The environmental-social-economic impacts of EU investments on African countries

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The European Union (EU) Global Gateway initiative plans to invest â‚¬150 billion in African regions after COP28, focusing on infrastructure, green and digital transitions, sustainable growth, job creation, health systems, and education. However, research question could be raised such as, what is the impact of a large sum of Foreign Direct Investment (FDI) on African economies, especially regarding the long-term structural change influenced by investment strategies. To answer this question, we examine the broad impacts of EU Global Gateway initiatives on African economies, societies, and environments. The uncertainty surrounding the impact of investments from global north to global south, spanning from economic, social, and environmental perspectives, necessitates a holistic assessment to aid the formulation of investment strategies.

This study uses our newly developed global multi-regional input-output model for emerging economies (EMERGING) to analyze the environmental-social-economic impacts of â‚¬150 billion investments across 59 African countries. The three impacts will be quantified by CO2 emissions, employment opportunities, and GDP, respectively. EMERGING provides MRIO table and satellite account for 245 countries and 134 sectors. Due to a lack of detailed investment plans at this moment, we developed 23 scenarios to distribute the investment across five key sectors, comprised of 134 sub-sectors, within each region. The reference scenario is designed based on funding needs for climate projects in African countries, and the other alternative 22 scenarios have different investment strategy for detailed analysis of the impacts. Our study encompasses a two-stage impact quantification process, assessing both the immediate impact when investment is fully absorbed by sectors (stage 1) and the long-term impact of final consumption growth driven by economic growth once it has fully taken shape (stage 2).

Our results show that, the reference scenario demonstrates a positive impact, yet may not be benefit-optimal. The investment will bring an increase of 5.9% and 8.1% in value added and labor value respectively, together with 20% extra CO2 emissions upon the accomplishment of stage 1. At the national level, South Africa emerging as the major contributor to value-added increases (35%), albeit also accounting for the largest increment in CO2 emissions (72%). At the sector level, the Energy sector is responsible for the most significant rise in CO2 emissions (80%), but this does not correspond with commensurate gains in value-added (27%) or labor value (6%). In exploring strategic optimization, trade-off between economic advancement and climate impact is discussed, revealed by some alternative scenario such as reallocating 10% investment share from the Energy sector towards the Manufacturing sectors could effectively diminish CO2 emissions by 11% compared to the reference scenario, while boosting GDP and labor value by 5% and 11%, respectively. By comparing changes in indicators across two stages, it was observed that after all consumption driven by economic growth fully materialized, only the Service sector experienced an increase in the economic share (6.2% growth). Simultaneously, traditional high-emission sectors like Energy and Agriculture saw reductions in CO2 emissions (decreases of 2.3% and 1.7%, respectively). This indicates the investment's role in changing Africa's economic structure.

Investment may fall short in achieving an optimal balance between economic returns and sustainable development when shaped solely by the financial needs claimed by African regions. Investment strategy that only considering the financial requirement may not capitalize on the potential economic pull of relatively advanced regions. The study also uncovers the limitations of a

strategy focused predominantly on sectors with low net-value and emissions. This approach, while seemingly advantageous in terms of emissions, overlooks the potential for more sustainable development outcomes through investments in infrastructure and enhanced technology transfer. A more holistic investment strategy, encompassing advanced technology and infrastructural development, could yield more sustainable and balanced growth by adjusting the economy structure.

The novelty of this research lies in its comprehensive assessment of the EU's investment impacts using a unique input-output model specifically tailored for African economies. Unlike previous studies, our research provides a detailed scenario-based analysis, offering insights into how strategic shifts in investment allocation can significantly influence the environmental, social, and economic outcomes. This study not only fills a critical gap in understanding the multifaceted impacts of large-scale foreign investments in Africa but also offers a pioneering approach in evaluating and strategizing sustainable investment in emerging economies.