

# CHAPTER 1

## INTRODUCTION

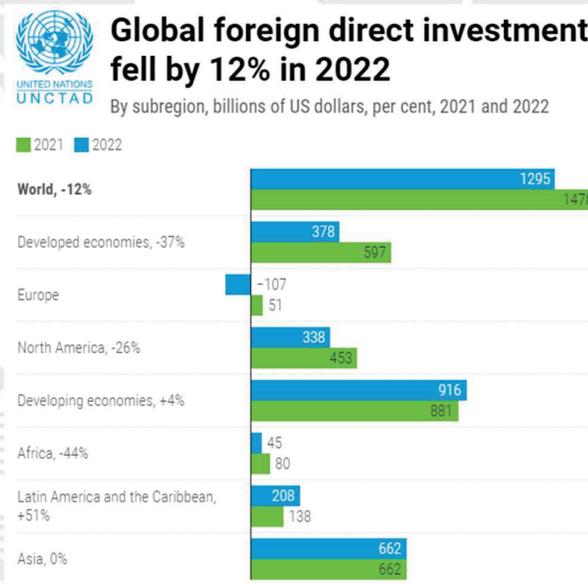
### 1.1 Research Background

Environmental degradation, driven by the rapid expansion of human activities like global trade, business operations, manufacturing, and investments, is a pressing global issue. As nations seek economic development, the associated environmental impacts, including climate disruption, global warming, deforestation, and air pollution, become significant concerns. The greenhouse effect a natural phenomenon worsened by human activities, leads to a rise of greenhouse gases like carbon dioxide (CO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) in the atmosphere, intensifying global warming and climate change (National Geographic, n.d.; NOAA, 2023).

Foreign direct investment (FDI) is an essential component in the world economy framework, driving growth and development in both developed and emerging countries, facilitating capital formation, technology transfer, and enhancing and improving productivity (Wu et al., 2020), this is in line with Christoforidis & Katrakilidis' study (2022) which says that FDI drives economic growth by transferring and spreading technology, boosting productivity, and introducing innovative production methods and management practices, potentially fostering a competitive economic landscape (Christoforidis & Katrakilidis, 2022). Middle-income emerging nations with a significant level of human capital are the primary beneficiaries of local knowledge spillovers generated by FDI mainly due to the creation of skilled employment opportunities (Rao et al., 2023). From the

standpoint of modern endogenous growth theory, countries that implement liberal and transparent policies regarding FDI inflows can positively impact and boost their sustained growth of the economy (Tsoy & Heshmati, 2023). Sakali (2015) supports this argument, stating that in Central and Eastern European (CEE) countries, The flow of foreign direct investment has been a major driver of economic growth (Sakali, 2015).

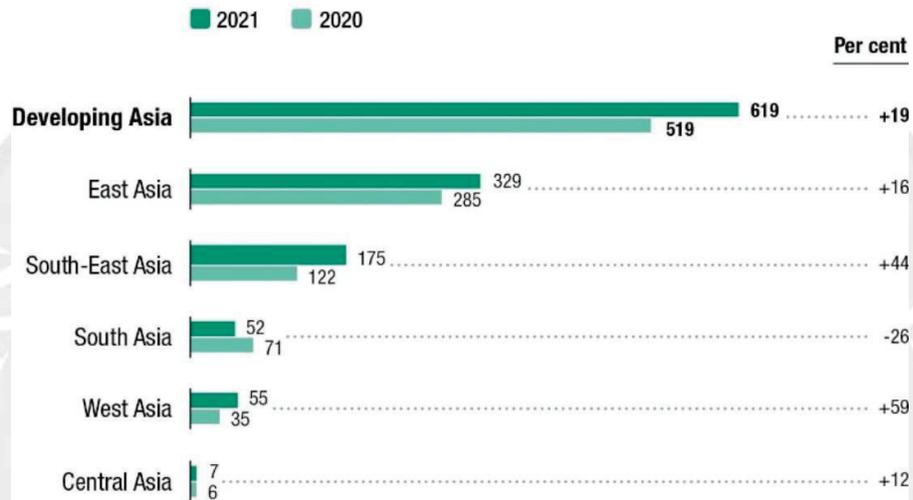
In 2022, due to crises like the conflict in Ukraine, rising food and energy prices, and growing public debt, global FDI fell by 12% to \$1.3 trillion, highlighting FDI's vulnerability to global shocks. FDI into developed economies fell by 37% to \$378 billion, while it increased by 4% in emerging countries, with major emerging economies receiving most investments (UNCTAD, 2023a).



**Figure 1.1** Global view on foreign direct investment (UNCTAD, 2023a)

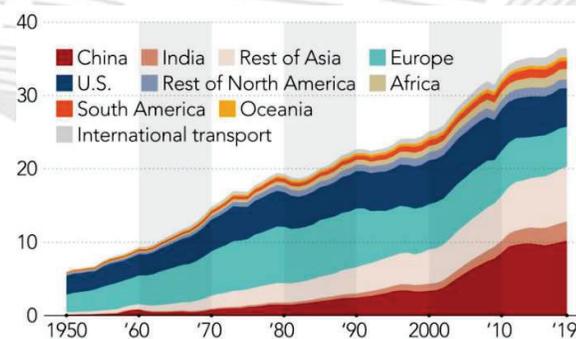
Meanwhile, in Asia the level of FDI inflows in 2021 keeps increasing third year in a row despite the pandemic COVID-19 waves, with emerging countries in Asia accounting for 40% of all global FDI inflows, where developed countries like

Singapore increased by 31% to \$99 billion, Hong Kong expanded 4% to \$141 billion, and China climbed by 21% to \$181 billion following a 6% growth in 2020 (UNCTAD, 2022) and kept maintaining its FDI inflows at 2022 (UNCTAD, 2023b).



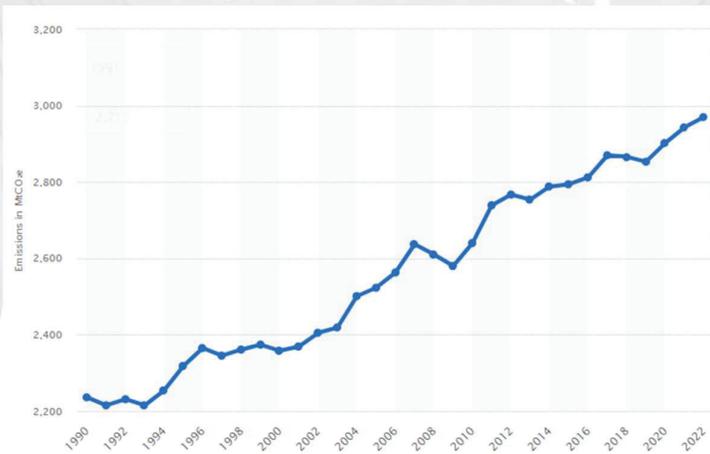
**Figure 1.2** The Flows of FDI from 2020 to 2021 to developing nations in Asia and its subregions (UNCTAD, 2022).

Even though there are significant FDI inflows in both emerging and developed Asian countries, the environmental degradation caused by CO<sub>2</sub> is increasing. In 1950, the United States and Europe accounted for almost 85% of global carbon emissions. However, during the latter part of the 20th century, Asia, especially China, began to take the lead (Faulder, 2021).



**Figure 1.3** CO<sub>2</sub> Emission in the world. Source: Faulder (2021).

Meanwhile for N<sub>2</sub>O in 2022, global N<sub>2</sub>O reach record-breaking of 2.97 billion MTCO<sub>2</sub>e, it's significantly higher by more than 30% since 1990 and likely more warming than CO<sub>2</sub>. Where China began to take the lead, with the United States and India following closely after (Tiseo, 2023).



**Figure 1.4** N<sub>2</sub>O Emission Worldwide (Tiseo, 2023).

The influx of FDI also presents challenges, particularly in terms of its environmental impact. The Environmental Kuznets Curve (EKC) suggests that rising in the economy raises emissions and degradation in the environment, but at certain points specifically at high-income levels, it began to take the lead in bettering the environment (Stern, 2017). On the other side, there are Pollution Haven Hypothesis, hypothesizes that industries that produce pollution will shift to areas with laxer environmental laws (Levinson, 2018), The distinction comparing developed and emerging countries emphasized within the research, is found that developed countries, an adverse long term effect on trade in relation to CO<sub>2</sub> emission. And vice versa, in emerging countries it is shown that CO<sub>2</sub> has a positive long-term relationship to FDI. (Essandoh et al., 2020). Where FDI inflows also

increase pollution in addition to benefiting the economy of the host nation (M. A. Khan & Ozturk, 2020), supported by French (1998) that says it is to maximize global investment returns by identifying regions rich in natural resources but characterized by ineffective or weak governance (French, 1998).

The link between FDI and the degree of degradation of the environment has been the subject of much investigation. Therefore, this study is to look into the nexus between the inflows of the FDI to environmental degradation in 100 emerging countries and 31 developed countries from 2001 to 2021 by examining various variables such as gross domestic product (GDP), openness, industry, manufacturing, political stability, urbanization, and population growth rate. The degree of environmental degradation in the country will be assessed using CO<sub>2</sub> and N<sub>2</sub>O.

## **1.2 Research Objectives**

To have a comprehensive analysis of the interplay between inflows of the FDI inflows and environmental degradation in 100 emerging countries and 31 developed countries, spanning from 2001 to 2021. To unravel the multifaceted relationship between FDI and how its affect to the economic and environmental landscape of the country. Through a meticulous examination of various variables, such as Gross Domestic Product (GDP), openness, industrial and manufacturing sectors, political stability, urbanization, and population growth rate, to clarify the intricate mechanisms by which FDI influences environmental degradation, particularly in terms of CO<sub>2</sub> and N<sub>2</sub>O. The investigation will extend to evaluating the applicability of theoretical frameworks such as EKC and pollution haven

hypotheses. Ultimately, the study endeavors to provide nuanced policy recommendations that harmonize the pursuit of economic development with the imperative of environmental sustainability amidst the growing influx of FDI in the region.

### **1.3 Research Questions**

1. Does Foreign direct investment have an impact on CO<sub>2</sub>?
2. Does Foreign direct investment have an impact on N<sub>2</sub>O?
3. Does Gross domestic product have an impact on CO<sub>2</sub>?
4. Does Gross domestic product have an impact on N<sub>2</sub>O?
5. Does Trade have an impact on CO<sub>2</sub>?
6. Does Trade have an impact on N<sub>2</sub>O?
7. Does Manufacturing have an impact on CO<sub>2</sub>?
8. Does Manufacturing have an impact on N<sub>2</sub>O?
9. Does Political stability have an impact on CO<sub>2</sub>?
10. Does Political stability have an impact on N<sub>2</sub>O?
11. Does Urbanization have an impact on CO<sub>2</sub>?
12. Does Urbanization have an impact on N<sub>2</sub>O?
13. Does Population growth have an impact on CO<sub>2</sub>?
14. Does Population growth have an impact on N<sub>2</sub>O?

### **1.4 Research Beneficiary**

The beneficiaries of this research can be delineated as follows:

1. Policymakers,

This research provides crucial insights for policymakers who are tasked with the dual responsibility of attracting FDI to stimulate economic growth while ensuring environmental sustainability. Understanding the complex nexus of FDI inflows into environmental degradation allows policymakers to develop better regulations and policies that balance economic growth with environmental sustainability. These insights can also help create incentives for green investments and enforce stricter environmental standards for foreign.

#### 2. Environmentalists

Environmental advocacy groups and activists can use the study's findings to advocate for stronger environmental regulations and to increase awareness of the possible adverse environmental effects of FDI. The research can serve as a foundation for campaigns that advocate for sustainable investment practices and the adoption of cleaner technologies by multinational corporations operating in the country.

#### 3. Economists

Economists can gain valuable insights from this research into the intricate the nexus between development economy of the country, FDI, and its environmental sustainability. The findings can enhance the discourse on sustainable development and provide empirical evidence to support theoretical models that connect economic growth with environmental impacts.

#### 4. Investors

Investors, particularly those with a focus on sustainable and responsible investment, can utilize the knowledge gained from this study to make well-informed choices regarding the location and distribution of their capital. The study can help identify opportunities for green investments in Asia that not only yield financial returns but also contribute positively to environmental conservation.

5. Academics and Researchers:

This research adds to the existing of knowledge in the fields of economics, international business, and long-term growth. It provides a valuable reference for academics and researchers who are exploring similar themes or who are interested in conducting further studies on the environmental impacts of FDI in different contexts.

## **1.5 Thesis Structure**

To provide a comprehensive explanation, this study is organized into five chapters. The first chapter introduces the research, followed by a literature review in the second chapter. The third chapter details the research methodology, while the fourth chapter discusses and presents the research findings. The fifth and final chapter offers recommendations and conclusions. This structured approach ensures clarity and coherence throughout the study.

### **CHAPTER 1 – INTRODUCTION**

The first chapter encompasses the research background, research questions, research objectives, research beneficiaries, and thesis structure.

### **CHAPTER 2 – LITERATUR REVIEW**

The second chapter is dedicated to the review of the literature includes the theoretical background, a review of the literature, and prior research relevant to the research issue.

### CHAPTER 3 – RESEARCH METHODOLOGY

The third chapter details the research methodology, covering aspects such as data collection, analysis, and hypothesis testing.

### CHAPTER 4 – RESULT AND DISCUSSION

Chapter four details the results of the data processing based on the methods outlined in the experimental model. The analyzed results are then used to address the research questions and draw conclusions.

### CHAPTER 5 – CONCLUSION

The final chapter emphasizes the research's conclusions and suggestions. The conclusions are drawn from the tested hypotheses and the discussion results presented in the chapter fourth.