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Determinants of Economic growth concerning selected countries of Emerging and Developing Asian countries

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Abstract

Proliferating at consistent rates, developing Asian countries will account to about 66.66% of the global economy in 2035 as per Asian Development Bank. The emerging Asian countries had grown rapidly in the past two decades and had shown great resilience in times of uncertainty. The spectacular growth of emerging Asian countries in the last 2 decades astonished the field of economics and motivated researchers to try to explain this behaviour. Policy reforms in education, research and development, ease of doing business, strength of financial markets, property rights had substantially contributed to the GDP growth.

The 2008 global financial crisis and the worldwide economic meltdown in 2018-19 both had affected the economy in the last two decades. The global expansion rate is anticipated to decline to 2.7% in 2023 from 6.0% in 2021 to 3.2% in 2022 as per IMF. Emerging & developing Asian countries growth projections had decreased from 7.2% in 2021 to 4.9% in 2023. A foreknown drop-in global economic trade and commerce is currently being experienced, and diverging inflation is at the peak since last few decades. Rising cost of living, the tightening of global finance conditions, which could lead to debt distress in emerging markets, COVID-19 pandemic situation which is ongoing, Ukraine invasion by Russia, all have had a negative impact on the growth rate. Despite of all this the future forecast of growth is showing significant sustainability and all the emerging Asian countries are showing a very promising story. This research paper aims to recognise the factors influencing economic growth in emerging and developing Asian countries. Gross domestic product and Gross National Income are factors which are the indicators of economic growth in line with the other factors studied like Foreign Direct Investment, inflation, export, employment, productivity, and education.

Key words: *Development, Emerging Asian Countries, Economic Growth, GDP, GNI, Business Innovation*

1. Introduction

According to the Asian Development Bank, developing Asian countries are expected to account for approximately two-thirds of the global economy by 2035, driven by their robust growth rates. In the last two decades, these emerging Asian emerging economies have experienced rapid expansion and demonstrated remarkable resilience in the face of global uncertainty. Developing Asian nations have played a pivotal role in driving the global economy, with the region establishing itself as the fastest-growing economic powerhouse in the world. The continent's share in the global GDP is substantial, accounting for 46.7% as of 2019, and it plays a crucial role in global trade, contributing to one-third of global trade in goods (Singh, L., Singh, S., & Marwah, R. (2019). The region's impressive economic performance has captured attention from economists, sparking vast and deep research to understand the underlying factors driving this growth.

Despite facing significant challenges, such as the global meltdown of 2008-09 and the economic downturn of 2018-19, emerging Asian countries have continued to thrive. However, global economic growth projections have been revised downward. The International Monetary Fund (IMF) forecasts global growth to decline from 6.0% in 2021 to 3.2%

in 2022 and 2.7% in 2023. For emerging and growing Asian countries, growth projections have decreased from 7.2% in 2021 to 4.9% in 2023. Several factors are contributing to this slowdown, including inflation at its highest level in decades, rising living costs, tightening global financial conditions, ongoing covid pandemic, the potential for debt distress in emerging markets, Russia and Ukraine war. Despite these challenges, the long-term growth outlook for the region remains promising, with emerging Asian countries continuing to exhibit strong growth potential.

The Phrase "emerging economy" (EE) was given by Antoine Van Agtmael from the World Bank in the year 1981. He defined emerging economies as countries that are transitioning from underdevelopment to significant economic growth, typically through a series of structural reforms. These countries, characterized by low-to-middle per capita incomes, represent about more than 80% of the global population and account for approximately one fourth of the world's GDP. Southeast Asian countries, including Malaysia, Singapore, Indonesia, the Philippines, and Thailand, are recognized as growth centres within the global economy due to their export-oriented models.

Asian countries have become formidable competitors in international markets, achieving high positions in global competitiveness rankings. This success is attributed to internal competition, skilled labor development, and technological advancements German, E. (2020). Production networks have been instrumental in the economic emergence of Asian countries, facilitating convergence along developed economies while maintaining regional economic significance (Özkul, M. (2017).

Emerging economies vary greatly in size and can be small or large, but they are increasingly opening up to the global market. As such, they are often referred to as transitional economies, undergoing significant changes in their economic and institutional structures as they shift from closed to open market systems.

This research paper is structured as follows: Section 2 discusses the key drives and factors of growth in emerging and developing Asian countries. Section 3 reviews the relevant literature on economic growth in the region. Section 4 outlines the research methodology and model used in this research. Section 5 presents the key findings and test results, and last Section 6 concludes the paper with final remarks.

2. Growth in Emerging and developing Asian countries

Economic growth is a multifaceted topic impacted by a variety of socioeconomic and other institutional factors. Understanding the drivers of economic growth is challenging due to the complexity of these interrelated factors. Empirical data consistently demonstrates that income disparities between nations cannot be attributed to a single cause, contradicting many theoretical assumptions.

Over the past three decades, several Asian economies have experienced remarkable growth, with annual average growth rates ranging between 8% and 10% (Yuliadi & Yudhi, 2021). The People's Republic of China (PRC) and various Southeast Asian economies have been labelled "growth miracles." The observations by them have sparked debate in concerned literature, particularly regarding the reasons behind their success and whether this growth model can be replicated by other emerging Asian economies.

Asian nations have experienced strong economic growth typically relied on external markets to sustain their demand-driven growth model. According to Petrakos and Arvanitidis (2008), the drivers of economic dynamism differ significantly between advanced and less-developed countries. In developed nations, factors such as innovation, technology, knowledge, and human capital are paramount. In contrast, less-developed countries emphasize the importance of socio-political frameworks, institutional environments, and foreign direct investment (FDI).

A review of the literature indicates that Asia's strong growth performance can be attributed to several key factors. These include demographic shifts, the reallocation of labor and capital from less productive to more productive sectors, the accumulation of resources within specific industries, and advancements in technology. Moreover, governments across the region have played an instrumental role in driving this growth by fostering agricultural development, promoting

industrialization, encouraging exports, supporting technological innovation, and increasing labor force participation. Their proactive policies and strategies have created an enabling environment for sustained economic progress. Additionally, regional integration and investment in education and infrastructure have further boosted Asia's development trajectory.

Developing Asia, particularly China and India, also boasts higher employment rates in the agricultural sector compared to other regions. Since 1960, Asia, the largest and most populous continent, has seen faster economic growth than any other region. However, this growth has not been uniform across the continent. While the western part of Asia grew at nearly the same rate as the global average, the eastern half outperformed other regions, although there were still notable variations in performance.

Recently, growth projections for emerging and developing Asian economies have been revised downward from 7.2% to 4.9%. In India, which represents a significant portion of the region's economy, growth is expected to remain strong at 6.3% for FY 23-24. The Maldives is also expected to see growth of 6.5% in 2023. However, several countries in the region are still recovering from the impacts of recent currency crises. For example, Bangladesh's GDP growth is projected to decline to 5.6% in FY 23-24. Following a period of severe economic recession, Sri Lanka is starting to recover, with economic growth anticipated to rise to 1.7% in 2024 after experiencing a decline of 3.8% in 2023. The Philippines has had the weakest performance, expanding at only around 2% per year (in per capita terms), a rate that is somewhat comparable to the global average for non-Asian countries. In contrast, China, Indonesia, Japan, Malaysia, and Thailand have experienced stronger growth, with rates ranging from 3% to 5%. Asian economies have experienced rapid growth since the 1960s, driven by favourable geographical and structural characteristics, demographic changes, and effective economic policies. This growth has positioned Asian countries as potential leaders in a new international world system, potentially surpassing Western economies (Shah, J. (2019).

In summary, Asia's rapid economic growth has been driven by a combination of factors, including government policies, external market demand, demographic shifts, and sectoral transitions. While some countries are facing challenges, overall, the region remains a key driver of global economic model, with critical growth drivers including governance, institutional quality, education, export activity, and human development.

Table 2.1: Ranking of Countries in Terms of GDP, Ease of Doing Business and Global Innovation Index

Country	GDP Ranking (US$M) (IMF 2023)	Ease of doing Business Score (2020)	Global Innovation Index Ranking(2022)
China	2nd	31st	11th
India	5th	63rd	40th
Indonesia	16th	73rd	75th
Thailand	27th	21st	43rd
Vietnam	34th	70th	48th
Malaysia	35th	12th	36th
Philippines	36th	95th	59th
Sri Lanka	79th (2022)	85th (2020)	90th

Source: www.acclime.com

3. Theoretical Framework

Economic growth is always impacted by a variety of socioeconomic and institutional factors that interact in complex ways. Gong, Li, and Wang (2012) argued that countries develop their own unique "style of capitalism" with their own economic

The economic policies, particularly fiscal and monetary policies, have been instrumental in the development of Southeast Asian countries. Prudent

fiscal and monetary policies, modernized tax systems, and effective policy regimes have contributed to the advancement of countries like Singapore, Thailand, and Vietnam. However, these countries face challenges due to administrative and politico-economic constraints (Karim, M., & Rahman, M. (2023). The success of the NIEs has led to a rethinking of development policies in many Asian countries (Huang, Y., Raza, S., Hanif, I., Alharthi, M., Abbas, Q., & Zain-Ul-Abidin, S. (2020).

While global economic crises can have significant short-term disruptions to growth, specific aspects of the business cycle, such as the severity of a recession, do not appear to have impact long-term growth significantly, as noted by Christopoulos and Leon-Ledesma (2012). This issue has been particularly relevant in Asia, where growth performance in China and other economies slowed between 2008 and 2014. An Asian Development Bank report (2016) suggested that this period could mark the start of a "new normal" for the development and growth in the region.

León-Ledesma and Thirlwall (2002) further explored the post-2008 global financial crisis period, questioning whether the observed slowdown in growth represents a temporary deviation from potential growth rates or a permanent reduction in those rates. Long run slowdown of the growth of Asian economies could have significant implications for both economic and social policies.

In a study of 41 middle-income developing countries, Dewan and Hussein (2001) examined the impact of macroeconomic policies on growth. They found that nations with robust macroeconomic fundamentals generally experience faster economic growth than those without. Similarly, Kamada and Nakajima (2013) highlighted that economic growth is shaped by various factors that improve of national income.

Sarel (1995) argued that examining early conditions is crucial for improving long-term growth performance. According to growth theory, economies tend to grow at a rate that reflects the effective utilization of productive resources, a concept referred to as the natural growth rate. This aligns with perspective of Yuliadi, Fitria, and Rachmawatie (2021), who defined economic growth as a long-term phenomenon. They emphasized that sustained increases in per capita output over extended periods (e.g., 10, 20, or 50 years) should be considered a true indicator of economic growth. The growth performance of Asian developing economies, particularly the new industrializing economies such as Taiwan, Singapore, South Korea, and Hong Kong, has been remarkable. These countries have achieved very fast economic growth and they have excelled in income distribution and quality of life indicators, such as secondary education enrolment and life expectancy (Lim, D. (1994).

Economic development, which aims to improve people's well-being, is intrinsically linked to economic growth, which arises from the efficient utilization of production factors to generate goods and services. According to Kerr and Kerr (2011), economic growth is defined as the yearly increase in per capita income, determined by dividing the gross domestic product (GDP) by the total population. This relationship highlights how sustained economic growth serves foundation for development goals, including poverty reduction, improved living standards, and greater access to essential services. Moreover, factors such as technological advancements, investment in human capital, and sound governance further contribute to the long-term sustainable of economic development. Several other factors also contribute to economic growth, including Foreign Direct Investment (FDI), exports, population dynamics, and the prices of raw materials (Gong, Li, & Wang, 2012). However, research by Yuliadi, Fitria, and Rachmawatie (2021) found that FDI did not have a significant impact on economic growth in ASEAN countries, though foreign debt had a notable positive effect.

Barro's (1999) analysis of 100 countries from 1960 to 1995 revealed an inverse relationship between initial per capita GDP and the growth rate of per capita GDP. His study also found that investment rates are a key driver of economic growth and that there is a very strong correlation between the growth and trade (Galor & Mountford, 2003).

In a later study, Barro (2003) used cross-country panel regressions to demonstrate the concept of conditional convergence, which suggests that growth rates tend to rise when the initial level of real

per capita GDP is low, provided there is sufficient human capital. Additionally, factors such as the rule of law, investment ratios, favourable trade terms, and international openness positively influence growth, while high fertility rates, high government consumption, and inflation rates tend to negatively impact growth.

The role of institutions in shaping economic growth has gained increasing attention among economists. Acemoglu, Johnson, and Robinson (2021) highlighted how institutions affect economic development. Lanzafame (2016) identified that several factors related to institutional quality, including the technology gap with the United States, trade openness, levels of tertiary education, and the growth rate of the working-age population, have a significant influence on potential economic growth. Similarly, Petrakos and Arvanitidis (2008) emphasized the importance of political and institutional factors in determining the patterns of economic growth. In Asia, the increasing levels of education have been particularly instrumental in driving economic development. However, despite significant progress in many emerging Asian economies, there is still considerable distance to cover before these countries reach the income and development levels of more established economies infrastructure development, including transportation, telecommunication, and energy, is a critical factor in the economic growth of Asian countries. The development of physical infrastructure has significantly contributed to the economic advancement of South and Southeast Asian countries. Emphasizing infrastructure development is essential for sustainable long-term economic growth(Luqman, M., Younis, W., & Kiani, S. (2022).

Barro's (1996) analysis of 100 countries between 1960 and 1990 identified several factors that positively influence economic growth. These include higher levels of education, improved life expectancy, lower fertility rates, reduced government consumption, better rule of law, lower inflation, and favorable terms of trade. On the other hand, the study also found that economic growth is negatively correlated with the initial level of real per capita GDP. Furthermore, while political freedom had only a minor impact on growth, the research showed that moderate levels of democracy promote growth, but excessive democracy could potentially hinder it. A key observation was that the standard of living had a strong positive effect on a country's likelihood of experiencing democracy.

In a similar vein, Mihaela et al. (2017) warned that a prolonged slowdown in economic growth could lead to significant social and political challenges in the V4 countries (Czech Republic, Slovakia, Hungary, Poland) and Romania. The study showed that foreign direct investment (FDI) played a role in promoting growth in all the countries examined, except Slovakia. Furthermore, increased spending on education in the Czech Republic and on research and development (R&D) in Romania, Hungary, and the Czech Republic were found to have positive impacts on growth.

Amin (2020) posited that economic growth is driven by two main factors: human capital and physical capital. Dewan and Hussein (2001) also emphasized the importance of investing in both human and physical capital for fostering economic growth. They argued that insufficient investment in infrastructure and human capital could stifle growth. This notion is further supported by Absar et al. (2021), who noted that human capital remains crucial for sustaining growth, even in challenging times such as the COVID-19 pandemic. Additionally, physical capital plays a critical role in narrowing disparities between countries by improving productivity and output. Tridico (2007) also highlighted the importance of both human capital and export capacity as key drivers of economic growth.

In a study of 41 middle-income developing countries, Dewan and Hussein (2001) explored the impact of macroeconomic policies on growth. The findings indicated that countries with robust macroeconomic fundamentals tended to experience faster growth. Essential growth drivers included a growing labor force, investment in both human and physical capital, low inflation, and open trade policies. In the Asia Pacific region, natural resource rents have been shown to positively impact human development, particularly when coupled with globalization and strong governance.

For small states, Armstrong and Read (2003) identified several key factors influencing economic growth, such as openness to trade, human capital

accumulation, and geographical location. The size and "islandness" of these countries had a relatively minor effect on their economic performance. Natural resources play a complex role in the economic development of Asia, with both positive and negative impacts observed across different regions and contexts. While natural resources can contribute significantly to economic growth, their effects are often mediated by factors such as governance, technological innovation, and globalization.

Petrakos and Arvanitidis (2008) examined factors that either support or hinder economic growth and found that both conventional and political/institutional factors play crucial roles. Their study highlighted the importance of human capital, innovation, openness, FDI, infrastructure, and political and institutional frameworks as key drivers of economic dynamism. (Sinha, A., & Sengupta, T. (2019)

However, the influence of these factors differs between advanced and less-developed countries. In more developed economies, factors such as innovation, knowledge, technology, and human capital are particularly important, whereas in less-developed countries, the socio-political environment, institutional quality, and FDI tend to be more critical. The study also emphasized that a high level of openness, the capacity for flexible adjustments, and high-quality infrastructure are essential for fostering economic dynamism, regardless of a country's level of development. Natural resources, foreign direct investment (FDI), and fossil fuel consumption play significant roles in the economic growth of developing Asian countries. The rent from forest resources, mineral resources, and oil extraction significantly contributes to economic growth. Additionally, FDI is a crucial driver of industrialization and per capita income improvement in these nations. Huang, Y., Raza, S., Hanif, I., Alharthi, M., Abbas, Q., & Zain-Ul-Abidin, S. (2020. However, there is a need for policies to ensure the efficient use of natural resources and to attract more FDI(Huang, Y., Raza, S., Hanif, I., Alharthi, M., Abbas, Q., & Zain-Ul-Abidin, S. (2020)

Finally, Iqbal and Zahid (1998) analysed the economic growth of Pakistan, identifying several macroeconomic variables that affect growth. Their research found that primary education is a critical factor for achieving rapid economic growth. Additionally, increasing the stock of physical capital and promoting economic openness were beneficial for growth. In contrast, they found that a large budget deficit and rising external debt negatively impacted growth, suggesting that relying on domestic resources is a more effective approach to financing growth.

In conclusion, the remarkable economic performance of emerging Asian economies, particularly the NIEs, can be attributed to a combination of factors including sound economic policies, strategic use of natural resources, infrastructure development, and the attraction of FDI. These elements have not only fuelled growth but have also enabled these countries to improve their quality-of-life indicators, making them potential leaders in the global economy. However, challenges remain, and continuous policy innovation and adaptation will be crucial to sustaining this growth trajectory in the coming decades.: Developing policies to ensure the efficient use of natural resource rents, such as investing in advanced technologies and improving the business environment, is crucial for sustainable growth (Haseeb, M., Kot, S., Hussain, H., & Kamarudin, F. (2021). Enhancing governance and institutional quality can help mitigate the negative impacts of resource dependence and promote economic development (Havránek, T., Horvath, R., & Zeynalov, A. (2016))

Table 3.1: GDP Growth Rate and its Projections

	September 2022	April 2023	September 2023	April (P) 2024	September (P) 2024
China	3.5	3.6	4.3	4.2	4.2
India	7.2	6.4	6.3	6.7	6.7

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Indonesia	5.3	4.8	5	5	5
Malaysia	8.7	4.7	4.5	4.9	4.9
Philippines	7.6	6	5.7	6.2	6.2
Thailand	2.6	3.3	3.5	3.7	3.7
Vietnam	8	6.5	5.8	6.8	6
Sri Lanka	-7.8	-3	-3	1.3	1.3
Average	**4.3**	**4.1625**	**4.025**	**4.85**	**4.75**

Source: www.acclime.com

4. Research Methodology

The research method applied in this study was a variable component study. The research period was from 2010-2022. Emerging Asia" refers to China, India, Indonesia, Malaysia, the Philippines, Thailand, Vietnam, and Sri Lanka.

4.1 The research questions framed based on the review of the literature are:

RQ1- What are various determinants of the growth among the selected Asian countries

RQ2- How can Asia's exceptionally high growth rates be sustained?

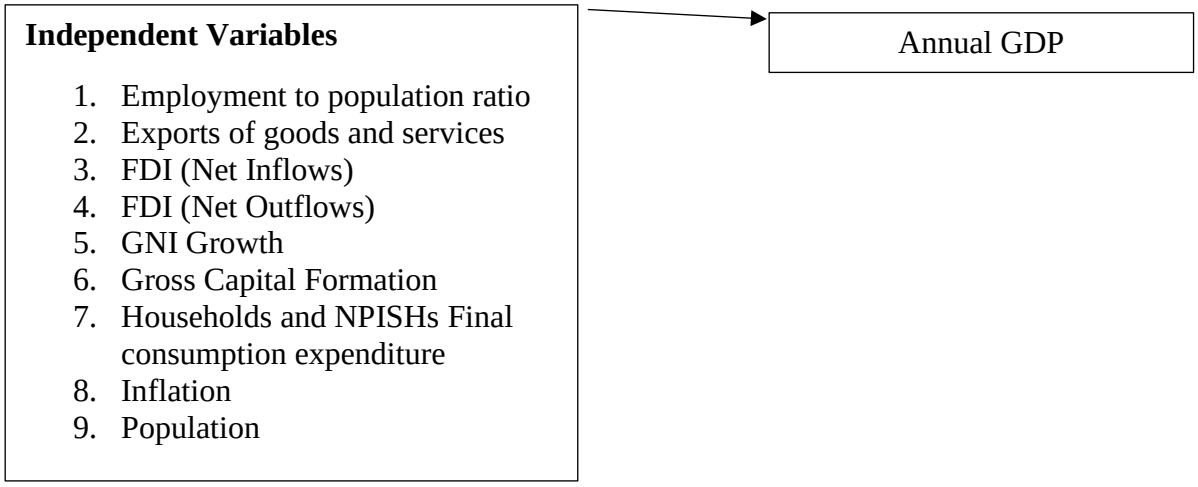
RQ3- What factor contributors would help to sustain such growth?

4.2 Objectives of the study

1. To analyse the variables determining the growth of Selected Emerging Asian Countries
2. To study the impact of selected variables on the growth of selected Emerging Asian Countries.

4.3 Variables of the Study

Research on the determinants of economic growth in emerging Asian countries examined several independent variables, including employment-to-population ratio (POP), exports (X), foreign direct investment (FDI), Gross National Income (GNI) growth, Gross Capital Formation, Human Development Index (HDI), household consumption, and inflation. The dependent variable in this study was the annual GDP.)



4.4 The main idea of this paper is that understanding economic growth is a complex issue that requires the positive interaction of various socio-economic and institutional factors. From this perspective, the hypotheses proposed in this paper are as follows:

1. There is no significant impact of Employment to population ratio on Annual GDP Growth
2. There is no significant impact of Exports of goods and services on Annual GDP Growth

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3. There is no significant impact of FDI (Net Inflows) on Annual GDP Growth
4. There is no significant impact of FDI (Net Outflows) on Annual GDP Growth
5. There is no significant impact of GNI Growth on Annual GDP Growth
6. There is no significant impact of Gross Capital Formation on Annual GDP Growth
7. There is no significant impact of Households and NPISHs Final consumption expenditure on Annual GDP Growth
8. There is no significant impact of Inflation on Annual GDP Growth
9. There is no significant impact of Population on Annual GDP Growth

5. Results and Discussion

5.1 Descriptive Statistics

	Employment to population ratio, 15+, total (%) (national estimate)	Exports of goods and services (% of GDP)	Foreign direct investment, net inflows (% of GDP)	Foreign direct investment, net outflows (% of GDP)	GDP growth (annual %)	GNI growth (annual %)	Gross capital formation (annual % growth)	Households and NPISHs Final consumption expenditure (annual % growth)	Inflation, consumer prices (annual %)	Population growth (annual %)	Trade (% of GDP)
Mean	63.04	41.34	2.37	1.26	4.94	4.97	6.37	5.23	4.30	0.97	82.01
Median	64.68	26.62	2.03	0.90	5.88	5.91	6.10	5.84	3.23	0.99	57.66
Maximum	76.08	93.29	5.43	6.08	10.64	10.34	73.05	15.05	49.72	1.80	186.47
Minimum	43.92	15.43	-0.99	-1.24	-9.52	-11.45	-34.22	-9.00	-1.14	-0.01	32.97
Std. Dev.	8.39	24.22	1.31	1.35	3.59	3.74	11.81	4.01	5.33	0.46	44.81
Skewness	-0.45	0.59	0.51	1.63	-2.00	-2.18	1.40	-1.15	6.25	0.02	0.57
Kurtosis	2.28	1.66	2.67	5.57	7.50	8.66	14.33	5.37	52.47	2.12	1.72
Jarque-Bera	4.98	13.06	4.97	73.17	156.97	182.76	511.17	46.41	11281.07	3.32	11.97
Probability	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00
Sum	5610.91	4051.13	241.61	128.03	513.95	427.33	573.23	533.07	447.12	100.44	8037.13
Sum Sq. Dev.	6194.61	56900.85	174.47	185.23	1325.91	1187.92	12420.78	1623.72	2923.30	22.16	194789.70
Observations	89	98	102	102	104	86	90	102	104	104	98

The table 5.1 indicates the descriptive statistics of all the dependent and independent variables used in the study for a period of 13 years (2010-2022) for 8 countries (China, India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam). the mean values of all independent variables range from 0.97 to 82.01, while the median values range from 0.90 to 64.68. For the dependent variable, GDP growth, the mean value is 4.94 and the median is 5.88. The standard deviation for most variables, except for the employment-to-population ratio, exports of goods and services, and trade as a percentage of GDP, is relatively high, indicating considerable variation in these variables from the mean.

Skewness measures the asymmetry of the distribution, and in this case, the employment-to-population ratio, GDP growth, GNI growth, and households and NPISHs final consumption expenditure show negative skewness, as their values are less than 0. Kurtosis indicates the "peakedness" of the distribution, and all variables exhibit a leptokurtic distribution, except for the debt-to-total-assets ratio, which follows a platykurtic distribution.

4.5 Approach

Firstly, a cross-country analysis of a group of emerging and transition economies during the years 2010-2022 will be carried out using the regression equation as:

$$GDP = \beta 0 + \beta 1 ETP_{i,t} + \beta 2 EXPORTS_{i,t} + \beta 3 FDI(INFLOW)_{i,t} + \beta 4 FDI(OUTFLOW)_{i,t} + \beta 5 GNI_{i,t} + \beta 6 GCF_{i,t} + \beta 7 CON\ EXP_{i,t} + \beta 8 INF_{i,t} + \beta 9 POP_{i,t} + \epsilon_{i,t} \ldots\ldots equation\ 1$$

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5.2 Correlation Matrix

	Employ-ment to populatio n ratio, 15+, total (%) (national estimate)	Exports of goods and services (% of GDP)	Foreign direct investment, net inflows (% of GDP)	Foreign direct investment, net outflows (% of GDP)	GDP growth (annual %)	GNI growth (annual %)	Gross capital formation (annual % growth)	Household s and NPISHs Final consumpti on expenditu re (annual % growth)	Inflation, consumer prices (annual %)	Population growth (annual %)	Trade (% of GDP)
Employment to population ratio, 15+, total (%) (national estimate)	1.000	0.551	0.654	0.031	0.309	0.339	0.006	0.331	-0.056	-0.123	0.529
Exports of goods and services (% of GDP)	0.551	1.000	0.761	0.436	0.067	0.073	0.123	0.099	-0.114	0.278	0.995
Foreign direct investment, net inflows (% of GDP)	0.654	0.761	1.000	0.239	0.257	0.244	0.154	0.270	0.080	0.093	0.766
Foreign direct investment, net outflows (% of GDP)	0.031	0.436	0.239	1.000	0.115	0.110	0.280	0.219	-0.232	0.498	0.393
GDP growth (annual %)	0.309	0.067	0.257	0.115	1.000	0.978	0.610	0.883	0.111	-0.012	0.060
GNI growth (annual %)	0.339	0.073	0.244	0.110	0.978	1.000	0.550	0.866	0.113	-0.051	0.060
Gross capital formation (annual % growth)	0.006	0.123	0.154	0.280	0.610	0.550	1.000	0.403	-0.035	0.166	0.115
Households and NPISHs Final consumption expenditure (annual % growth)	0.331	0.099	0.270	0.219	0.883	0.866	0.403	1.000	-0.044	-0.038	0.079
Inflation, consumer prices (annual %)	-0.056	-0.114	0.080	-0.232	0.111	0.113	-0.035	-0.044	1.000	-0.064	-0.086

The correlation matrix Table 5.2 between all dependent and independent variables clearly shows a very high degree of positive correlation between exports of goods and services, FDI: net inflows with Trade. Hence, to avoid the problem of multicollinearity variable Trade will be dropped while performing the regression analysis.

5.3 Pooled OLS Regression

The results from the Pooled OLS regression, as shown in Table 5.3, indicate that GNI growth, gross capital formation, and households and NPISHs (Non-Profit Institutions Serving Households) final consumption expenditure have a significant positive impact on GDP growth. On the other hand, the employment-to-population ratio, exports of goods and services, and foreign direct investment (net outflows) show a non-significant negative impact on GDP growth. Additionally, foreign direct investment (net inflows), inflation, and population growth have a non-significant positive effect on GDP growth.

The R-squared value represents the extent to which the predictor variables collectively explain the variation in the response variable, while the adjusted R-squared takes into account the standard error to provide a more accurate measure. The results reveal a high R-squared value of 0.97714 and an adjusted R-squared of 0.973653, suggesting that 97% of the variation in GDP is explained by the predictor variables. The F-statistic p-value of 0.000 confirms the statistical significance of the predictors' simultaneous influence on the response variable.

Dependent Variable: GDP growth (annual %)				
Method: Panel Least Squares				
Period: 2010-2022				
Periods included: 13				
Cross-sections included: 7				
Total panel (unbalanced) observations: 69				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Employment to population ratio, 15+, total (%) (national estimate)	0.066	0.029	2.281	0.026
Exports of goods and services (% of GDP)	-0.057	0.093	-0.612	0.543
Foreign direct investment, net inflows (% of GDP)	-0.107	0.212	-0.506	0.614
Foreign direct investment, net outflows (% of GDP)	-0.233	0.195	-1.192	0.238
GNI growth (annual %)	0.097	0.014	7.109	0.000
Gross capital formation (annual % growth)	0.670	0.047	14.263	0.000
Households and NPISHs Final consumption expenditure (annual % growth)	0.162	0.054	3.013	0.004
Inflation, consumer prices (annual %)	0.515	0.477	1.081	0.284
Population growth (annual %)	0.026	0.049	0.525	0.601
Constant	-3.785	1.657	-2.284	0.026
R-squared	0.97714	**Mean dependent var**		5.138705
Adjusted R-squared	0.973653	**S.D. dependent var**		3.481473
S.E. of regression	0.56511	**Akaike info criterion**		1.829692
Sum squared resid	18.84158	**Schwarz criterion**		2.153476
Log likelihood	-53.12437	**Hannan-Quinn criter.**		1.958148
F-statistic	280.2101	**Durbin-Watson stat**		1.466552
Prob(F-statistic)	0.0000			

5.4 Fixed Effect Regression

The results from the Fixed Effect Regression, presented in Table 5.4, indicate that GNI growth, gross capital formation, and households and NPISHs (Non-Profit Institutions Serving Households) final consumption expenditure have a significant positive effect on GDP growth. In contrast, the employment-to-population ratio, exports of goods and services, and foreign direct investment (net outflows) show a non-significant negative impact on GDP growth. Additionally, foreign direct investment (net inflows), inflation, and population growth have a non-significant positive effect on GDP growth.

R-squared measures the overall ability of the predictor variables to explain the variation in the response variable, while adjusted R-squared accounts for the standard error and provides a more accurate assessment. The results show a high R-squared value of 0.97714 and an adjusted R-squared value of 0.973653, suggesting that 97% of the variation in GDP is explained by the predictor variables. The F-statistic p-value of 0.000 confirms the statistical significance of the predictors' simultaneous effect on the response variable

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Dependent Variable: GDP growth (annual %)				
Method: Panel EGLS (Period random effects)				
Sample: 2010-2022				
Periods included: 13				
Cross-sections included: 7				
Total panel (unbalanced) observations: 69				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Employment to population ratio, 15+, total (%) (national estimate)	-0.001	0.012	-0.093	0.926
Exports of goods and services (% of GDP)	-0.005	0.005	-1.020	0.312
Foreign direct investment, net inflows (% of GDP)	0.105	0.091	1.150	0.255
Foreign direct investment, net outflows (% of GDP)	-0.158	0.065	-2.443	0.018
GNI growth (annual %)	0.684	0.046	14.892	0.000
Gross capital formation (annual % growth)	0.040	0.007	5.488	0.000
Households and NPISHs Final consumption expenditure (annual % growth)	0.203	0.038	5.305	0.000
Inflation, consumer prices (annual %)	0.032	0.025	1.275	0.207
Population growth (annual %)	0.391	0.185	2.113	0.039
Constant	-0.019	0.703	-0.027	0.979
	Effects Specification			
			S.D.	**Rho**
Period random			0	0
Idiosyncratic random			0.53259	1
	Weighted Statistics			
R-squared	0.97714	**Mean dependent var**		5.138705
Adjusted R-squared	0.973653	**S.D. dependent var**		3.481473
S.E. of regression	0.56511	**Sum squared resid**		18.84158
F-statistic	280.2101	**Durbin-Watson stat**		1.466552
Prob(F-statistic)	0			
	Unweighted Statistics			
R-squared	0.97714	**Mean dependent var**		5.138705
Sum squared resid	18.84158	**Durbin-Watson stat**		1.466552

5.5 Hausman Test Results

Correlated Random Effects - Hausman Test			
Test period random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Period random	16.63991	9	0.0547

The result of the Hausman test shows a p value of 0.0547 which indicates that null hypothesis will be rejected and alternate will be accepted showing that fixed effect model is appropriate.

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6. Overall Analysis

6.1 Summary of Hypothesis

Hypothesis	Null Hypothesis Accepted or Not Accepted*	Result
There is no significant impact of Employment to population ratio on Annual GDP Growth	Accepted	There is no significant impact of Employment to population ratio on Annual GDP Growth
There is no significant impact of Exports of goods and services on Annual GDP Growth	Accepted	There is no significant impact of Exports of goods and services on Annual GDP Growth
There is no significant impact of FDI (Net Inflows) on Annual GDP Growth	Accepted	There is no significant impact of FDI (Net Inflows) on Annual GDP Growth
There is no significant impact of FDI (Net Outflows) on Annual GDP Growth	Accepted	There is no significant impact of FDI (Net Outflows) on Annual GDP Growth
There is no significant impact of GNI Growth on Annual GDP Growth	Not Accepted	There is a *significant positive* impact of GNI Growth on Annual GDP Growth
There is no significant impact of Gross Capital Formation on Annual GDP Growth	Not Accepted	There is a *significant positive* impact of Gross Capital Formation on Annual GDP Growth
There is no significant impact of Households and NPISHs Final consumption expenditure on Annual GDP Growth	Accepted	There is no significant impact of Households and NPISHs Final consumption expenditure on Annual GDP Growth
There is no significant impact of Inflation on Annual GDP Growth	Accepted	There is no significant impact of Inflation on Annual GDP Growth
There is no significant impact of Population on Annual GDP Growth	Accepted	There is no significant impact of Population on Annual GDP Growth

***Not Accepted if the p-value is less than 0.05**

The overall results of the regression analysis (OLS and FEM) shows that only GNI Growth and Gross Capital Formation is having a *significant positive impact* on GDP in 8 countries (China, India, Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam) while other factors (Employment to population ratio, Exports of goods and services, FDI (Net Inflows) , FDI (Net Outflows), Households and NPISHs Final consumption expenditure, Inflation and Population does not have any significant impact on GDP growth in the selected countries for a period of 13 years.

The above results are similar of the results in Slovak Republic (Mihaela, Kornélia, Gabriela, Kamil, & P., 2017) 41 middle-income developing countries of (Dewan & Hussein, 2001), (Barro, 2003).

7. Conclusion

In conclusion, Asia's economic growth has been propelled by a complex interplay of government policies, external demand, demographic changes, and sectoral transitions. Countries like China, India, and Southeast Asian economies have experienced remarkable growth, though not uniformly across the region. While some nations face challenges, such as slowdowns or post-crisis recovery, the broader trend reflects the region's continued importance as a global economic engine. Despite the evolving challenges, Asia remains poised to shape the future of the global economy, with its dynamic and diverse growth trajectories offering valuable insights for other emerging markets.

Overall, the chapter concludes that strong total factor productivity (TFP) growth, quick accumulation of investment elements' human and physical capital, and the calibre of human resources (HR) are all important contributors to economic success in Asia. Significant improvements in literacy are a prevalent feature of Asian nations experiencing high or moderate rates of economic growth and favourable labour market results. A high

volume of exports, abundant natural resources, longer life expectancy, and greater investment rates all help to boost per capita GDP development in developing countries.

The conversation about the nature of employment in the future is frequently framed in terms of how automation is impacting Asia's luxury manufacturing sectors. Asian nations must get ready for the effects of aging populations and new technology on the labour market. Employing nations should focus on enhancing their health and education systems as a means of investing in human capital. To strengthen economic resilience, efforts should be made to support solutions led by the private sector, raise debt and investment transparency, enhance small and medium-sized businesses' access to financing and markets, and accelerate digital transformation.

Developing Asian countries face a multitude of challenges as they strive for economic growth and development. These challenges are multifaceted, involving economic, political, and social dimensions. Effective governance is crucial for implementing necessary economic reforms. However, political instability and a lack of confidence in democratic systems can hinder progress.(Abonyi, G. (2020).): Transitioning from GDP-focused growth to sustainable development is challenging, with scepticism about government policies and the need for effective governance and regional cooperation (Choi, Y. (2019).

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