goals.
- H8: Exchange Rate positive impact on Economic Development.

- H9: (Eco-efficiency) negative impact on SDGs.
 H10: Environmental development (Eco-efficiency) positive impact on Economic Development.

2 RESEARCH METHODOLOGY

Data; the study analyzes the fluctuation of Foreign Finance, stock exchange and exchange rates impact on countries' growth and sustainability from 1991 to 2020. This paper collects the time serious data economic growth as gross domestic product, Sustainable development Goals as Index of SDGs, Stock Market Index average of closing date and exchange rate as a change in real exchange rate data, Eco-efficiency as CO₂ emission per capita. We are collected data from different sources, economic surveys, ministerial financial websites, and State bank of Pakistan reports, IMF, World Bank and financial organization websites. Study will use secondary data and data collected by different financial sources since 1991 to 2021. We use economic growth variable (Husain and Mahmood 2001) as a gross domestic product, sustainable development Goals, Stock Market Index, and exchange rate use the following models and techniques.

We adopt GMM Panel regression to investigate the impact of Financial, Stock Market Index and exchange rate on countries' economic growth and Sustainable development Goal

$$Y_{it} = \beta X_{it} + \eta K_{it} + Y_t + Q_i + \varepsilon_{it} \dots \dots \dots (1)$$

$$SDG_{sit} = \beta X_{it} + \eta K_{it} + Y_t + Q_i + \varepsilon_{it} \dots \dots \dots (2)$$

Where the dependent variable Y is showing the Annual growth rate GDP, Sustainable development Goals refer to SDGs, country i at time t, X is a vector of explanatory variables, K is a vector variable, Y are time-specific effects, Q are country-specific effects, ε are error terms and the β's and η's are parameters to be estimated. The estimators were designed to incorporate individual and time results (Greene 2008) to hold the systematic trend of ε to be higher for some countries than others and higher for several periods than others. There is a long-run relationship check between GDP, Financial, Stock Market Index, and exchange rate using the following equation (Bahmani-Oskooee and Sohrabian 1992).

$$\text{LnSP}_t = \alpha + \beta \text{LnEX}_t + \varepsilon_t \dots \dots \dots (3)$$

$$\text{LnEX}_t = \alpha + \beta \text{LnSP}_t + \varepsilon_t \dots \dots \dots (4)$$

β̂ apply to measure how sensitive the real output is due to changes in the exchange rate and Stock Market Index. Significant Coefficient stationary residuals are less than or near order 1 means residual also stationary at level it's stated the long-run relationship (Engle and Granger 1987). Error correction model is used for short-run check integration as follows:

$$\Delta \text{LnSP}_t = \alpha + \sum_{k=1}^n \beta_i \Delta \text{LnSP}_t - i + \sum_{k=0}^n \delta_i \Delta \text{LnEX}_t - i + \lambda \varepsilon_t - 1 + \mu_t \dots \dots (5)$$

$$\Delta \text{LnEX}_t = \alpha + \sum_{k=1}^n \beta_i \Delta \text{LnEX}_t - i + \sum_{k=0}^n \delta_i \Delta \text{LnSP}_t - i + \lambda \varepsilon_t - 1 + \mu_t \dots \dots (6)$$

The last two eras studied data using different co-integration and time series methods. As most researchers used in empirical studies, co-integration recommended Engle and Granger (1987) were. Integrated order was more significant than or equal to 1, a non-stationary variable (Asteriou and Hall, 2007).

3 Comparison, Results and Discussion

Table 1 - Descriptive Statistic

	GDP GROWTH	FOREING WORKER REMITTANCE	FDI	STOCK MARKETS INDEXES	REAL EXCHANGE RATE	SDGS	ECO EFFICIENCY
Developed Countries							
Mean	0.93	15589.49	2.44	9860.50	98.40	76.76	11.80
Median	1.88	12467.62	2.11	7385.00	98.62	76.75	9.62
Maximum	6.87	51705.12	12.76	33819.33	130.42	82.28	20.47
Minimum	-9.70	0.22	-3.62	3078.18	67.57	71.15	4.46
Std. Dev.	3.09	13275.29	2.25	6298.90	13.87	2.83	4.81
Observations	161	161	161	161	161	161	161
Emerging Countries							
Mean	4.01	833.64	2.20	11997.64	96.76	65.23	2.77
Median	4.99	552.99	2.16	3102.45	97.91	67.49	1.80
Maximum	14.23	3764.02	5.07	118636.30	137.62	74.17	7.73
Minimum	-9.60	-989.94	-2.76	306.93	55.32	51.60	0.62
Std. Dev.	4.24	1059.77	1.30	21697.54	14.74	6.70	2.21
Observations	184	184	184	184	184	184	184

The table 1 shows the descriptive statistic comparison of developed and emerging countries. GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency means 0.93, 15589.49, 2.44, 9860.50, 98.40, 76.76, 11.80 of developed and 4.01, 833.64, 2.20, 11997.64, 96.76, 65.23, and 2.77 of emerging countries, Indicate GDP and Stock markets Index Emerging Countries have more potential while other hand Worker Remittance, FDI, REER, SDGs and Eco-efficiency Developed countries have more efficiency. As standard deviation results indicate 3.09, 13275.29, 2.25, 6298.90, 13.87, 2.83, 4.81 developed and 4.24, 1059.77, 1.30, 21697.54, 14.74, 6.70, 2.21 Emerging respectively showing GDP, Stock Market Index, Real Exchange Rate, SDGs having More potential, on other hand Foreign Remittance, FDI and Eco-efficiency Developed countries more potential effect.

Table 2 - Unit Root Test (Developed and Emerging Countries)

Developed Countries Level							
Method	GDP	Worker Remittance	FDI	Stock Market	Exchange Rate	SDGs	Eco Efficiency
Null: Unit root (assumes common unit root process)							
Levin, Lin & Chu t*	1.93	0.77	-1.03	2.77	-1.72	-2.6***	1.91
Null: Unit root (assumes individual unit root process)							
Im, Pesaran and Shin W-St	1.03	1.64	-4.1***	2.93	-0.69	0.87	3.53
ADF - Fisher Chi-square	7.73	7.66	45.8***	5.07	14.72	6.14	4.58
PP - Fisher Chi-square	16.96	6.73	155.9***	5.22	9.37	7.39	3.41
Developed Countries First Difference							
Null: Unit root (assumes common unit root process)							

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Levin, Lin & Chu t*	-7.7***	-5.3***	-6.1***	-7.3***	-4.7***	-4.6***	-4.08***
Null: Unit root (assumes individual unit root process)							
Im, Pesaran and Shin W-St	-6.9***	-4.6***	-8.3***	-6.3***	-4.9***	-4.2***	-5.8***
ADF - Fisher Chi-square	70.8***	47.6***	86.4***	64.1***	49.2***	43.2***	60.7***
PP - Fisher Chi-square	152.1***	88.7***	672.8***	118.1***	64.3***	77.5***	118.1***

Emerging Countries Level

Method	GDP	Worker Remittance	FDI	Stock Market	Exchange Rate	SDGs	Eco Efficiency
Null: Unit root (assumes common unit root process)							
Levin, Lin & Chu t*	3.58	-1.03	-2.37***	0.39	-0.35	0.26997	-1.62*
Null: Unit root (assumes individual unit root process)							
Im, Pesaran & Shin W-S	2.47	-0.78	-2.67***	2.67	0.56	3.7	1.54
ADF - Fisher Chi-square	4.06	19.17	36.90***	6.05	10.61	2.29	9.16
PP - Fisher Chi-square	9.34	36.6**	54.73***	6.26	8.182	2.13	9.72

Emerging Countries First Difference

Null: Unit root (assumes common unit root process)							
Levin, Lin & Chu t*	-6.5***	-8.7***	-7.5***	-5.4***	-7.4***	-3.2***	-3.8***
Null: Unit root (assumes individual unit root process)							
Im, Pesaran & Shin W-S	-6.07***	-8.26***	-8.2***	-5.4***	-5.9***	-4.0***	-3.7***
ADF - Fisher Chi-square	66.03***	90.95***	91.55***	59.6***	65.3***	45.7***	43.5***
PP - Fisher Chi-square	141.8***	436.1***	408.9***	115.5***	102.4***	89.0***	85.6***

The above table 2 is showing the stationary level according *** 01%, ** 05%, *10%; Level, 1st difference level. It's showing the trend and relationship of Developed and Emerging Countries of GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency. Developed countries have only SDGs significant impact at level While Developed countries Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency showing significant impact at First Difference that showing the Stationary level and importance for the importance for Developed countries. On other hand, FDI and Eco-efficiency show significance at level, while GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency are showing significant and stationary effect at first difference showing the importance for Emerging countries. Their study concluded both developed and emerging countries variable stationary at first difference.

Table 3 - Johansen Co-integration Test (Developed and Emerging Countries)

Alternative hypothesis: common AR coefs. (within-dimension)				
	Developed Statistic	Weighted Statistic	Emerging Statistic	Weighted Statistic
Panel v-Statistic	0.068224	0.4728	-0.371546	0.4719
Panel rho-Statistic	1.915613	0.9723	1.947530	0.9704
Panel PP-Statistic	-1.257992	0.1042	-0.874114	0.1020
Panel ADF-Statistic	-0.334338	0.3691	0.775031	0.4239
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Developed Statistic	Emerging Statistic		
Group rho-Statistic	2.6438	3.4159		
Group PP-Statistic	-3.0216	-0.2084		
Group ADF-Statistic	0.4378	1.0950		
Cross section specific results				
Cross ID	Phillips-Peron results (non-parametric)		Augmented Dickey-Fuller results (parametric)	
	Developed Variance	Emerging Variance	Developed Variance	Emerging Variance
USA	2.325348		2.266274	
UK	6.103658		5.370391	
CANADA	4.995420		4.886664	
AUSTRALIA	1.315312		1.314950	
JAPAN	3.509779		3.513556	
GERMANY	4.958174		4.158616	
FRANCE	5.894635		5.660152	
PAKISTAN		1.331241		1.214923
INDIA		8.880188		8.794120
INDONESIA		0.533473		0.491472
BRAZIL		4.058687		3.514667
CHINA		1.196946		1.203398
PHILIPPINES		3.728512		3.457370
THAILAND		5.030914		5.019763
MALAYSIA		5.093828		4.952846

The above table 3 shows the Johansen Co-integration developed and Emerging Countries test results; Panel ADF developed countries -0.331338 statistic and Panel PP-Statistic -1.257992 showing highly significant but negative relations. UK and France variances are the highest level in the above table 3 in developed countries. While Emerging Countries Variances Results Panel ADF developed countries 0.775031 statistics Positive and Panel PP-Statistic -0.874114 negative impact and long relation, moreover India, Thailand, Malaysia variances vary high impact as compare to other countries in emerging countries for the period of 1971 to 2021.

Table 4 - Granger Causality Tests

Null Hypothesis: (Developed Countries)	F-Statistic	Prob.
FOREING WORKER REMITTANC does not Granger Cause GDP GROWTH ANNUAL	1.29606	0.2768
GDP GROWTH ANNUAL does not Granger Cause FOREING WORKER REMITTANC	1.54927	0.2160
FOREIGN_DIRECT_INVESTMEN does not Granger Cause GDP GROWTH ANNUAL	0.25966	0.7717
GDP GROWTH ANNUAL does not Granger Cause FOREIGN DIRECT INVESTMEN	2.5743*	0.0798
STOCK_MARKETS INDEXES does not Granger Cause GDP GROWTH ANNUAL	2.7243*	0.0690
GDP GROWTH ANNUAL does not Granger Cause STOCK MARKETS INDEXES	2.01832	0.1367
REAL EFFECT OF EXCHANGE does not Granger Cause GDP GROWTH ANNUAL	0.30304	0.7390
GDP GROWTH ANNUAL does not Granger Cause REAL EFFECT OF EXCHANGE	0.05114	0.9502
SDGS does not Granger Cause GDP GROWTH ANNUAL	8.693***	0.0003
GDP GROWTH ANNUAL does not Granger Cause SDGS	0.48160	0.6188
ECO EFFICIENCY does not Granger Cause GDP GROWTH ANNUAL	2.8617*	0.0605
GDP GROWTH ANNUAL does not Granger Cause ECO-EFFICIENCY	10.3513	6.E-05
GDP GROWTH ANNUAL does not Granger Cause SDGS	0.48160	0.6188
SDGS does not Granger Cause GDP GROWTH ANNUAL	8.693***	0.0003
FOREING WORKER REMITTANC does not Granger Cause SDGS	5.067***	0.0075
SDGS does not Granger Cause FOREING WORKER REMITTANCE	4.658**	0.0110
FOREIGN DIRECT INVESTMENT does not Granger Cause SDGS	1.67031	0.1919
SDGS does not Granger Cause FOREIGN DIRECT INVESTMENT	0.52398	0.5933
STOCK MARKETS INDEXES does not Granger Cause SDGS	4.4368**	0.0135
SDGS does not Granger Cause STOCK MARKETS INDEXES	1.03240	0.3588
REAL EFFECT OF EXCHANGE does not Granger Cause SDGS	0.25124	0.7782
SDGS does not Granger Cause REAL EFFECT OF EXCHANGE	1.72366	0.1821
ECO EFFICIENCY does not Granger Cause SDGS	3.7023**	0.0271
SDGS does not Granger Cause ECO EFFICIENCY	4.4694**	0.0131
Null Hypothesis: (Emerging Countries)		
FOREING WORKER REMITTANC does not Granger Cause GDP GROWTH ANNUAL	0.13703	0.8720
GDP GROWTH ANNUAL does not Granger Cause FOREING WORKER REMITTANC	1.82739	0.1641
FOREIGN DIRECT INVESTMENT does not Granger Cause GDP GROWTH ANNUAL	1.22097	0.2976

**FINANCE, MARKETS, IMPACT OF ENVIRONMENTAL STABILITY ON ECONOMIC DEVELOPMENT AND SUSTAINABLE DEVELOPMENT GOALS,
EVIDENCE FROM DEVELOPED AND EMERGING COUNTRIES**
MUHAMMAD NAVEED JAMIL, ABDUL RASHEED

GDP GROWTH ANNUAL does not Granger Cause FOREIGN DIRECT INVESTMENT	0.29013	0.7486
STOCK MARKETS INDEXES does not Granger Cause GDP GROWTH ANNUAL	1.58949	0.2072
GDP GROWTH ANNUAL does not Granger Cause STOCK MARKETS INDEXES	1.70843	0.1844
REAL EXCHANGE RATE does not Granger Cause GDP GROWTH ANNUAL	2.3846*	0.0953
GDP GROWTH ANNUAL does not Granger Cause REAL EXCHANGE RATE	1.54639	0.2161
SDGS does not Granger Cause GDP GROWTH ANNUAL	2.3634*	0.0973
GDP GROWTH ANNUAL does not Granger Cause SDGS	7.023***	0.0012
ECO-EFFICIENCY does not Granger Cause GDP GROWTH ANNUAL	1.14180	0.3218
GDP GROWTH ANNUAL does not Granger Cause ECO-EFFICIENCY	27.6258	5.E-11
FOREING WORKER REMITTANCE does not Granger Cause SDGS	0.25932	0.7719
SDGS does not Granger Cause FOREING WORKER REMITTANCE	3.5900**	0.0298
FOREIGN DIRECT INVESTMENT does not Granger Cause SDGS	0.83814	0.4344
SDGS does not Granger Cause FOREIGN DIRECT INVESTMENT	0.60409	0.5478
STOCK MARKETS INDEXES does not Granger Cause SDGS	0.26670	0.7662
SDGS does not Granger Cause STOCK MARKETS INDEXES	2.18331	0.1160
REAL EFFECT OF EXCHANGE does not Granger Cause SDGS	0.45546	0.6350
SDGS does not Granger Cause REAL EFFECT OF EXCHANGE	4.4554**	0.0131
GDP_GROWTH___ANNUAL___ does not Granger Cause SDGS	7.023***	0.0012
SDGS does not Granger Cause GDP_GROWTH___ANNUAL___	2.3634*	0.0973
ECO__EFFICIENCY does not Granger Cause SDGS	1.13910	0.3226
SDGS does not Granger Cause ECO__EFFICIENCY	2.5140*	0.0841

The above table 4 shows the Causal relationship structure between GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency of developed and Emerging countries through the Granger Causality approach. The Granger causality approach is used to test whether the above variables are useful for forecasting another. When the probability value is less than any level of significance, then we cannot reject the hypothesis and accept it at that level. If the value is above the significant level, we can reject the hypothesis. The above table ***1%, **5%, *10% values indication for the rejection and acceptance of hypothesis. GDP and SDGs having Bidirectional Causality each other and other most have Unidirectional Causality in Developed and Emerging Countries.

Table 5 - GDP AND SDGs GMM (Developed and Emerging Countries)

Variable	Developed Countries		Emerging Countries	
	Model 1 GDP Coefficient	Model 2 SDGs Coefficient	Model 3 GDP Coefficient	Model 4 SDGs Coefficient
FOREIGN WORKER REMITTANCE	2.061200	-0.000373***	0.000100	-0.003333***
FOREIGN DIRECT INVESTMENT	0.22300**	0.24251900	1.1000***	3.276036***
STOCK MARKETS INDEXES	-0.0100***	0.000632***	-6.3100***	0.000202***
REAL EXCHANGE RATE	0.014000	0.727673***	0.03700*	0.597030***
SDGs	-0.033200		-0.013900	
GDP		-0.42096100		-0.06887400
ECO-EFFICIENCY	0.2100***	0.2938690*	-0.212500	-0.01505500
R-squared	0.2315	-10.640705	0.1258	-0.722302
Adjusted R-squared	0.2068	-11.016212	0.1012	-0.770682
S.E. of regression	2.7548	9.802894	4.0160	8.918205
Durbin-Watson stat	0.9434	0.205934	0.5266	0.433523
J-statistic	3.675*	151.01***	30.2***	-0.7223***

*** 01% ** 05% *10%, The above table 5 shows the generalized method of movements (GMM) results of Coefficient GDP and SDGs effected by Worker Remittance, FDI, Stock Market Index, REER, and Eco-efficiency of Developed countries and emerging countries from 1991 to 2021. GMM used for dynamic-panel data combines-moment's-conditions with moment-conditions for the model level. If the difference of coefficient lagged of dependent variable is close to 0.87, then examination is downward biased due to weak instrumentation. This study GMM model is preferable and useful. Model 1 FDI 0.22300** and Eco-efficiency 0.2100*** positive and Stock Market Index -0.0100*** negative significant impact on Economic development in developed countries, Model 2 Stock market index 0.000632***, real exchange rate 0.727673*** and Eco-efficiency 0.2938690* have positive and Foreign Worker Remittance -0.000373*** negative significant impact on SDGs in developed countries. In Emerging Countries Model 3 FDI 1.1000*** and Real exchange rate 0.03700* positive and Stock exchange index -6.3100*** negative high significant impact on economic development of emerging countries, meanwhile Model 4 FDI 3.276036***, Stock market Index 0.000202*** and Real exchange Rate 0.597030*** have positive high significant and Foreign Worker Remittances -0.003333*** negative high significant impact on SDGs in Emerging Countries. *** indicated the importance of indicator for developed and emerging countries.

Figure 2 - Results and Hypothesis Indication

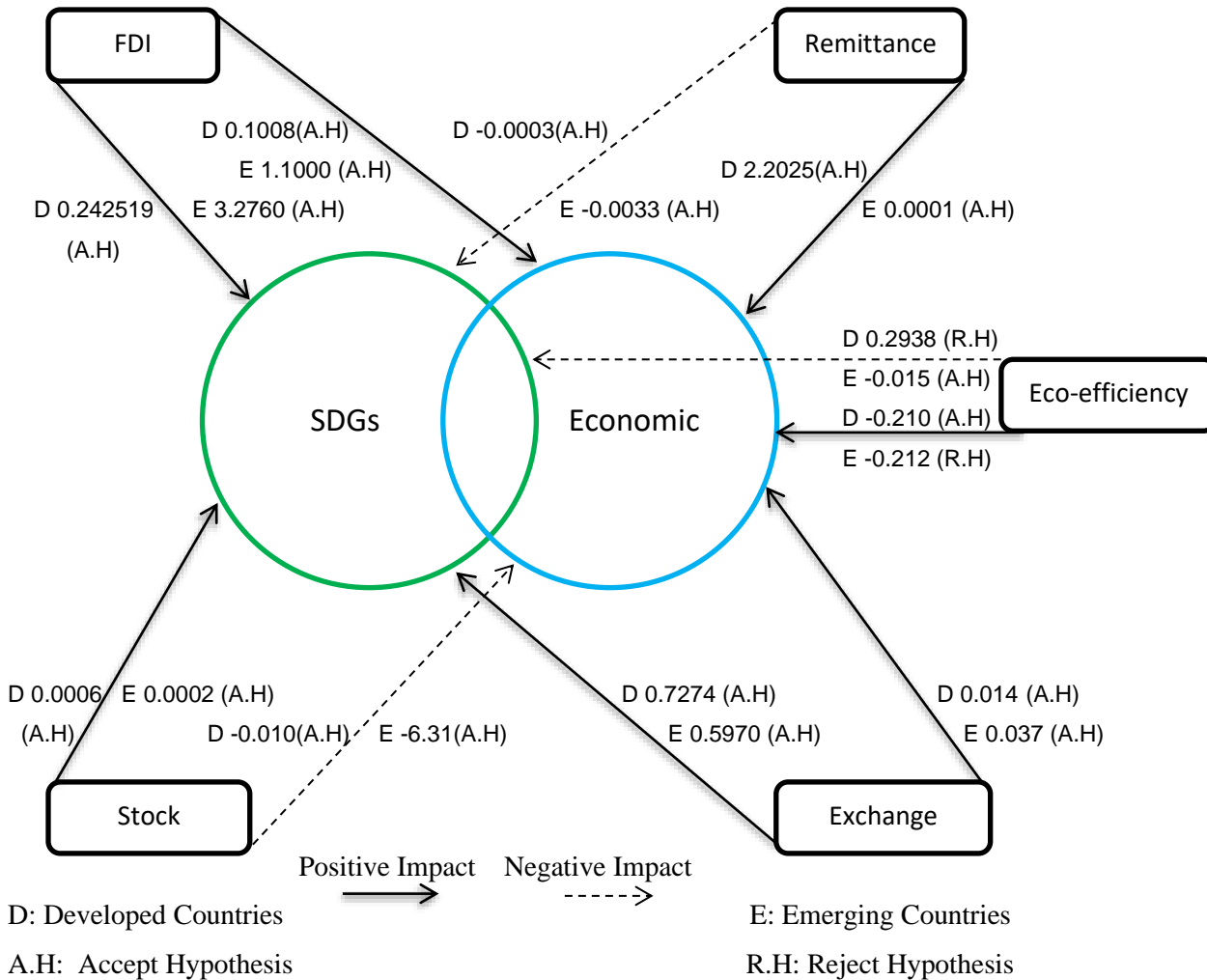


Figure 2 indicated graphical results of GMM and also indicate the hypothesis stated position, FDI result stated positive impact with GDP and SDGs therefore we accept Hypothesis H1 and H2 in emerging and developed countries, As Foreign Worker Remittances positive impact with GDP and negative impact with SDGs true stated we accept H3 and H4; Stock Market Index positive impact with GDP and Negative impact with SDGs indicate the true stated position therefore we accept H5 and H6; Exchange Rate positive impact on GDP and SDGs indicated true stated position therefore we accept H7 and H8 Hypothesis in emerging and developed countries. Eco-efficiency positive impact with SDGs indicate false stated position therefore we reject H9 Hypothesis and Eco-efficiency positive impact with GDP indicate true stated therefore we accept H10 hypothesis in developed countries. Therefore, Eco-efficiency negative impact with SDGs true stated position therefore we accept H9 Hypothesis and Eco-efficiency negative impact with GDP indicates false indication therefore we reject H10 hypothesis in emerging countries.

Table 6 - GDP AND SDGs ROBUST TEST (Developed and Emerging Countries)

Variable	Mode 1 Developed	Model 2 Developed	Model 3 Emerging	Model 4 Emerging
	GDP Coefficient	SDGs Coefficient	GDP Coefficient	SDGs Coefficient
FOREIGN WORKER REMITTANCE	2.2025**	-0.000368***	0.0600***	-0.003551***
FOREIGN DIRECT INVESTMENT	0.1008**	0.10698200	0.8200***	3.705461***
STOCK MARKETS INDEXES	-7.221***	0.000739***	-7.6300**	0.000182***
REAL EXCHANGE RATE	-0.00844	0.737258***	0.030200	0.606412***
SDGs	0.0202*		0.012700	
GDP		-0.4774720*		-0.266015
ECO-EFFICIENCY	0.117***	0.21190200	-0.08900**	-.0268239
Robust Statistics				
R-squared	0.085566	-8.926947	0.175374	-0.466118
Rw-squared	0.275708	-8.378836	0.387373	-0.103437
Akaike info criterion	283.3639	179.5740	239.5558	235.6570
Deviance	471.9008	12560.01	1516.474	11050.62
Adjusted R-squared	0.056068	-9.247171	0.152211	-0.507302
Adjust Rw-squared	0.275708	-8.378836	0.387373	-0.103437
Schwarz criterion	306.4599	199.4553	262.2725	255.5677
Rn-squared statistic	394.88***	9667.8***	711.47***	10312.***
Non-robust Statistics				
Mean dependent var	0.9344	76.75571	4.0139	65.23190
S.E. of regression	3.0812	9.878085	4.1795	8.962716
S.D. dependent var	3.0931	2.827942	4.2362	6.702043
Sum squared resid	1471.6	15124.37	3109.4	14298.79

*** 01% ** 05% *10% Table 6 is showing the result of the robustness test of Development and Emerging countries. Its use to check the regression coefficient exam behave regressors adding or removing resistance to outliers. Simple to say, the average is not affected by outliers; while weigh the observations how it well on behaved on observation and results in reliabilities. Model 1&2 Foreign Worker Remittances 2.2025**, 0.0600***, FDI 0.1008**, 0.8200***, SDGs 0.0202*, Eco-efficiency 0.117*** have positive and Stock market Index -7.221***, -7.6200** and SDGs -0.08900** high significant negative impact on Economic development of developed and emerging countries respectively. On other hand, Model 3 Stock market 0.000739***, Real effect of exchange rate 0.737258*** have positive and Foreign worker remittances -0.0000368***, GDP -0.4774720 negative impact on Economic Development in developed countries, while Model 4 FDI 3.705461***, Stock market index 0.000182***, GDP 0.606412*** have positive and Foreign worker remittances -0.003551*** effect on SDGs in emerging countries. The above results indicated the models and observations are the best fit for this research.

CONCLUSION

The study seeks to analyze the impact and relationship of Foreign Financial and Markets sustainability at developed and emerging countries forecasting with indicator of foreign finance, countries growth, SDGs, real exchange rate and Stock Markets index through unit root test for stationary, co-integration used for existence of the long-run relationship. In contrast, the Granger Causality test for causal relationship estimation, GMM used for dynamic panel data combines moment's conditions, result and Observation validity acceptance examine through robustness test for 1991 to 2021. Study depend on the hypothesis design of a bivariate predictive model that connect external finance, countries growth, SDGS, real exchange rate and stock markets index differential and examine long run and short run. Meanwhile several empirical studies have estimation of hypothesis as vitality, sustainability, growth and otherwise, (Makina and Magwedere , Hau and Rey 2006, Curcuru, Thomas et al. 2014, Gelman, Jochem et al. 2015, Chen and Hsu 2019, Zardoub and Sboui 2023) and financial forecast (Patra and Sethi 2023, Qamruzzaman 2023), but its typically focus developed countries, even single effect estimates with insufficient evidence about simple size and forecast. This is the motivation of the study to examine the relationship and impact of finance sustainability, stock markets index and exchange rate on the economic growth and SDGs of countries for leading developed and emerging countries of the world. Unit-root-test of the stationary level is according *** 01%, ** 05%, *10%; Level, 1st difference level that showing the trend and relationship of Developed and Emerging Countries of GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency. Developed countries have only SDGs significant impact at level while Developed countries Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency showing significant relationship and impact at First Difference, On other hand, FDI and Eco-efficiency show significance at level, while GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency are significant relationship and stationary effect at first difference that showing the importance for Developed and Emerging countries. The Johansen Co-integration Panel ADF developed countries -0.331338 statistic and Panel PP-Statistic -1.257992 showing highly significant long run relationship but negative relations. UK and France variances are the highest level in developed countries. While Emerging Countries Variances Results Panel ADF developed countries 0.775031 statistics Positive and Panel PP-Statistic -0.874114 negative impact and long relation, moreover India, Thailand, Malaysia variances vary high impact as compare to other countries in emerging countries for the period of 1971 to 2021. The Granger causality approach is used to test whether the variables are useful for forecasting another. The Causal relationship structures between GDP, Worker Remittance, FDI, Stock Market Index, REER, SDGs and Eco-efficiency of developed and emerging countries. The probability value of significant impact indicated the rejection and acceptance of hypothesis. GDP and SDGs having Bidirectional Causality each other and other most have Unidirectional Causality in Developed and Emerging Countries.

GMM used for dynamic-panel data combines-moment's-conditions with moment-conditions for the model level. Model 1 FDI 0.00300^{**} and Eco-efficiency 0.2100 positive and Stock Market Index -0.0100^{***} negative significant impact on Economic development in developed countries, Model 2 Stock market index 0.000632^{***} , real exchange rate 0.727673^{***} and Eco-efficiency 0.2938690^{*} have positive and Foreign Worker Remittance -0.000373^{***} negative significant impact on SDGs in developed countries. FDI result indicate positive impact with GDP and SDGs therefore we accept Hypothesis H1 and H2, Foreign Worker Remittances positive impact with GDP and negative impact with SDGs true stated we accept H3 and H4, Stock Market Index positive impact with GDP and Negative impact with SDGs indicate the true stated position therefore we accept H5 and H6, Exchange Rate positive impact on GDP and SDGs indicated true stated position therefore we accept H7 and H8 Hypothesis. Eco-efficiency positive impact with SDGs indicate false stated position therefore we reject H9 Hypothesis; Eco-efficiency positive impact with GDP indicate true stated therefore we accept H10 hypothesis in developed countries.

Meanwhile, in Emerging Countries Model 3 FDI 1.1000^{***} and Real exchange rate 0.03700^{*} positive and Stock exchange index -6.3100^{***} negative high significant impact on economic development of emerging countries, meanwhile Model 4 FDI 3.276036^{***} , Stock market Index 0.000202^{***} and Real exchange Rate 0.597030^{***} have positive high significant and Foreign Worker Remittances -0.003333^{***} negative high significant impact on SDGs in

Emerging Countries. *** indicated the importance for emerging countries. FDI result indicate positive impact with GDP and SDGs therefore we accept Hypothesis H1 and H2 in emerging countries, Foreign Worker Remittances positive impact with GDP and negative impact with SDGs true stated we accept H3 and H4 in emerging countries, Stock Market Index positive impact with GDP and negative impact with SDGs indicate the true stated position therefore we accept H5 and H6 in emerging countries, Exchange Rate positive impact on GDP and SDGs indicated positive true stated position therefore we accept H7 and H8 Hypothesis in emerging countries. Eco-efficiency negative impact with SDGs indicates true stated position therefore we accept H9 Hypothesis; Eco-efficiency negative impact with GDP indicates false stated therefore we reject H10 hypothesis in emerging countries.

The Robustness test applied to check the regression-coefficient-estimates behave regressors, potential of observations how well on performed, test the observation and reliabilities results. Foreign Worker Remittances 2.2025**, 0.0600***, FDI 0.1008**, 0.8200***, SDGs 0.0202*, Eco-efficiency 0.117*** have positive and Stock market Index -7.221***, -7.6200** and SDGs -0.08900** high significant negative impact on Economic development of developed and emerging countries respectively. On other hand, Stock market 0.000739***, Real effect of exchange rate 0.737258*** have positive and Foreign worker remittances -0.0000368***, GDP -0.4774720 negative impact on SDGs, in developed countries, while FDI 3.705461***, Stock market index 0.000182***, GDP 0.606412*** have positive and Foreign worker remittances -0.003551*** effect on SDGs in emerging countries that results indicated the models and observations are the best fit for this research. Study contribution is cleared for policymaking that external finance booster impact on SDGs markets-economic sustainability, it's necessary to improve volume of external finance for boost their countries growth through markets indexes, be aware the Effect of Money-Stock Market Indexes on SDGs and countries economic growth, financial availability and Market Indexes stability on their future policies. Financial sustainability implication and recommendation are cleared for investors; forecast market behavior, financing efficiency, investment diversification, multi corporations and exchange management have make significant investment decision. Further, these finding helps policy makers and regulatory authorities to design appropriate finance strategies for market-economic sustainability.

DECLARATIONS

Ethical Approval: We declare that all ethical guidelines for authors have been followed by all authors.

Consent to Participate: All authors have given their consent to participate in submitting this manuscript to this journal.

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