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ESG Regulation and Sustainability Accounting in Macroeconomic Policy: A Literature Review of Effectiveness and Challenges

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Abstract: This study aims to examine the effectiveness and challenges of implementing Environmental, Social, and Governance (ESG) regulations and sustainability accounting in the context of macroeconomic policy. Using the literature review method, this study collects and analyzes various scientific publications, policy reports, and global data related to ESG implementation in various countries. The results of the study indicate that ESG integration in fiscal, monetary, and investment policies can improve economic stability, strengthen global competitiveness, and encourage sustainable economic growth. However, ESG implementation also faces various obstacles, such as a lack of integration of reporting standards, greenwashing practices, limited institutional capacity, and conflicts between short-term economic goals and long-term sustainability. Therefore, efforts are needed to harmonize regulations, improve ESG literacy, and international collaboration in financing and technology transfer to optimize the role of ESG in global economic development. This study provides theoretical and practical contributions to the formulation of more inclusive and sustainable economic policies.

Keywords: ESG, Sustainability Accounting, Macroeconomic Policy, Green Economy, Global Regulation

Introduction

In recent years, sustainability issues have become a major concern in global economic policy. The concept of Environmental, Social, and Governance (ESG) is increasingly emerging as a framework for companies and governments to create a more sustainable economic system (Lindsay & Martella, 2020) (Ng et al, 2020). ESG is not only a standard of corporate ethics but also plays an important role in macroeconomic policies, especially in addressing environmental, social and corporate governance challenges at national and global levels (Chopra et al, 2024) (Mooneeapen et al, 2022).

ESG regulations have been implemented in various countries with the aim of increasing corporate transparency in reporting the environmental and social impacts of their business activities (Arvidsson & Dumay, 2022). According to the Global Sustainable Investment Alliance (GSIA, 2023), ESG-based sustainable investments have reached more than USD 35.3 trillion globally, a significant increase compared to the previous year.

Developed countries such as the European Union, the United States, and Japan have adopted strict ESG regulations, requiring companies to prepare sustainability reports based on international standards such as the Global Reporting Initiative (GRI) and the International Sustainability Standards Board (ISSB). Meanwhile, developing countries such as Indonesia are still in the adjustment stage with more adaptive policies.

From a macroeconomic perspective, the implementation of ESG regulations has a wide impact. ESG can influence global capital flows, drive green economic innovation, and create long-term financial stability (Mohd Daud et al, 2024) (Thapa et al, 2025). A report from McKinsey & Company (2022) shows that companies that implement ESG well have the potential to increase their valuation by 10-20% compared to companies that do not implement ESG. In addition, a World Bank study (2022) shows that countries with stricter ESG regulations tend to have more stable economic growth and experience less financial market volatility.

However, the effectiveness of ESG regulations in driving economic growth is still a matter of debate (Hassani & Bahini, 2022). According to a report by Harvard Business Review (2023), more than 60% of institutional investors are still skeptical about non-uniform ESG reporting standards, which can lead to greenwashing or misleading sustainability images. Other challenges that arise are high compliance costs, especially for small and medium-sized enterprises (SMEs), as well as limited data that can be measured objectively in assessing the impact of ESG on the economy.

In Indonesia, ESG policies have begun to be implemented through regulations issued by the Financial Services Authority (OJK) and the Ministry of Finance. OJK has required public companies to submit sustainability reports since 2021, in line with efforts to increase transparency and competitiveness of the national economy. In addition, Indonesia has successfully issued Green Sukuk worth USD 3.25 billion since 2018 to support environmentally friendly projects, making it one of the pioneering countries in green finance in Southeast Asia. However, the implementation of ESG regulations still faces various challenges, such as low ESG literacy among business actors, lack of harmonization of reporting standards, and difficulties in measuring the real impact of this policy on the national economy.

Based on this background, this study aims to conduct a literature review on the effectiveness and challenges of ESG regulation in macroeconomic policy, with a focus on its impact on economic stability, investment, and global competitiveness. This study is expected to provide a more comprehensive understanding of how ESG regulation can be optimized to support sustainable economic growth, especially in Indonesia.

Research Method

This study is a qualitative study that uses a literature review approach to analyze the effectiveness and challenges of Environmental, Social, and Governance (ESG) regulations in macroeconomic policies. The objects of this study are various regulations, reporting standards, and ESG implementation practices in the context of economic policies at the global and national levels. The data used in this study are secondary data, obtained from various reliable sources such as scientific journals, research reports, government policies, and publications from international organizations, including the World Bank, Global Sustainable Investment Alliance (GSIA), McKinsey & Company, and the Financial Services Authority (OJK).

Data collection techniques are carried out through systematic literature searches using keywords such as "ESG regulations", "sustainability accounting", "macro economy and ESG", and "financial stability and ESG policies". The search process is carried out on academic databases, digital libraries, and official documents. The data obtained are then analyzed using the content analysis method, which aims to identify patterns, main themes, relationships between concepts, and practical implications related to the application of ESG in macroeconomic policies. The implementation time of this research starts in February 2025 and will be completed in April 2025, covering the stages of planning, data collection, literature analysis, and preparation of the research report.

Result and Discussion

1. Understanding ESG and Sustainability Accounting in an Economic Context

Environmental, Social, and Governance (ESG) is a concept used to measure the impact of an economic entity on the environment, society, and governance (Doni & Johannsdottir, 2020; Taliento et al., 2019). ESG has not only become a standard for companies in running sustainable businesses but has also developed into an important factor in the macroeconomic policies of various countries (Mooneeapen et al., 2022). In today's global economy, ESG plays a role in guiding investment, monetary and fiscal policy, and long-term financial stability.

As awareness of sustainability increases, sustainability accounting is becoming a key tool in measuring and reporting ESG impacts (Dasinapa, 2024). Sustainability reporting standards such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), International Financial Reporting Standards (IFRS) Sustainability Disclosure Standards, and the International Sustainability Standards Board (ISSB) provide guidelines for companies to present ESG-related information in their financial statements. At the macroeconomic level, ESG transparency can improve market efficiency, attract foreign investment, and help governments formulate more sustainable economic policies.

2. ESG and Macroeconomic Transformation

In recent decades, ESG has become part of global economic policy that impacts various aspects of the macroeconomy (Salzmann, 2023). Some of the key transformations driven by ESG include:

A. Changes in Financial Stability and Capital Markets

The implementation of ESG in the financial sector plays a role in creating better economic stability (Lupu et al., 2022). A report from the World Bank (2022) shows that countries with strict ESG regulations have lower financial market volatility and are more resilient in the face of the global economic crisis. The OECD (2023) also revealed that more than 80% of institutional investors now consider ESG factors in making investment decisions, indicating that sustainability has become an important indicator in financial risk management.

B. ESG and Sustainable Investing

The ESG concept has driven a major shift in global investing (Matos, 2020). Data from the Global Sustainable Investment Alliance (GSIA, 2023) shows that ESG-based investments have reached USD 35.3 trillion, an increase from the previous year. This shows that investors prefer instruments that are aligned with sustainability, such as green bonds, social bonds, and impact investing instruments.

For example, the European Union has implemented the Green Deal that encourages green investment through financial mechanisms such as the EU Taxonomy and the Sustainable Finance Disclosure Regulation (SFDR). Meanwhile, Indonesia has issued Green Sukuk since 2018, with a total issuance of USD 3.25 billion to fund green energy projects and sustainable infrastructure.

C. ESG and Fiscal and Monetary Policy

ESG also impacts the country's fiscal and monetary policies. Governments are starting to adopt carbon taxes, incentives for green energy, and subsidy policies for industries that implement ESG standards (Lee & Liang, 2024). McKinsey's report (2022) revealed that countries with ESG-based fiscal policies experienced increased economic competitiveness, especially in the renewable energy and sustainable industry sectors.

Central banks in various countries are also starting to incorporate ESG into their monetary policies. The European Central Bank (ECB) and the Bank of England have announced that they will take environmental risk factors into account in their interest rate and financial stability policies. This shows that ESG is not only influencing the private sector but also financial regulation and national economic policies.

3. Relevant Theories in ESG and Macroeconomics

Several economic theories can be used to understand the role of ESG in macroeconomics, including:

A. Stakeholder Theory (Freeman, 1984)

This theory states that companies are not only responsible to shareholders, but also to other stakeholders, including government, society, and the environment. ESG is a key tool in ensuring that businesses provide long-term benefits to all stakeholders, not just for financial gain alone.

B. Sustainable Growth Theory

This theory emphasizes that sustainable economic growth must consider environmental and social aspects. Macroeconomic indicators such as Gross Domestic Product (GDP) are no longer sufficient, as they do not reflect environmental degradation or social inequality. Therefore, ESG becomes a key instrument in measuring more inclusive and sustainable economic growth.

C. Agency Theory (Jensen & Meckling, 1976)

This theory highlights the importance of corporate governance in reducing conflicts of interest between management and shareholders. ESG helps ensure that companies implement good governance principles, thereby increasing investor confidence and overall economic stability.

D. Institutional Theory

This theory explains how regulations and social norms influence business and economic practices. ESG has become an international standard adopted by various countries through regulatory policies and global agreements, such as the 2015 Paris Agreement and the UN Sustainable Development Goals (SDGs).

4. ESG Implementation in Global Macroeconomic Policy

As awareness of sustainability increases, many countries have incorporated Environmental, Social, and Governance (ESG) aspects into their macroeconomic policies. ESG is now not only a measuring tool in business and investment, but also an important part of global economic regulation that includes fiscal, monetary, investment, and international trade policies (Panagopoulos & Tzionas, 2023). The implementation of ESG in macroeconomic policies can be divided into several main aspects:

A. ESG in Fiscal and Monetary Policy

1) ESG-Based Fiscal Policy

ESG-based fiscal policy focuses on how governments use instruments such as taxes, incentives and public spending to encourage sustainability (Singhania & Saini, 2023). Some of the steps that have been adopted by developed and developing countries include:

a) Carbon Tax

The European Union has implemented the Carbon Border Adjustment Mechanism (CBAM) to impose a carbon tax on imports from countries with lower emission standards. Indonesia has started imposing a carbon tax on coal-fired power plants since 2022 at a rate of IDR 30 per kilogram of carbon dioxide equivalent (CO2e). In addition, Canada, Sweden, and Japan have long implemented carbon taxes to reduce industrial emissions.

b) Subsidies and Incentives for Green Energy

The Chinese government provides massive subsidies for renewable energy industries such as solar panels and electric vehicles. In the United States, through the Inflation Reduction Act (2022), it provides tax incentives for companies that implement green technology and reduce carbon emissions. In addition, Indonesia has issued a Green BUMN program, which provides access to cheap loans for companies that invest in environmentally friendly projects.

c) Issuance of Green Bonds and Green Sukuk

The European Union has issued more than €250 billion of Green Bonds to finance sustainable projects. In Indonesia, it has issued Green Sukuk worth USD 3.25 billion since 2018 to finance renewable energy, water management, and environmentally friendly transportation projects. In addition, other developing countries such as Brazil and India have also started using green bonds as an instrument for financing environmentally friendly infrastructure.

2) ESG in Monetary Policy

Central banks in various countries are starting to consider ESG in formulating monetary policy (Boneva et al., 2022; Shirai, 2023). Some of the steps that have been taken include:

a) Integration of Climate Risk into Financial Stability

The European Central Bank (ECB) has begun to factor climate risk into its interest rate and financial stability policies, while the Bank of England has issued a new policy requiring major banks to disclose ESG risks in their financial statements.

b) Green Financing and ESG Based Credit

The People's Bank of China (PBoC) provides a special financing scheme for banks that channel credit to the green sector with lower interest rates. In addition, Bank Indonesia (BI) launched a green credit policy to support sustainable investment in the national banking sector.

B. ESG in Investment and Financial Markets

Global investors are increasingly making ESG a key factor in investment decision making (Amel-Zadeh & Serafeim, 2018; Park & Jang, 2021). Some of the key trends in ESG implementation in the global financial sector are:

1) ESG Index and Ratings

Stock exchanges such as the New York Stock Exchange (NYSE) and the London Stock Exchange (LSE) have developed ESG indices to assess corporate performance based on sustainability factors. In addition, MSCI ESG Ratings and FTSE Russell ESG Ratings are used by investors to assess the sustainability risks and opportunities of global companies.

2) ESG Based Investment Fund

According to the Global Sustainable Investment Alliance (GSIA, 2023) report, assets under management in ESG-based investments have reached USD 35.3 trillion, increasing by more than 50% in the past decade. In Asia, Singapore and Hong Kong are becoming ESG investment hubs with significant growth in green funds.

3) ESG Regulation in Capital Markets

The US Securities and Exchange Commission (SEC) has proposed stricter ESG reporting rules for public companies. The Indonesia Stock Exchange (IDX) requires listed companies to submit sustainability reports starting in 2021.

C. ESG in International Trade

1) Implementation of ESG Standards in Global Trade

The European Union has implemented the Deforestation-Free Supply Chain regulation, which bans imports of products that contribute to deforestation such as palm oil and soy that do not meet sustainability standards. The United States has implemented an import ban on products produced with human rights violations, which is related to the social aspect of ESG.

2) The Impact of ESG on Economic Competitiveness

Countries with stronger ESG policies, such as Germany and Canada, tend to be more attractive to global investors. Developing countries like Indonesia face challenges in adapting their ESG policies to remain competitive in the global market.

D. ESG in Labor and Social Policy

ESG not only impacts the financial and environmental sectors but also labor and social welfare policies (Chen et al., 2023). Some important aspects in implementing ESG in employment policies include:

1) Wellbeing and Equality in the Workplace

Companies in the European Union are required to implement gender equality and social inclusion policies in their operations. Companies in the US that score high on ESG tend to pay more attention to employee well-being, such as increasing the minimum wage and more flexible leave policies.

2) Human Rights in Global Supply Chains

Multinational companies like Apple and Nike have adopted ESG standards to ensure that their products do not involve child labor or labor exploitation. Many countries now require companies to disclose information about working conditions in their supply chains as part of ESG compliance.

5. Effectiveness and Challenges

The implementation of Environmental, Social, and Governance (ESG) principles in global macroeconomic policies shows increasingly real effectiveness in encouraging sustainable economic development (Ng et al., 2020). Countries that have integrated ESG into their macroeconomic frameworks, such as Germany, Denmark, and Canada, have proven to be able to increase economic competitiveness through investments in renewable energy, green innovation, and inclusive social protection (Weber et al., 2016). According to the Global Sustainable Investment Alliance (2023), around 36% of total global financial assets are now managed with ESG aspects in mind, indicating the world's growing concern for sustainability. From a macroeconomic perspective, ESG implementation supports long-term stability by reducing environmental and social risks that can have systemic impacts on the economy, such as climate change and social inequality. ESG also encourages increased transparency and fiscal and institutional accountability, thereby strengthening investor and public confidence in a country's economic performance (Alsayegh et al., 2020). In addition, ESG-based policies have been shown to expand employment opportunities by creating green jobs and encouraging diversification of economic sectors.

However, the implementation of ESG on a global scale still faces various challenges. One of them is the lack of uniform standardization in ESG reporting between countries, which causes a lack of alignment in measuring and achieving sustainability performance (Oprean-Stan et al., 2020). In addition, the phenomenon of greenwashing or manipulation of the image of sustainability by companies and governments is a serious obstacle in promoting transparency and trust. Developing countries also face constraints in terms of limited resources, institutional capacity, and access to technology, making it difficult to implement ESG comprehensively. ESG implementation also often clashes with short-term interests, especially when countries have to choose between pursuing rapid economic growth through cheap energy (such as coal) or investing in expensive green energy transitions. Resistance from conventional industries and political pressure also slow down the reform process towards more sustainable economic governance. Suboptimal access and quality of ESG data are additional challenges in formulating evidence-based policies.

Thus, the effectiveness of ESG in global macroeconomic policy depends heavily on strong political commitment, inclusive financing support, international regulatory harmonization, and increased ESG capacity and literacy across sectors. Global collaboration, especially in technology transfer and sustainable development assistance, is key to making ESG a key pillar in creating equitable, inclusive, and sustainable economic growth in the future.

Conclusion

This study shows that the integration of Environmental, Social, and Governance (ESG) principles and sustainability accounting in macroeconomic policies has an important role in promoting inclusive and sustainable economic growth. ESG has proven effective in strengthening financial stability, increasing economic competitiveness, attracting green investment, and promoting transparency and good governance. Countries that implement ESG policies comprehensively show more resilient economic performance amidst global challenges.

However, ESG implementation still faces challenges, such as the lack of uniform reporting standards, the risk of greenwashing, limited institutional capacity in developing countries, and resistance from industry and short-term interests. Therefore, the effectiveness of ESG in supporting macroeconomic policies is highly dependent on political commitment, global regulatory harmonization, increased literacy, and international collaboration in financing and technology. ESG is not just a reporting tool, but a strategic foundation for building a resilient, equitable, and sustainable future economy.

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