sustainability

MDPI

Article

People Category of UN SDGs 2030 and Sustainable Economic Growth in Asia and the Pacific Region

Muhammad Sajjad Ashraf [1], Farhan Ahmed [2,*], Shazia Kousar [3], Paulo Jorge Silveira Ferreira [4] and Dora Maria Fortes de Almeida [5]

[1] Department of Management Sciences, DHA Suffa University, Karachi 75500, Pakistan; muhammad.sajjad@dsu.edu.pk
[2] Department of Economics & Management Sciences, NED University of Engineering and Technology, Karachi 75270, Pakistan
[3] Department of Economics, Lahore College for Women University, Lahore 54000, Pakistan; shazia.kousar@lcwu.edu.pk
[4] Polytechnic Institute of Portalegre, Portalegre Polytechnic University, 7350-092 Portalegre, Portugal; pferreira@ipportalegre.pt
[5] VALORIZA—Research Center for Endogenous Resource Valorization, 7300-555 Portalegre, Portugal; dora.almeida@ipportalegre.pt
* Correspondence: fahmed.ned@gmail.com

Abstract: This study investigated the impact of the people category of the Sustainable Development Goals (SDGs) on sustainable and conventional economic growth in Asia and the Pacific region, using a sample of 52 selected countries between 2000 and 2023. Employing two distinct models, model A1 for conventional economic growth and model A2 for sustainable economic growth, we explained the relationships between five SDG indicators: employed poverty rate, stunted children, expenditure on health, expenditure of education, and % of women MNAs on economic growth. This study employed a fixed-effect model and random-effect model to investigate the impact of the people category SDGs on traditional and sustainable economic growth. The comparative analysis of each SDG in both models revealed valuable insights. SDG 1, "employed poverty rate", has a positive impact on economic growth in both models, while SDG 2, "percentage of stunted child", did not significantly influence economic growth in either model. Moreover, SDG 3 and SDG 4, relating to "government's health expenditure per capita" and "government's Education education expenditure per capita", respectively, exhibited a positive impact on traditional and sustainable economic growth. Conversely, SDG 5, "percentage of women members of national parliament", displayed an insignificant impact on traditional and sustainable economic growth models. In conclusion, this study suggests that policymakers should prioritize targeted interventions to alleviate employed poverty, enhance healthcare, and boost education spending. Moreover, promoting women's representation in national parliaments should be approached with context-specific strategies to maximize its impact on economic growth.

Keywords: people; employed poverty; stunted children; government expenditure on health and education; women members of parliament

Citation: Ashraf, M.S.; Ahmed, F.; Kousar, S.; Ferreira, P.J.S.; de Almeida, D.M.F. People Category of UN SDGs 2030 and Sustainable Economic Growth in Asia and the Pacific Region. *Sustainability* **2024**, *16*, 7950. https://doi.org/10.3390/su16187950

Academic Editor: Jungsuk Kim

Received: 31 July 2024
Revised: 9 September 2024
Accepted: 10 September 2024
Published: 11 September 2024

1. Introduction

In the fast-paced and ever-changing economic landscape of today, continuous growth is seen as crucial for survival. However, some economies that excel in this competitive environment tend to prioritize perpetual economic growth over sustainability, leading to a trade-off that poses significant multidimensional challenges worldwide. Empirical studies have shed light on the lack of sustainability in current global economic growth, indicating that the pursuit of economic expansion often neglects the potential long-term consequences, resulting in adverse impacts on the environment, society, and future generations. This

unsustainable approach to economic growth has already given rise to serious environmental issues. The COVID-19 pandemic has further compounded existing sustainability challenges, placing the world in a more precarious position. Given the urgency of these issues, collective efforts are essential to either mitigate the consequences arising from unsustainable global growth or minimize their short-term and long-term impacts.

The global economy is confronting a range of sustainability challenges that are impacting nations indiscriminately. Notably, the Asia and Pacific region is facing significant obstacles in advancing towards the attainment of the Sustainable Development Goals (SDGs). The 2021 report by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) revealed that numerous countries within the Asia–Pacific region face formidable barriers to meeting the sustainability targets by the year 2030. These obstacles are multifaceted and comprise social, economic, environmental, and political factors. However, social and economic factors such as human development, social inclusion, and equitable growth opportunities are more important and play significant roles in sustainable economic growth [1]. It has been shown that poverty eradication not only generates a productive workforce by providing them with better access to basic needs, education, and healthcare facilities but also leads toward stable economic development through increased consumer demand [2]. In line with this, equal opportunities for health and education directly affect economic productivity through improved health outcomes, reduced mortality rates, and a productive labor force. Furthermore, investment in the health and education sectors reduces the economic burden of diseases and enhances the innovative abilities of nations, which ultimately leads the region towards sustainable economic growth [3]. Similarly, in the Asia–Pacific region, reduction in the gender gap by empowering women through education, healthcare, and employment can have a critical impact on the labor market. Additionally, gender equality accelerates the process of innovation and productivity through providing diverse perspectives and talents in the economic process [4]. Therefore, a reduction in the gender gap creates a more balanced economic landscape that benefits a larger segment of the population. So, this inclusivity leads toward long-term inclusive economic stability and growth. Human capital development, social protection, and inclusive growth are the goals that leave a significant impact on the living standards of the individuals and establish a resilient, dynamic economy capable of adapting to global challenges and opportunities. Keeping in view the importance of the people category of the SDGs, this study aims to investigate the impact of the "people" category of the SDGs, such as no poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), and gender equality (SDG 5), on traditional and sustainable economic growth in the Asia and the Pacific region.

1.1. Background of the Study

To create a more equitable, sustainable, and peaceful world by the year 2030, a global framework named the Sustainable Development Goals (SDGs) was formulated at a conference known as Rio+ 20, held in Rio de Janeiro in 2012 [5]. In 2015, all members of the UN adopted these SDGs to address challenges ranging from poverty and inequality to climate change and environmental degradation. In the initial stage, eight Millennium Development Goals related to poverty, health and education, and gender inequality were developed in 2000, and later, these eight MDGs were transformed into 17 SDGs and 169 associated targets [6]. The SDGs provide a roadmap for economic growth, social inclusion, and environmental sustainability but the achievement of these goals requires unprecedented levels of cooperation, innovation, and commitment from all sectors of society. Thus, each country adapted these SDGs according to their own needs and circumstances [7]. In the Asia–Pacific region—an area with half the world's population—the people category of the Sustainable Development Goals (SDGs) plays a vital role in achieving the goal of sustainable economic growth; for instance, the end of poverty (SDG 1), promoting health and well-being (SDG 3), provision of quality education (SDG 4), and removal of gender inequality (SDG 5) directly relate to fundamental aspects of human well-being and help to achieve long-term economic

and social stability in the Asia–Pacific region [8]. Moreover, understanding the role of the people category in traditional and sustainable economic growth is crucial because poverty limits an individual's access to education, health, and other essential services, which in turn hinders an individual's ability to contribute productively to the economy. Similarly, in the Asia–Pacific region, the quality of education and health services play a critical role in sustainable growth [9]. It has been found that educational attainment and good health strongly affect economic development; so, investment in education and health, particularly in rural and underprivileged areas, is necessary to enhance economic productivity and industrial innovation [10]. Research highlights that countries focusing on improving access to quality education and health services are better equipped to achieve sustained economic growth and development (UNESCO, 2015). In line with this, gender equality in education, employment, and leadership plays an important role in achieving higher and sustainable economic growth; for instance, equality in the workplace can unlock significant economic potential and add trillions to the global GDP [11]. Though the Asia–Pacific region has made significant efforts to close the gender gap, still gender inequality challenges exist and hinder the pace of development.

1.2. Research Gap

Most of the empirical research conducted related to the Sustainable Development Goals is heavily concentrated on climate change mitigation and adaptation (SDG 13) [12,13], biodiversity conservation (SDG14) [14], and sustainable management of natural resources (SDG 15) [15]. Similarly, many studies have investigated how inclusive and sustainable economic growth (SDG 8) can be achieved [16], and ample research focuses on resilient infrastructure, fostering innovation, and promoting industrialization (SDG 9) to attain sustainable economic growth [17]. In addition, some studies have highlighted how access to clean water and sanitation (SDG 6) [18] and sustainable energy solutions (SDG 7) can be promoted, particularly in low- and middle-income countries [19,20]. Notwithstanding, a significant gap exists within the "people" category of the Sustainable Development Goals (SDGs), particularly in how social dimensions such as health, education, the proportion of stunted children, poverty, and women's participation in politics are integrated with traditional and sustainable economic growth. However, substantial research is available on individual SDGs within this category—such as methods of achieving SDG 1 (poverty eradication), ensuring health and well-being (SDG 3) [21], and promoting education for all (SDG 4) [22]. Nevertheless, a comprehensive study that explains the interconnectedness of these goals with traditional and green economic growth is missing. This study is an attempt to fill this research gap and explain how SDG 1 (no poverty), SDG 2 (zero hunger), SDG 3 (good health), SDG 4 (quality education), and SDG 5 (% of women MNAs) are connected with traditional and sustainable economic growth in the Asia and Pacific region.

Moreover, it has been noticed that economic growth is a powerful tool for achieving the UN SDGs; for instance, higher economic growth can provide more resources to invest in education, healthcare and other areas that can play vital roles in achieving SDGs [23]. Similarly, inclusive and sustainable economic growth helps to overcome social, economic, and environmental challenges [24] but, unfortunately, economic growth in the Asia–Pacific region has remained low and kept the region far behind the aim of achieving the SDGs by the end of 2030. Thus, there is a need to identify the reverse phenomenon of whether the UN SDGs (people category) have an impact on conventional and sustainable economic growth. This study is an attempt to identify the size of the impact of each category from SDG 1 to SDG 5, on conventional and sustainable economic growth, so policymakers can provide resources and develop policies according to their contribution to conventional and sustainable economic growth. Moreover, it is more suitable in the Asia and the Pacific region to address the UN SDGs one by one according to their importance in economic growth. In this way, the region can experience high economic growth and step toward the achievement of the UN SDGs.

1.3. Significance of the Study

This study investigates the impact of the "people" category of the SDGs on conventional and sustainable economic development in the context of the Asia–Pacific region. Most existing studies have examined the effect of environmental degradation or climate change on economic growth [25,26], while some studies have focused on political factors in determining economic growth [27,28]. Thus, most of the studies have focused on climate and climate-oriented SDGs and largely ignored the "people" category of the SDGs and its role in sustainable economic development. A few studies have examined the relationship between poverty and economic growth [29]; poverty, gender inequality, and economic growth [30]; and health and education opportunities and economic growth [31]. However, this study contributes to the literature and theory by providing critical insights from the "people" category of the SDGs and its impact on conventional and sustainable economic growth. The "people" category of the SDGs includes goals such as no poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), and gender equality (SDG 5); this research highlights the importance of human capital and social well-being in driving long-term and sustainable economic development. The Asia–Pacific region is recognized for significant disparities in economic development, income distribution, and access to resources [32]. By analyzing the impact of the people-centered SDGs on conventional and sustainable economic growth, this study enhances the understanding of how inclusive policies can enhance economic outcomes, reduce poverty, and promote social cohesion that ensures growth in both an equitable and sustainable manner. Moreover, investment in human capital and alleviating social inequalities enables the region to attain economic growth aligned with the broader goals of sustainable development. Moreover, understanding of the importance of the people category of the SDGs on sustainable economic growth will promote the economic resilience of the region and minimize its vulnerability to various external shocks [33]. In conclusion, this study is different from traditional studies that have proposed solutions for conventional economic growth, because it offers a comprehensive understanding of the social dimensions captured in the "people" category of the SDGs and its association with both conventional and sustainable economic growth in the Asia–Pacific region.

1.4. Scope of the Study

This research study is limited to examining the selected Asia and Pacific countries. Among the five distinct categories of the Sustainable Development Goals (SDGs), namely, people, prosperity, planet, peace, and partnership, this study specifically concentrates on the people category of the SDGs. It is important to note that the outcomes derived from this study may not be readily generalizable to other developing regions due to the exceptional combination of socioeconomic attributes that characterize the Asia and Pacific region.

2. Literature Review

2.1. People Category of SDGs and Economic Growth

The eradication of poverty has been listed at the top of the SDGs by the UN. SDG 1 is dedicated to addressing the prevailing issue of poverty all over the world. Poverty is a major concern for humanity, especially for the developing nations of the world [34]. But during the COVID-19 pandemic in the year 2020, the problem of poverty was further exacerbated. Around an 8% increase in the global poverty level was witnessed during this period [35]. This undeniable increase in the poverty level caused serious hindrance to achieving SDG 1 and set it back decades from the original target year of 2030 [36]. The overall progress of SDG 1 in the Asia region has followed mixed trends. Many countries have made significant steps in reducing poverty levels and improving their economic growth, while some in the East Asia and Pacific region have dropped below the benchmark of the international poverty line during the COVID-19 pandemic; most of the poverty elevation was observed in the South Asian region [37]. Low buying power due to poverty results in serious long-term effects on people's well-being, household growth, and eventually, economic growth.

Ali, Tariq [38] made a significant contribution to the existing body of literature by investigating the interplay among economic growth, level of income inequality, financial development, and existing poverty headcount in 15 developing countries. The study utilized panel data from 2002 to 2018 and employed the pooled mean group (PMG) technique for empirical analysis. The study's findings revealed that income inequality exhibited a positive and significant association with poverty headcount while financial development and economic growth demonstrated a negative impact on poverty, suggesting that improvements in financial sector development and overall economic growth can help alleviate poverty. Another study, by Yameogo and Omojolaibi [39], examined the relationship between the degree of trade openness, poverty levels, and economic growth in a panel dataset of 40 economies from the sub-Saharan African region over 28 years (1990 to 2017). The analysis utilized three econometric techniques: a panel autoregressive distributed lag (ARDL) model, panel vector autoregression (VAR), and the system of generalized method of moments (SYS-GMM). The findings of this study suggested that the number of people below the international poverty line. Based on these results, the study concluded that African countries should reconsider their existing poverty reduction programs to align with the objectives of achieving the Sustainable Development Goals by 2030. Zaman, Wang [40] conducted a panel study involving nine remittance-receiving countries from upper- and lower-middle-income categories, covering the years from 1990 to 2014. The objective of this study was to explore the impact of poverty on economic growth. The study's results indicated a significant negative impact of poverty, as measured by household consumption, on economic growth. Furthermore, Lawanson and Umar [41] investigated the relationship between health quality, poverty, and economic growth in Nigeria, a low- and lower-middle-income country, employing the endogenous growth theoretical approach. The study used data spanning from 1980 to 2018 and applied the fully modified ordinary least squares method for estimation. The study's findings indicated that health quality positively influenced economic growth in Nigeria and could mitigate the adverse effects of poverty on economic growth.

Hence, the literature related to SDG 1 and economic growth is limited to Africa, Nigeria, and low- and lower-middle-income countries. This study contributes to the literature by examining the role of poverty in economic growth in the context of the Asia and the Pacific region.

Moving toward SDG 2, a research study by CM [42] is one of the latest contributions to the existing body of literature exploring the nexus between economic growth and food wastage, which indeed raises the level of hunger. The empirical analysis is based on a dataset of 165 countries from different economic groups, i.e., high-income economies, low-income economies, lower-middle-income economies, and upper-middle-income economies. The span of the data ranges from 2014 to 2018. The statistical techniques employed are ordinary least squares (OLS) and a generalized linear model (GLM). Based on the findings, the study concluded that reducing food wastage can potentially reduce the poverty levels of a country and stimulate the current GDP growth of the nation. Overall, this study emphasizes the importance of reducing food wastage to promote economic growth and combat poverty, highlighting the need for policy interventions and institutional reform. However, the academic literature contains an ongoing debate regarding the extent to which the economic growth of a country contributes to a reduction in the prevailing level of child stunting, which is one of the indicators of SDG 2 [43,44]. Thus, it is stated that most of the literature has examined the role of economic growth in reducing poverty and stunting among children while this study is different from the existing literature because it is conducted to examine the role of no hunger in economic growth.

Moreover, SDG 3 and SDG 4 stress the very fundamental principles of providing good health facilities and quality education to every individual, along with parallel opportunities promoting lifelong learning without discrimination at any level. The health and education level prevailing in the population is generally measured by the Human Capital Index. The

Global Competitiveness Report for the year 2020 highlighted the crucial role played by human capital in uplifting economic growth and productivity [37].

The nexus between human capital and the economic growth of a nation has been the subject of extensive research in the field of economics. Both famous growth theories, the neo-classical and endogenous growth theories, have been influential in establishing a foundational understanding of this relationship.

Barro [45] tested the nexus between the rate of student enrollment in school and gross domestic product (hereafter GDP), which is the most used proxy of economic growth in numerous research articles. The findings indicate the presence of a positive relationship between GDP and the rate of school enrollment. Moving on, De Meulemeester and Rochat [46] explored the nexus between higher education level (proxied by student count per capita not engaged in economic activities) and economic development in developed economies like Japan, France, the United Kingdom, and Sweden. The results of this study suggest that education can be a driving factor for an economy if the curriculum is exclusively designed to program the cognitive abilities of the new generation to meet the asks of this new era of technological advancements through their knowledge, social, political, and economic structure of society. Early in the first decade of the 21st century, Asteriou and Agiomirgianakis [47] tested the nexus between GDP per capita and the rate of student enrollment at different academic levels like primary education, secondary education, and higher education. In the very next year, Petrakis and Stamatakis [48] explored this nexus in different country groups based on regional and socio-economic attributes. The findings of their study revealed that in the least developed countries (hereafter, LDCs), economic growth is stimulated by the rate of student enrollment at primary and secondary levels, whereas economic growth in OECD economies is attributed to student enrollment in higher education. In parallel, in the same year, a study conducted by Self and Grabowski [49] tested the existence of a causal relationship between economic growth and different education levels (primary, secondary, and tertiary). The results of the study indicated that there was a strong causal link between primary education and economic growth, which became weak in the case of secondary education and economic growth, and finally, there was no causal link in the case of tertiary education level (post-secondary education level) and economic growth. The findings of this study provided a reason to test cognitive skills irrespective of education level and its contribution to economic growth. After four years, a study by Hanushek and Woessmann [50] filled this research gap, and their results proved that the level of cognitive skills possessed by a population is strongly related to the economic growth of the country along with individual earnings and distribution of income.

Later that year, the findings of Pereira and Aubyn [51] were found to be aligned with Self and Grabowski [49] in the case of primary and tertiary education levels in Portugal, where, unlike in India, the secondary education level was found to have a positively significant impact on economic growth. In the middle of the next decade, Ref. [34] tested the effect of education on economic growth through a meta-regression model on 57 relevant studies which included 989 variables in total. Their results showed that the positive effect of education on the economic growth of a nation was not true across all of the selected studies due to various factors.

In conclusion, the literature related to SDG 3 and SDG 4 indicate that most researchers have examined the impact of school enrollment at different levels on economic growth and found mixed results, which creates a space for new research. Moreover, this study uses government expenditure on health and education to measure SDGs 3 and 4, respectively, which extends the existing literature related to the SDGs 2030. This study contributes to the existing literature. At the beginning of the 21st century, Krueger and Lindahl [51] concluded that the initial years of schooling are positively related to income and economic growth. Three years later, Lin [52] tested the influence of four different disciplines of higher education separately on the economic growth of Taiwan for 35 years from 1965 to 2000. The findings proved that a 1% additional increase in higher education would raise overall economic growth by 0.19% and the contribution to economic growth was more

significant for graduates with majors in natural sciences and engineering disciplines. In parallel, Martins and Pereira [53] conducted a study on a set of male workers from around 16 different countries during the mid-1990s and their findings suggested that skill level is a determining factor in the return on schooling and that highly skilled individuals are more likely to earn more based on their observable skills. It also revealed that the education level of employees is responsible for inequality of within-group wages and wages of graduates were found to be higher compared to non-graduate employees. Along the same lines, Chevalier [54] concluded that within-group wage inequality is higher for graduates with majors in mathematics, information technology, law, business studies, architecture, finance, and economics. On the other hand, within-group wage variation is least for graduates with majors in psychology, education, linguistics, and others. In the context of education level and employment, Nickell [55] primarily contributed in terms of an econometric technique to measure the unemployment period of individuals. This study also concluded that the education level of an individual can reduce the unemployment period by more than 4% for employees with 12 years of schooling and by 12% for those with graduate level education or above. Similarly, the findings of Riddell supported the notion that education is a prime factor in unemployed individuals being rehired and a larger probability of being rehired was found for individuals with 12 to 16 years of education.

As discussed earlier, the quality of education is a driving factor for reducing the unemployment rate in a country and it having a higher group level of wages, which finally leads to the economic growth of that nation. Different schools of thought are available in the context of the economic growth of developing nations, like most of the countries in the Asia and the Pacific region. On the grounds of institutionalization theory, students with foreign education always have an advantage over local graduates regardless of the quality of foreign education. In the first decade of the 21st century, Tarrant and Rubin [56] highlighted that students with a foreign education have an advantage over others in terms of being multi-lingual and have a better cultural understanding of different nations. In the same vein, Mechtenberg and Strausz [57] empirically concluded that institutionalization accelerates economic productivity through the multicultural understanding of foreign graduates.

The last SDG among the people category, SDG 5, is concerned with gender equality globally. Most of the indicators of SDG 5 are related to women's empowerment as the female Human Capital Index is one of the important drivers of economic growth. One of the recent contributions to the existing body of literature is the study by Mohamed [52], which examined the role of female human capital in the economic growth of Sudan. The primary focus of the study was on female education, healthcare facilities, labor force participation of females, and political empowerment of the female population. The type of data used in this research was a time series covering the time frame from 1975 to 2021. The authors employed both an autoregressive distributed lag model (ARDL) and a nonlinear autoregressive distributed lag model (NARDL) for statistical analysis. The findings of the study proved the existence of a long-run equilibrium relationship between selected female human capital variables and the economic growth of Sudan. However, the empirical results of the study indicated that female human capital has a significantly negative impact on gross national income per capita (GNIP), while female labor force participation has a statistically significant and positive impact on the economic growth of Sudan. The study also proved that the prevalence of HIV/AIDS among women aged 14–25 has a significantly negative impact on the economic growth of Sudan. In addition, women's participation in parliament has had a positive significant impact on the economic growth of Sudan, but only in the short term. The study recommended policies to enhance female human capital through education and health promotion, reduce women's vulnerability in employment, and increase their work in the formal sector, particularly in decision-making roles. In conclusion, the literature shows that most studies that have been conducted have examined the role of individual SDGs, from SDG 1 to SDG 5, on economic growth at the country level. This study contributes to the literature in multiple ways: first, this study utilized five categories of SDGs related to human well-being, ranging from SDG 1 to SDG 5, in a single

model and analyzed their role in economic growth. Second, this study analyzed the role of the five people-related SDGs in sustainable economic growth. Third, this study has a contextual contribution by conducting a study in the Asia and the Pacific region.

Thus, based on the above literature, this study developed a research model as follows in Figure 1.

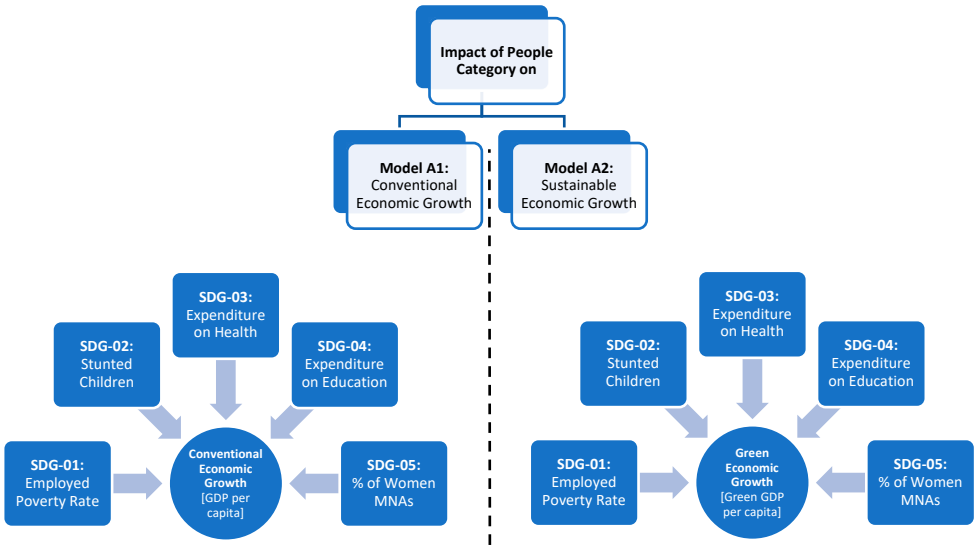

Figure 1. Research models for Asia and the Pacific region. Source: Authors' compilation.

2.2. Research Questions

Below is the list of research questions in the context of this study:

1. What is the impact of the Sustainable Development Goal #1 (no poverty) proxy "employed poverty rate" on economic growth and green economic growth in the Asia and the Pacific region?
2. What is the impact of the Sustainable Development Goal #2 (zero hunger) proxy "stunted child" on economic growth and green economic growth in the Asia and the Pacific region?
3. What is the impact of the Sustainable Development Goal #3 (good health) proxy "government expenditure on healthcare" on economic growth and green economic growth in the Asia and the Pacific region?
4. What is the impact of the Sustainable Development Goal #4 (quality education) proxy "government expenditure on education" on economic growth and green economic growth in the Asia and the Pacific region?
5. What is the impact of the Sustainable Development Goal #5 (gender equality) proxy "proportion of women members of national assembly" on economic growth and green economic growth in the Asia and the Pacific region?

2.3. Theory behind the Conceptual Framework

2.3.1. The Poverty Trap Theory

This theory states that the poverty trap prevents individuals or communities from improving their own and their country's economic situation [53]. Poor nations have limited opportunities for education and healthcare for their people, hampering their economic productivity and growth. Moreover, poor individuals do not have the resources to invest in education and skills, so they have limited job opportunities, which restricts their role in economic growth. Additionally, due to low income, poor people have insufficient savings and no access to credit, which limits their ability to invest in income-generating activities, and they remain unable to play their role in economic activities [54]. Furthermore, high levels of poverty also create social unrest and instability, which further squeeze investment and the economic growth process. Consequently, the theory concludes that

poverty has a negative association with economic growth and sustainability until and unless the government introduces targeted interventions—such as investments in education, health, and infrastructure to reduce poverty and enhance opportunities for the poor.

2.3.2. Human Capital Theory

This theory states that investment in education, training, and health can enhance an individual's abilities to participate in economic activities and to enhance sustainable economic growth [55]. The human capital theory views education and skills as a form of capital that produces high returns in the labor and capital market. Human capital theory states that investment in education and health has direct and indirect effects on sustainable economic growth. Healthier people indirectly provide more resources for development projects by reducing health costs while educated and skilled labor directly contributes to high sustainable economic growth through inventions and innovation in the industrial sector. Thus, societies that invest in human capital tend to experience stronger economic growth [58]. Moreover, a well-educated and skilled workforce drives innovation and improves competitiveness, which leads the economy toward long-run equilibrium. Overall, human capital theory highlights the significance of investing in human capabilities, such as education, health, and skills, to facilitate economic progress and advancement. In the context of the study, the United Nation's second Sustainable Development Goal, which strives for the eradication of global hunger, represented by the proportion of children experiencing stunted growth, has been tested as a driver of economic growth in the Asia region, both for conventional and green economic growth.

Human capital theory serves as a fundamental economic concept that regards individuals as a form of capital, similar to tangible assets like factories and machinery. This theory asserts that investments made in education, health, and skill enhancement play a pivotal role in advancing economic growth and development. The theory was initially introduced during the 1960s by Schultz [56]. At its core, human capital theory suggests that human capital possesses substantial value, capable of increasing an individual's potential earnings and overall productivity. This value can even extend across generations. Regarded as an investment, human capital bolsters an individual's capacity to produce goods and services, consequently generating income. The theory contends that allocating resources to enhance human capital yields positive outcomes for economic growth. By elevating the skills and efficiency of the workforce, productivity improves, resulting in heightened output and increased economic advancement.

For instance, directing resources toward education amplifies an individual's expertise and abilities, rendering them a more valuable contributor to the workforce and thereby fostering economic expansion. Similarly, investments in health extend an individual's working life and capabilities, curbing absenteeism and bolstering overall productivity. In essence, human capital theory underscores the imperative of investing in human capital through education, health, and skills development to facilitate economic growth and progress.

2.3.3. Social Determinants of Health Theory

This theory emphasizes that various social factors, education, income, social support network, discrimination, and inequity can influence the health of individuals [57], and addressing these factors can enhance population health and boost economic growth. Moreover, investment in health infrastructure directly improves health outcomes and indirectly boosts the economic growth process by providing job opportunities and reducing the unemployment level. Furthermore, improved health opportunities increase the productive labor force and lead to a more dynamic economy.

2.3.4. Inclusive Growth Theory

This theory states that the economic process can be improved by involving all segments of society, specifically, women, in economic activities. Equal opportunities in education, health, and employment lead to a broader and more productive workforce and facilitate

higher economic growth of a nation [59]. Additionally, equal job opportunities strengthen women's financial status, which positively affects household health and education, as women invest their income in their families, resulting in better outcomes for children and supporting long-term economic development. Similarly, women's economic empowerment also helps to lift families out of poverty and stimulate local economies through improved market demand.

By cultivating inclusivity and empowering women, nations can unlock a substantial source of economic growth and progress. Women bring unique skills and perspectives to the workplace, which in turn can foster growth. Moreover, when women are empowered to join the workforce and earn an income, they gain financial independence, enabling them to make decisions that positively influence both their families and the broader economy. Today, the involvement of women in the labor force continues to expand across many countries. In essence, the inclusive growth theory underscores the significant impact of female labor force participation on the economy. By advancing women's economic empowerment, nations can tap into a valuable reservoir of growth and development.

Overall, these theories highlight the importance of health, education, reduction in poverty, and gender equality as a foundation for economic development. Thus, investment in health, education, gender equality, and reduction in poverty leads to increased productivity, reduced living costs, and a more equitable society, ultimately driving sustainable economic growth and improved societal well-being.

3. Research Methodology

3.1. Research Design

A research design is a framework of research methods and techniques that guides the researcher to find the appropriate research method according to the nature of the research problem. The nature of this study is quantitative and explanatory; for instance, the study aims to explain the impact of SDGs related to the people category on both conventional and sustainable economic growth in high- and upper-middle-income economies of Asia and the Pacific region. Keeping in view the quantitative nature of the research problem, this study developed two models. In model A1, this study examined the impact of the people category of the SDGs on conventional economic growth, while in model A2 the study examined the impact of the people category of the SDGs on sustainable economic growth. Conventional economic growth is measured by GDP per capita while sustainable economic growth is measured by utilizing the following formula adopted from Sohag, Husain [60]:

Green GDP = GDP (USD) + education expenditure by the government (USD) − net forest depletion (USD) − energy depletion (USD) − carbon dioxide damage (USD)

Moreover, this study used the "people" category of the SDGs, such as no poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), and gender equality (SDG 5) as the independent variable for model A1 and model A2. A detailed description of the variables, measurements, and data sources is provided in Table 1.

Table 1. Variable list (model A1 and model A2).

Variable Name	Indicator or Proxy	Data Source
Conventional Economic Growth	Log (conventional GDP per capita)	World Bank Database
Sustainable Economic Growth	Log (green GDP per capita)	World Bank Database/WDI
SDG 1: Employed Poverty	Employed population below international poverty line (USD 2.15 per day)	UN Database/WDI
SDG 2: Stunted Children	Log (children moderately or severely stunted per capita)	UN Database/WDI
SDG 3: Health Expenditure	Log (government's health expenditure (% of GDP))	World Bank Database/WDI
SDG 4: Education Expenditure	Log (government's education expenditure (% of GDP))	World Bank Database/WDI
SDG 5: % of Women Members	Proportion of seats held by women in national parliaments	UN Database/WDI
Foreign Direct Investment	Log (FDI inflow per capita (% of GDP))	World Bank Database/WDI

Source: Authors' compilation; WDIs stands for World Development Indicators.

3.2. Sample Selection

The sample selection for this study consists of a total of 52 countries based on data availability, including four different income groups, i.e., high-income, upper-middle-income, lower-middle-income, and low-income countries, in the Asia and the Pacific region.

3.3. Empirical Research Models

Here, Equations (1) and (2) are the baseline equations in the context of model A1 and model A2, which are concerned with conventional and sustainable economic growth, respectively.

$$GDPPC_{it} = \gamma_0 + \gamma_1\, EPR_{it} + \gamma_2\, SCPC_{it} + \gamma_3\, HEPC_{it} + \gamma_4\, EEPC_{it} + \gamma_5\, PWMNA_{it} + \gamma_6\, FDIPC_{it} + e_i \quad (1)$$

$$GGDPPC_{it} = \gamma_0 + \gamma_1\, EPR_{it} + \gamma_2\, SCPC_{it} + \gamma_3\, HEPC_{it} + \gamma_4\, EEPC_{it} + \gamma_5\, PWMNA_{it} + \gamma_6\, FDIPC_{it} + e_i \quad (2)$$

Here, GDPPC represents GDP per capita, which is the proxy of conventional economic growth in Equation (1); and GGDPPC represents green GDP per capita, which is the indicator of sustainable economic growth in Equation (2). The independent variables employed in the models are poverty rate, stunted children per capita, health expenditure per capita, education expenditure per capita, and percentage of women MNA, represented as EPR, SCPC, HEPC, EEPC, and PWMNA, respectively. The control variable is FDI inflow per capita, which is represented as FDIPC in the above equations. All variables are in log form. Moreover, in the above Equations (1) and (2), i is used to indicate cross-sections, while t is the time and $\gamma_1, \ldots 6$ are coefficients. e_i is an error term. This study utilized a fixed-effect model and random-effect model to estimate Equations (1) and (2).

Justification for Fixed-Effect (FE) and Random-Effect (RE) Models

This study used the FE model because each country in the sample has time-invariant unobserved characteristics, such as cultural, geographical, and institutional, that are closely associated with the people category of SDGs, economic growth, and sustainable economic growth. The FE model is appropriate because it controls these time-invariant characteristics and marks out these unobserved effects to produce more reliable results. Moreover, the FE model is used to control the problem of endogeneity that may arise due to the correlation between unobserved characteristics and explanatory variables, namely, the people category of the SDGs. Additionally, this study used the RE model because it efficiently incorporates variations within countries and between countries, it also allows for the estimation of time-invariant variables and produces more reliable estimates under the assumption of no correlation between unobserved characteristics of individual countries with explanatory variables. It is particularly useful when the unobserved individual-specific effects are believed to be uncorrelated with the explanatory variables, making it a flexible and powerful tool for panel data analysis.

4. Data Analysis and Results of the Study

4.1. Descriptive Statistics

Table 2 shows the results of the descriptive statistics. Upon analyzing the descriptive statistics, several insights emerge. "GDP per capita" shows an average value of 8.811, indicating the region's overall economic performance. However, the standard deviation of 1.4 suggests variations in economic development among the countries. Similarly, "green GDP per capita" has a mean of 8.523, suggesting the presence of green economic growth. However, the spread indicated by the standard deviation of 1.43 suggests differing degrees of green economic activities across the countries.

Table 2. Descriptive statistics (model A1 and model A2).

Variable	Obs	Mean	Std. Dev.	Min.	Max.
GDP per capita	1234	8.811	1.4	4.921	11.493
Green GDP per capita	966	8.523	1.43	4.895	11.363
Employed poverty rate	828	7.357	13.017	0	73
Stunted children per capita	902	1.952	1.913	0	9.937
Health expenditure per capita	1079	5.676	1.477	−0.214	8.704
Education expenditure per capita	992	5.291	1.57	1.012	8.111
Prop. of women MNA	1048	12.975	9.788	0	50
FDI per capita	1014	5.095	2.108	−2.574	11.01

Source: Authors' compilation.

Regarding the SDG indicators, "employed poverty rate" demonstrates a mean of 7.357 and a high standard deviation of 13.017. This implies considerable disparities in poverty levels among the countries studied. The "stunted children per capita" variable has a mean of 1.952, indicating the prevalence of child malnutrition in the region. The standard deviation of 1.913 highlights the varying degrees of this issue across countries. Moreover, "health expenditure per capita" and "education expenditure per capita" show means of 5.676 and 5.291, respectively. These statistics suggest differences in the allocation of resources to healthcare and education across the region. However, the standard deviations indicate varying levels of consistency in government expenditure in these areas. The "percentage of women members of parliament" variable exhibits a mean of 12.975, reflecting disparities in women's representation in political decision making. The standard deviation of 9.788 shows variations in women's political participation among the countries. Lastly, "FDI per capita" has a mean of 5.095 and a standard deviation of 2.108, indicating fluctuations in foreign direct investment inflows across the region.

4.2. Correlation Matrix

Tables 3 and 4 contain the results of the correlation matrix, which is helpful to understand how these variables are related to each other. It shows the strength and direction of relationships. The correlation values range from −1 to 1, where −1 indicates a perfect negative correlation, 1 indicates a perfect positive correlation, and 0 indicates no correlation.

Table 3. Pairwise correlation matrix (model A1: conventional economic growth).

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) GDP per capita	1.000						
(2) Employed poverty rate	**−0.666**	1.000					
(3) Stunted children per capita	**−0.662**	**0.660**	1.000				
(4) Health exp per capita	**0.918**	**−0.650**	**−0.692**	1.000			
(5) Education exp per capita	**0.925**	**−0.674**	**−0.650**	**0.922**	1.000		
(6) Prop. of women MNA	0.049	0.191	0.267	0.009	−0.047	1.000	
(7) FDI per capita	**0.753**	−0.580	−0.520	**0.715**	**0.713**	−0.004	1.000

Source: Authors' compilation (note: bold values show higher than 60% correlation between variables).

Table 4. Pairwise correlation matrix (model A2: sustainable economic growth).

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) GDP per capita	1.000						
(2) Employed poverty rate	**−0.666**	1.000					
(3) Stunted children per capita	**−0.662**	**0.660**	1.000				
(4) Health exp. per capita	**0.918**	**−0.650**	**−0.692**	1.000			
(5) Education exp. per capita	**0.925**	**−0.674**	**−0.650**	**0.922**	1.000		
(6) Proportion of women MNA	0.049	0.191	0.267	0.009	−0.047	1.000	
(7) FDI per capita	**0.753**	−0.580	−0.520	**0.715**	**0.713**	−0.004	1.000

Source: Authors' compilation (note: bold values show higher than 60% correlation between variables).

The results of the pairwise correlation test for the variables included model A1 and model A2. In model A1, the correlation matrix reveals interesting insights into the relationships between the variables under consideration. Notably, "GDP per capita", which represents economic growth, shows strong positive correlations with both "health expenditure per capita" (r = 0.918) and "education expenditure per capita" (r = 0.925). These findings suggest that higher government expenditure on health and education is associated with higher economic growth in the region.

Conversely, "employed poverty rate" and "percentage of stunted children" exhibit negative correlations with economic growth, indicating that higher poverty rates and child malnutrition are associated with lower economic growth. Both indicators show moderate negative correlations, with "employed poverty rate" having a correlation coefficient of −0.666, and "stunted children per capita" having a correlation coefficient of −0.662. Regarding the "percentage of women eembers of parliament", it shows a weak positive correlation with economic growth, with a correlation coefficient of 0.049. This suggests that a higher representation of women in parliament may have a positive, albeit minor, impact on economic growth. Additionally, the control variable "FDI per capita" demonstrates a strong positive correlation with economic growth, as indicated by a correlation coefficient of 0.753. This suggests that higher levels of foreign direct investment are associated with increased economic growth in the region.

In model A2, the correlation matrix revealed significant findings about the relationships between the variables. Notably, "green GDP per capita" exhibits a strong negative correlation with "employed poverty rate" (r = −0.689) and "stunted children per capita" (r = −0.719). These results suggest that higher green GDP per capita is associated with lower levels of employed poverty and child malnutrition, indicating the potential contribution of sustainable economic growth to poverty alleviation and child well-being.

Moreover, "green GDP per capita" demonstrates a robust positive correlation with "health expenditure per capita" (r = 0.934) and "education expenditure per capita" (r = 0.929). These findings imply that sustainable economic growth is linked to increased government spending on healthcare and education, reflecting the region's focus on investing in human capital development and welfare in pursuit of sustainable development. Furthermore, the "percentage of women members of parliament" exhibits a weak positive correlation with "green GDP per capita" (r = 0.008). While this correlation is minimal, it suggests that higher representation of women in parliament may contribute, albeit marginally, to sustainable economic growth. In addition, the control variable "FDI per capita" demonstrates a significant positive correlation with both economic growth models, indicating that higher foreign direct investment is associated with increased conventional and sustainable economic growth in the region.

4.3. Multicollinearity (VIF) Test

In this study, the independent variables are indicators of specific Sustainable Development Goals (SDGs) mapped under the people category of the SDGs, ranging from SDG 1 to SDG 5. Multicollinearity refers to the presence of strong correlations among independent variables, which can affect the reliability of regression model estimates. To ensure the absence of multicollinearity, a VIF test was conducted and the results are summarized in Table 5. The test provides information on the VIF, square root of VIF (SQRT_VIF), tolerance, squared tolerance, and mean VIF for each variable. Typically, a VIF value exceeding 10 is considered indicative of potential multicollinearity issues [45].

The interpretation of these VIF results and corresponding tolerance values revealed that the independent variables demonstrate relatively low levels of multicollinearity. Specifically, the tolerance values for all variables are well above 0.1, indicating that less than 10% of the variation in any independent variable can be explained by the other variables. This suggests a low degree of correlation and strong independence among the predictors. The variables "employed poverty rate" and "stunted children per capita" exhibit high tolerance values of 0.4933 and 0.3413, respectively, supporting their independence from

other variables. Similarly, the control variable "percentage of women members of parliament" demonstrates a high tolerance value of 0.8367, indicating minimal correlation with other predictors.

Overall, the mean tolerance value of 0.4264 (calculated as the reciprocal of the mean VIF) further supports the conclusion of low multicollinearity among the independent variables.

Table 5. VIF test (model A1 and model A2).

Variable	VIF	SQRT_VIF	Tolerance	Squared Tolerance
Employed poverty rate	2.03	1.42	0.4933	0.5067
Stunted children per capita	2.93	1.71	0.3413	0.6587
Health expenditure per capita	7.7	2.77	0.1299	0.8701
Education expenditure per capita	6.1	2.47	0.164	0.836
Proportion of women MNA	1.2	1.09	0.8367	0.1633
FDI per capita	2.6	1.61	0.3848	0.6152
Mean VIF	**3.76**			

Source: Authors' compilation.

4.4. Unit Root Test

Table 6 shows the findings of the unit root test to examine the stationarity level. Im–Pesaran–Shin and Fisher-type augmented Dickey–Fuller tests were employed for this purpose. The findings of the tests revealed that all of the variables in models A1 and A2 are found stationary at level or I (0).

Table 6. Panel unit root test (model A1 and model A2).

Variable	Model A1		Model A2		Stationary Level
	IPS	FADF	IPS	FADF	
GDP per capita	−15.34 *	543.79 *	---	---	I (0)
Green GDP per capita	---	---	−12.85 *	395.30 *	I (0)
Employed poverty rate	---	127.94 *	---	127.94 *	I (0)
Stunted children per capita	---	815.64 *	---	815.64 *	I (0)
Health exp. per capita	−2.15 *	232.12 *	−2.15 *	232.12 *	I (0)
Education exp. per capita	---	180.57 *	---	180.57 *	I (0)
Prop of women MNA	---	871.66 *	---	871.66 *	I (0)
Log of FDI inflow per capita	−8.84 *	393.30 *	−8.84 *	393.30 *	I (0)

* represent 1% levels of significance. IPS (Im–Pesaran–Shin) and Fisher-type augmented Dickey–Fuller.

4.5. Panel Regression Analysis

As all the variables are stationary at level 1 (0), the pooled ordinary least squares (POLS), fixed-effect, or random-effect model can be applied. Table 7 shows the results of the estimation tests for model A1. The core objective of model A1 is to investigate the impact of the people category of the SDGs' indicators on conventional economic growth in the context of the Asia and the Pacific region. The study used a sample of data spanning the period from 2000 to 2023. The primary focus is on understanding how SDG indicators, including "employed poverty rate" (SDG 1), "stunted children per capita" (SDG 2), "log of government's health expenditure per capita" (SDG 3), "log of government's education expenditure per capita" (SDG 4), and "percentage of women members of national parliament" (SDG 5), influence conventional economic growth, represented by the "GDP per capita" and sustainable economic growth proxies such as "green GDP per capita".

Table 7. Estimation results of model A1 (conventional economic growth).

Dependent Variable: GDP Per Capita (Conventional Economic Growth)						
Independent Variable	**Pooled OLS**		**Fixed-Effect Model**		**Random-Effect Model**	
	Coef.	***p*-Value**	**Coef.**	***p*-Value**	**Coef.**	***p*-Value**
Employed poverty rate	−0.004 *	0.000	−0.004 *	0.000	−0.004 *	0.000
Stunted children per capita	0.002	0.885	0.001	0.932	0.002	0.885
Health exp. per capita	0.456 *	0.000	0.456 *	0.000	0.456 *	0.000
Education exp. per capita	0.414 *	0.000	0.407 *	0.000	0.414 *	0.000
Proportion of women MNA	−0.001	0.691	0.000	0.912	−0.001	0.691
Log of FDI inflow per capita	0.026 *	0.001	0.026 *	0.001	0.026 *	0.001
Constant	3.883 *	0.000	3.889 *	0.000	3.883 *	0.000
N	31		31		31	
Number of observations	594		366		366	
R-squared	0.935		0.931		0.935	
Hausman's test (prob. value)			0.8198			
LM test (prob. value)					0.000	

* represent 1% level of significance.

To check the appropriateness of pooled OLS, this study employed Breusch–Pagan's Lagrangian multiplier, proposed by Breusch and Pagan [61]. The null hypothesis under consideration suggests that the preferred model is the pooled ordinary least squares (POLS) model. The results show that the *p*-value associated with the Breusch–Pagan test (r = 0.0000) is below the predetermined significance level of 0.05, leading to the rejection of the null hypothesis. Consequently, it is indicated that the appropriate model is likely to be either the fixed-effect model or the random-effect model.

To ascertain the most suitable technique from these options, the Hausman test was conducted [50]. The null hypothesis of the Hausman test suggests that the random-effect model is appropriate for the data. In this regard, the *p*-value obtained from the Hausman test (r = 0.8198) exceeds the significance level of 0.05, thereby supporting the acceptance of the null hypothesis. As a result, the findings of both the Lagrangian multiplier test using the Breusch–Pagan test and the Hausman test align, providing further support for the utilization of the random-effect model.

Moving on to the coefficient estimates obtained from the random-effect model, several insightful patterns emerge. The variable "employed poverty rate" showed a statistically significant negative impact on conventional economic growth (β = −0.004). This means that a 10% decline in the employed poverty rate is estimated to improve GDP per capita by 0.04%. This finding indicates that a lower employed poverty rate or higher/better employee wages are associated with economic growth, assuming other factors remain constant, this finding is aligned with the findings of Fanti and Gori [62] and Hull [63], who concluded that poverty alleviation in the employed population or a better minimum wage policy can lead to economic growth; moving on, a study also supported the two-way causal relationship between poverty reduction and economic growth [64]. Thus, efforts to alleviate poverty and improve the living standard of the employed population could potentially boost conventional economic growth in the region. These findings also confirm the poverty trap theory, which states that high poverty is a significant cause of low economic growth in developing nations.

Similarly, the "stunted children per capita" variable displayed a statistically insignificant impact on GDP per capita. This means that any change(s) in the number of stunted children per capita will have no contribution to the conventional economic growth of the selected set of countries in the Asia and the Pacific region. However, the variables "health expenditure per capita" and "education expenditure per capita" demonstrated a statistically significant positive impact on conventional economic growth (β = 0.456; β = 0.414). This means that a 1% change in the government's per capita health and education expenditures is estimated to improve GDP per capita by 45.6% and 41.1%, respectively.

This suggests that increased government spending on health and education per capita is linked to higher GDP per capita in the region. These findings are aligned with the conclusion of the available literature [65,66]. Moreover, our findings also confirm the human capital theory that underscores the importance of targeted investments in the healthcare and education sectors to foster sustainable economic growth.

Moreover, the variable "percentage of women members of national parliament" exhibited a statistically insignificant impact on GDP per capita. This means that any change(s) in women's representation in parliament has no impact on the conventional economic growth of selected countries in the Asia and the Pacific region. Our findings contradict the existing body of literature that supports the positive impact of women's representation in Parliament on economic growth [67,68]. Similarly, our results refuted the application of inclusive growth theory in the context of the Asia and the Pacific region. The reason behind these results is that in the Asia–Pacific region, other structural factors such as economic policies, institutional quality, infrastructure, and global economic conditions play more significant roles in determining GDP per capita than women's representation in parliament. Moreover, the participation of women in parliament is minor, so they are unable to bring significant changes in economic development through policies.

This result provides the foundation for further research to explore the measurement of gender equality, which better captures female participation in economic activities. Moreover, the control variable "FDI inflow per capita" displayed a statistically significant positive coefficient of 0.026 at the 1% level of significance. This indicates that higher foreign direct investment inflows per capita are positively correlated with increased GDP per capita in the region. This finding is aligned with the existing literature [69]. Consequently, fostering an environment conducive to attracting foreign investments could be beneficial for promoting conventional economic growth.

The value of R-squared indicates that approximately 93.5% of the variation in "GDP per capita" is explained by the independent variables and the control variable in the model. This substantial R-squared value suggests that the model effectively captures a significant portion of the variation in the dependent variable, enhancing the credibility of the findings. The results of the random-effect model indicated that addressing employed poverty rates, increasing government investment in health and education, and encouraging higher foreign direct investment may positively influence conventional economic growth in selected countries in the Asia and the Pacific region.

Table 8 shows the result estimations of model A2, which aims to examine the impact of the people category of the SDGs on sustainable economic growth of high- and upper-middle-income countries of the Asia and the Pacific region. To determine the most appropriate statistical model, two crucial tests were conducted. The Lagrange multiplier (LM) test showed a highly significant probability value of 0.000, indicating that the commonly used pooled ordinary least squares (POLS) model is not the best fit for the data. As a result, the analysis focused on either the random-effect model or the fixed-effect model. Subsequently, Hausman's test produced a probability value of 0.8805, exceeding the significance level of 0.05, indicating that the random-effect model is more suitable for the dataset. Therefore, the random-effect model was employed for further analysis.

The findings from the random-effect model show that the variable "employed poverty rate" demonstrated a statistically significant negative coefficient of −0.01 at the 1% level of significance. This indicates that a 10% decrease in the employed poverty rate is associated with an estimated 0.1% improvement in green GDP per capita. These results suggest that addressing poverty among the employed population can have a positive impact on sustainable economic growth in the region. This is aligned with the findings of Fanti and Gori [62], who concluded that poverty alleviation in the employed population or a better minimum wage policy can lead to economic growth; moving on, a study also supported the two-way causal relationship between poverty reduction and economic growth [64]. Moreover, the variable "stunted children per capita" was found to have a statistically insignificant impact on green GDP per capita, even at the 10% level of significance, in the

selected countries of the Asia and the Pacific region. Additionally, the variables "health expenditure per capita" and "education expenditure per capita" demonstrated statistically significant positive coefficients of 0.457 and 0.423, respectively, at the 1% level of significance. This means that a 1% increase in the government's per capita health expenditure is estimated to improve green GDP per capita by 45.7%, while a similar increase in the government's per capita education expenditure can lead to a 42.3% improvement in green GDP per capita. These findings underscore the importance of targeted investments in the healthcare and education sectors to boost sustainable economic growth in selected economies of the Asia and the Pacific region. There is no scarcity of evidence in the available literature that concludes that investment in human capital development is a driving factor of economic growth [40].

Table 8. Estimation results of model A2 (sustainable economic growth).

Dependent Variable: Green GDP Per Capita (Sustainable Economic Growth)						
Independent Variable	**Pooled OLS**		**Fixed-Effect Model**		**Random-Effect Model**	
	Coef.	***p*-Value**	**Coef.**	***p*-Value**	**Coef.**	***p*-Value**
Employed poverty rate	−0.01 *	0.000	−0.011 *	0.000	−0.010 *	0.000
Stunted children per capita	0.027	0.216	0.038	0.117	0.027	0.216
Health exp. per capita	0.457 *	0.000	0.451 *	0.000	0.457 *	0.000
Education exp. per capita	0.423 *	0.000	0.423 *	0.000	0.423 *	0.000
Proportion of women MNA	0.000	0.837	0.001	0.754	−0.001	0.837
FDI inflow per capita	0.017	0.134	0.016	0.149	0.017	0.134
Constant	3.794 *	0.000	3.772 *	0.000	3.794 *	0.000
N	31		31		31	
Number of observations	594		594		594	
R-squared	0.912		0.876		0.912	
Hausman's test (prob. value)			0.8805			
LM test (prob. value)					0.000	

* represent 1% level of significance.

Moreover, the variable "percentage of women members of national parliament" exhibited a statistically insignificant impact on green GDP per capita. This means that any change(s) in women's representation in parliament has no impact on the sustainable economic growth of selected countries in the Asia and the Pacific region. While the existing body of research generally supports the positive influence of women's representation in parliamentary positions on economic growth [67,70], this outcome serves as a basis for further exploration of this phenomenon within various country groups categorized by income levels. Lastly, the control variable "log of FDI inflow per capita" exhibited a statistically insignificant impact on green economic growth in selected countries in the Asia and the Pacific region. This indicates that higher foreign direct investment (FDI) inflows per capita will not contribute to the sustainable economic growth of the Asia and the Pacific region [71].

The overall R-squared value of 0.912 suggests that approximately 91.2% of the variation in "green GDP per capita" can be explained by the independent variables and the control variable in the model. This substantial R-squared value indicates that the model effectively captures a significant portion of the variation in sustainable economic growth, enhancing the reliability of the findings.

4.6. Comparison of Model A1 and Model A2

In Asia and the Pacific region, the impact of each SDG on both conventional and sustainable economic growth has been examined through two distinct models: Model A1, for conventional economic growth; and model A2, for sustainable economic growth.

SDG 1, focusing on the "employed poverty rate", exhibits consistent results in both models. In both cases, a decrease in the employed poverty rate is associated with a positive

impact on economic growth. Model A1, representing conventional economic growth, shows that a 10% decrease in the employed poverty rate leads to an estimated 0.04% improvement in GDP per capita. In model A2, representing sustainable economic growth, the impact is more significant, with a 10% decrease in the employed poverty rate resulting in an estimated 0.1% improvement in green GDP per capita. This emphasizes the importance of addressing poverty among the employed population for fostering economic growth, particularly in the context of sustainable development. SDG 2, focused on the "stunted children per capita", presents a noteworthy contrast in the findings between the two models. In both model A1 and model A2, changes in the stunted children per capita do not significantly impact economic growth. This suggests that addressing stunted child rates may not directly contribute to either conventional or sustainable economic growth in the selected countries of the Asia and the Pacific region.

SDG 3 and SDG 4, relating to "health expenditure per capita" and "education expenditure per capita", respectively, demonstrate consistent findings across both models. In both cases, increased government spending on health and education per capita has a positive impact on economic growth. Model A1 reveals that a 1% increase in government health expenditure is associated with a 45.6% improvement in GDP per capita, while model A2 indicates a 45.7% improvement in green GDP per capita. Similarly, a 1% increase in government education expenditure is associated with a 41.1% improvement in GDP per capita in model A1, and a 42.3% improvement in green GDP per capita in model A2. These findings underscore the critical role of targeted investments in healthcare and education sectors for fostering both conventional and sustainable economic growth in the region. SDG 5, which focuses on the "percentage of women members of national parliament", presents an intriguing discrepancy in its impact on economic growth between the two models. In model A1, women's representation in parliament is found to have no significant impact on conventional economic growth. However, in model A2, the same variable continues to exhibit an impact (albeit statistically insignificant) on sustainable economic growth. This divergence suggests that the relationship between women's representation in parliament and economic growth is complex and may vary depending on the context of conventional versus sustainable economic development in the region. Further research is recommended to explore this phenomenon in different income-based country groups. Lastly, the control variable, "log of FDI inflow per capita", displays differing impacts on economic growth between the two models. In model A1, higher foreign direct investment inflows per capita are found to have a positive influence on conventional economic growth. However, in model A2, this variable is found to have no significant impact on sustainable economic growth. This implies that while FDI inflows may contribute to conventional economic growth, they may not play a significant role in fostering sustainable economic development in the Asia and the Pacific region.

In conclusion, the comparative analysis of the findings for each SDG in model A1 and model A2 highlights the nuanced relationships between various people category indicators and their impact on conventional and sustainable economic growth in the region. The results emphasize the importance of targeted investments in poverty alleviation, healthcare, and education sectors for fostering economic growth, while also underscoring the need for further research to understand the dynamics of women's representation and FDI inflows in the context of the Sustainable Development Goals. These findings offer valuable insights for policymakers and researchers working towards promoting both conventional and sustainable economic growth in the Asia and the Pacific region.

5. Conclusions

This study aims to explain the impact of the people category of the SDGs on economic and sustainable development in the Asia and the Pacific region. The study utilized a sample of 52 selected countries and extracted data from the World Bank, UN database, and WDI from 2000 to 2023. Two distinct models were employed: Model A1, for conventional economic growth; and model A2, for sustainable economic growth. The primary focus was on

understanding the influence of SDG indicators, including "employed poverty rate" (SDG 1), "stunted children per capita" (SDG 2), "health expenditure per capita" (SDG 3), "education expenditure per capita" (SDG 4), and "percentage of women members of national parliament" (SDG 5), on the economic growth of the region. The findings of model A1 indicate that the employed poverty rate has a significant and negative impact on conventional economic growth while government health and education expenditures have a positive and significant impact on conventional economic growth. Moreover, stunted children per capita and zero hunger and gender equality have no significant direct impact on economic growth. Additionally, the findings of model 2 are consistent with the findings of model A1. The findings of model A2 reveal that the employed poverty rate has a significant and negative impact on sustainable economic growth while government health and education expenditures have a positive and significant impact on sustainable economic growth. Moreover, stunted children per capita and zero hunger and gender inequality have no significant direct impact on economic growth.

5.1. Policy Suggestions

Based on the findings of model A1 and model A2, multiple policy suggestions are recommended: first, targeted policy interventions are needed to address the problem of poverty among the employed populations to foster short-term and long-term economic development. Second, the government should introduce programs that are particularly related to children's health to end hunger among children less than 5 years old. Third, the government should increase investment in the education and health sectors to promote traditional and sustainable economic growth. Fourth, the number of seats allocated for women in parliament should be increased to achieve significant contributions from women in sustainable economic growth.

5.2. Future Research Directions

To enrich the existing body of knowledge and understanding of the relationship between SDGs and economic growth, future research recommendations are as follows:

- Researchers are advised to conduct a study on the complex relationship between gender equality and sustainable economic growth by utilizing multifaceted measurements of gender equality rather than a single indicator. Similarly, studying women's representation in parliament and economic growth, specifically in different income-based country groups, is advised.
- Moreover, in the future researchers should introduce additional indicators and measurements for the people category of the SDGs that can explain the relationship of the people category of the SDGs with sustainable economic growth more explicitly.
- The findings of this study that stunted children and women's participation in parliament have an insignificant direct association with traditional and sustainable economic growth invite researchers to explore the channels through which stunted children and women's participation in parliament can significantly affect sustainable economic growth.
- More studies should be conducted in sub-Saharan Africa, South Asia, West and Central Africa, Southeast Asia, and the Middle East and North Africa (MENA), which are experiencing low sustainable economic growth and are far behind in the goal of attaining the Sustainable Development Goals (SDGs) by the end of 2030.

Author Contributions: Conceptualization, F.A.; Methodology, M.S.A.; Formal analysis, M.S.A.; Investigation, M.S.A. and S.K.; Resources, P.J.S.F. and D.M.F.d.A.; Data curation, F.A.; Writing—review & editing, S.K.; Project administration, F.A.; Funding acquisition, P.J.S.F. and D.M.F.d.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are contained within the article.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Gupta, J.; Vegelin, C. Sustainable development goals and inclusive development. *Int. Environ. Agreem. Politics Law Econ.* **2016**, *16*, 433–448.
2. Abramo, L.; Cecchini, S.; Morales, B. Social programmes, poverty eradication and labour inclusion. In *Lessons from Latin America and the Caribbean*; CEPAL: Santiago, Chile, 2019.
3. Lawanson, O. Human capital investment and economic development in Nigeria: A focus on education and health. *J. Econ. Policy Anal.* **2017**, *2*, 95–112.
4. Klasen, S. Bridging the gender gap to promote economic and social development. *J. Int. Aff.* **2005**, *58*, 245–255.
5. Leggett, J.A.; Carter, N.T. *Rio+ 20: The United Nations Conference on Sustainable Development, June 2012*; Library of Congress, Congressional Research Service: Washington, DC, USA, 2012.
6. Kumar, S.; Kumar, N.; Vivekadhish, S. Millennium development goals (MDGS) to sustainable development goals (SDGS): Addressing unfinished agenda and strengthening sustainable development and partnership. *Indian J. Community Med.* **2016**, *41*, 1–4.
7. Rosati, F.; Faria, L.G. Addressing the SDGs in sustainability reports: The relationship with institutional factors. *J. Clean. Prod.* **2019**, *215*, 1312–1326.
8. UNESCAP. *Asia and the Pacific SDG Progress Report 2020*; UNESCAP: Bangkok, Thailand, 2020.
9. Pawar, M. Social development in Asia and the Pacific: Major trends and issues. In *Transforming Society*; Routledge: London, UK, 2017; pp. 53–67.
10. World Health Organization. *Health in Asia and the Pacific*; World Health Organization: Geneva, Switzerland, 2008.
11. Wodon, Q.; De La Briere, B. Unrealized Potential: The High Cost of Gender Inequality in Earnings; 2018. Available online: https://documents1.worldbank.org/curated/en/172021527258723053/pdf/Unrealized-potential-the-high-cost-of-gender-inequality-in-earnings.pdf (accessed on 1 June 2024).
12. Zimmerman, R.; Faris, C. Climate change mitigation and adaptation in North American cities. *Curr. Opin. Environ. Sustain.* **2011**, *3*, 181–187.
13. Demski, C.; Capstick, S.; Pidgeon, N.; Sposato, R.G.; Spence, A. Experience of extreme weather affects climate change mitigation and adaptation responses. *Clim. Chang.* **2017**, *140*, 149–164.
14. Brooks, T.M.; Mittermeier, R.A.; Da Fonseca, G.A.; Gerlach, J.; Hoffmann, M.; Lamoreux, J.F.; Mittermeier, C.G.; Pilgrim, J.D.; Rodrigues, A.S. Global biodiversity conservation priorities. *Science* **2006**, *313*, 58–61.
15. Reza, M.I.H.; Abdullah, S.A. Regional Index of Ecological Integrity: A need for sustainable management of natural resources. *Ecol. Indic.* **2011**, *11*, 220–229.
16. Frey, D.F. Economic growth, full employment and decent work: The means and ends in SDG 8. In *The Sustainable Development Goals and Human Rights*; Routledge: London, UK, 2018; pp. 122–142.
17. Brodny, J.; Tutak, M. Assessing regional implementation of Sustainable Development Goal 9 "Build resilient infrastructure, promote sustainable industrialization and foster innovation" in Poland. *Technol. Forecast. Soc. Chang.* **2023**, *195*, 122773.
18. Chitonge, H.; Mokoena, A.; Kongo, M. Water and sanitation inequality in Africa: Challenges for SDG 6. In *Africa and the Sustainable Development Goals*; Springer: Cham, Switzerland, 2020; pp. 207–218.
19. Müller, F.; Neumann, M.; Elsner, C.; Claar, S. Assessing African energy transitions: Renewable energy policies, energy justice, and SDG 7. *Politics Gov.* **2021**, *9*, 119–130.
20. Santika, W.G.; Urmee, T.; Simsek, Y.; Bahri, P.A.; Anisuzzaman, M. An assessment of energy policy impacts on achieving Sustainable Development Goal 7 in Indonesia. *Energy Sustain. Dev.* **2020**, *59*, 33–48.
21. Guégan, J.-F.; Suzán, G.; Kati-Coulibaly, S.; Bonpamgue, D.N.; Moatti, J.-P. Sustainable Development Goal# 3,"health and well-being", and the need for more integrative thinking. *Vet. México OA* **2018**, *5*, 1–18. Available online: https://dialnet.unirioja.es/servlet/articulo?codigo=6576856 (accessed on 1 May 2024).
22. Pandey, B. *Achieving SDG 4 in India: Moving from Quantity to Quality Education for All*; Research and Information System for Developing Countries: New Delhi, India, 2018.
23. Zhu, Y.; Bashir, S.; Marie, M. Assessing the relationship between poverty and economic growth: Does sustainable development goal can be achieved? *Environ. Sci. Pollut. Res.* **2022**, *29*, 27613–27623.
24. Eisenmenger, N.; Pichler, M.; Krenmayr, N.; Noll, D.; Plank, B.; Schalmann, E.; Wandl, M.-T.; Gingrich, S. The Sustainable Development Goals prioritize economic growth over sustainable resource use: A critical reflection on the SDGs from a socio-ecological perspective. *Sustain. Sci.* **2020**, *15*, 1101–1110.
25. Alvarado, R.; Toledo, E. Environmental degradation and economic growth: Evidence for a developing country. *Environ. Dev. Sustain.* **2017**, *19*, 1205–1218.
26. Acheampong, A.O.; Opoku, E.E.O. Environmental degradation and economic growth: Investigating linkages and potential pathways. *Energy Econ.* **2023**, *123*, 106734.

27. Aisen, A.; Veiga, F.J. How does political instability affect economic growth? *Eur. J. Political Econ.* **2013**, *29*, 151–167.
28. Uddin, M.A.; Ali, M.H.; Masih, M. Political stability and growth: An application of dynamic GMM and quantile regression. *Econ. Model.* **2017**, *64*, 610–625.
29. Škare, M.; Družeta, R.P. Poverty and economic growth: A review. *Technol. Econ. Dev. Econ.* **2016**, *22*, 156–175.
30. Morrison, A.; Raju, D.; Sinha, N. *Gender Equality, Poverty and Economic Growth*; World Bank: Washington, DC, USA, 2007.
31. Yun, W.S.; Yusoff, R. An empirical study of education expenditure, health care expenditure and economic growth in Malaysia using Granger causality approach. *Malays. J. Bus. Econ.* **2015**, *2*, 59–68.
32. Krongkaew, M.; Zin, R.H.M. Income distribution and sustainable economic development in East Asia: A Comparative Analysis. *IDEAs Work. Pap.* **2007**, *2*, 2007.
33. UNESCAP. *Bulletin on Asia-Pacific Perspectives 2001/02: Asia-Pacific Economies: Coping with New Uncertainties*; UNESCAP: Bangkok, Thailand, 2001.
34. Khan, I.; Khan, I.; Sayal, A.U.; Khan, M.Z. Does financial inclusion induce poverty, income inequality, and financial stability: Empirical evidence from the 54 African countries? *J. Econ. Stud.* **2022**, *49*, 303–314.
35. Sumner, A.; Hoy, C.; Ortiz-Juarez, E. *Estimates of the Impact of COVID-19 on Global Poverty*; WIDER Working Paper; World Institute for Development Economics Research (UNU-WIDER): Helsinki, Finland, 2020.
36. Ouechtati, I. The contribution of financial inclusion in reducing poverty and income inequality in developing countries. *Asian Econ. Financ. Rev.* **2020**, *10*, 1051.
37. Varga, M. *Poverty as Subsistence: The World Bank and Pro-Poor Land Reform in Eurasia*; Stanford University Press: Redwood City, CA, USA, 2023.
38. Ali, M.; Tariq, M.; Khan, M.A. Economic growth, financial development, income inequality and poverty relationship: An empirical assessment for developing countries. *iRASD J. Econ.* **2022**, *4*, 14–24.
39. Yameogo, C.E.W.; Omojolaibi, J.A. Trade liberalisation, economic growth and poverty level in sub-Saharan Africa (SSA). *Econ. Res.-Ekon. Istraživanja* **2021**, *34*, 754–774.
40. Zaman, S.; Wang, Z.; Zaman, Q.u. Exploring the relationship between remittances received, education expenditures, energy use, income, poverty, and economic growth: Fresh empirical evidence in the context of selected remittances receiving countries. *Environ. Sci. Pollut. Res.* **2021**, *28*, 17865–17877.
41. Lawanson, O.I.; Umar, D.I. The life expectancy–economic growth nexus in Nigeria: The role of poverty reduction. *SN Bus. Econ.* **2021**, *1*, 127.
42. CM, J. Impacts of food wastage on economic growth. *World Food Policy* **2022**, *8*, 118–125.
43. O'Connell, S.A.; Smith, C. Economic growth and child undernutrition. *Lancet Glob. Health* **2016**, *4*, e901–e902.
44. Ruel, M.T.; Alderman, H. Nutrition-sensitive interventions and programmes: How can they help to accelerate progress in improving maternal and child nutrition? *Lancet* **2013**, *382*, 536–551.
45. Barro, R.J. Economic growth in a cross section of countries. *Q. J. Econ.* **1991**, *106*, 407–443.
46. De Meulemeester, J.-L.; Rochat, D. A causality analysis of the link between higher education and economic development. *Econ. Educ. Rev.* **1995**, *14*, 351–361.
47. Asteriou, D.; Agiomirgianakis, G.M. Human capital and economic growth: Time series evidence from Greece. *J. Policy Model.* **2001**, *23*, 481–489.
48. Petrakis, P.E.; Stamatakis, D. Growth and educational levels: A comparative analysis. *Econ. Educ. Rev.* **2002**, *21*, 513–521.
49. Self, S.; Grabowski, R. Does education at all levels cause growth? India, a case study. *Econ. Educ. Rev.* **2004**, *23*, 47–55.
50. Hanushek, E.A.; Woessmann, L. The role of cognitive skills in economic development. *J. Econ. Lit.* **2008**, *46*, 607–668.
51. Pereira, J.; Aubyn, M.S. What level of education matters most for growth?: Evidence from Portugal. *Econ. Educ. Rev.* **2009**, *28*, 67–73.
52. Mohamed, E.S. Female human capital and economic growth in Sudan: Empirical evidence for women's empowerment. *Merits* **2022**, *2*, 187–209. [CrossRef]
53. Sachs, J.; McArthur, J.W.; Schmidt-Traub, G.; Kruk, M.; Bahadur, C.; Faye, M.; McCord, G. Ending Africa's poverty trap. *Brook. Pap. Econ. Act.* **2004**, *2004*, 117–240.
54. Barr, M.S. Banking the poor. *Yale J. Reg* **2004**, *21*, 121.
55. Sweetland, S.R. Human capital theory: Foundations of a field of inquiry. *Rev. Educ. Res.* **1996**, *66*, 341–359.
56. Schultz, T. *Investment in Human Capital*; Macmillan: Basingstoke, UK, 1961.
57. Watt, R.G. Emerging theories into the social determinants of health: Implications for oral health promotion. *Community Dent. Oral Epidemiol.* **2002**, *30*, 241–247.
58. Blundell, R.; Dearden, L.; Meghir, C.; Sianesi, B. Human capital investment: The returns from education and training to the individual, the firm and the economy. *Fisc. Stud.* **1999**, *20*, 1–23.
59. Naqvi, S.N.H. The idea of inclusive growth and development policy. *Pak. Dev. Rev.* **2012**, *51*, 1–21.
60. Sohag, K.; Husain, S.; Hammoudeh, S.; Omar, N. Innovation, militarization, and renewable energy and green growth in OECD countries. *Environ. Sci. Pollut. Res.* **2021**, *28*, 36004–36017.
61. Breusch, T.S.; Pagan, A.R. The Lagrange multiplier test and its applications to model specification in econometrics. *Rev. Econ. Stud.* **1980**, *47*, 239–253.
62. Fanti, L.; Gori, L. On economic growth and minimum wages. *J. Econ.* **2011**, *103*, 59–82.

63. Hull, K. Understanding the relationship between economic growth, employment and poverty reduction. *Promot. Pro-Poor Growth Employ.* **2009**, *1*, 69–94.
64. Lustig, N.; Arias, O.; Rigolini, J. *Poverty Reduction and Economic Growth: A Two-Way Causality*; Inter-American Development Bank: Washington, DC, USA, 2002.
65. Mallick, L.; Das, P.K.; Pradhan, K.C. Impact of educational expenditure on economic growth in major Asian countries: Evidence from econometric analysis. *Theor. Appl. Econ.* **2016**, *2*, 173–186.
66. Liu, Y.; Tan, Z.; Ning, X. Public education expenditure and economic growth: Based on panel data from 2009 to 2019 in China. *World J. Adv. Res. Rev.* **2021**, *11*, 184–192.
67. Khorsheed, E. The Impact of Women Parliamentarians on Economic Growth: Modelling & Statistical Analysis of Empirical Global Data. *Int. J. Stat. Probab.* **2020**, *9*, 23–35.
68. Mirziyoyeva, Z.; Salahodjaev, R. Does representation of women in parliament promote economic growth? Considering evidence from Europe and Central Asia. *Front. Political Sci.* **2023**, *5*, 1120287.
69. Alfaro, L.; Charlton, A. Growth and the Quality of Foreign Direct Investment: Is All FDI Equal; 2007. Available online: https://projects.iq.harvard.edu/files/wcfia/files/2007_17_alfaro.pdf (accessed on 1 May 2024).
70. Dahlum, S.; Knutsen, C.H.; Mechkova, V. Women's political empowerment and economic growth. *World Dev.* **2022**, *156*, 105822.
71. Hille, E.; Shahbaz, M.; Moosa, I. The impact of FDI on regional air pollution in the Republic of Korea: A way ahead to achieve the green growth strategy? *Energy Econ.* **2019**, *81*, 308–326.