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# The circularity divide: What is it? And how do we avoid it?

Jack Barrie, Manisha Anantharaman, Muyiwa Oyinlola, Patrick Schröder

## Keywords

Circular economy; Digital divide; Economic competition; Global trade; Inequality; Power Relations Global North and Global South

Supply chain volatility and the economic pressures brought about by Covid-19 has led European nations, the United States and China to adopt circularity as a domestic economic strategy. Their objectives are strengthening supply chains and resource security while boosting trade competitiveness. In this Perspective, we argue that if nations continue down the road of a unilateral and fragmented approach to the circular economy, not only will they fail to address domestic environmental problems, they will also create a phenomenon we term the ‘circularity divide’, thereby exacerbating global inequities.

## 1. What is the circularity divide?

If the **circular economy** transition is conducted as a race between nations, then advanced **industrialized nations** hold a significant competitive advantage. This advantage is set to increase as economic contests and **systemic risks** in the global economy intensify. Unequal power relations in value chains disadvantage developing countries. Historical legacies and ongoing dynamics of unequal **power structures** determine the opportunities of different actors in an unequal world. These existing inequities will enable **developed countries** to transition to a **circular economy** more rapidly than less developed countries thereby creating a **circularity** divide. A growing circularity divide will in turn serve to reinforce these structural inequities.

The circularity divide will widen through a series of reinforcing feedback loops operating between a range of pre-existing ‘divides’. The first is the digital divide in which there exists significant inequity between the Global North and Global South in terms of access to digital equipment, the skills to use digital technologies, and economic and social opportunities arising from new Industry 4.0 applications in manufacturing and **supply**

**chain management** (Kumar et al., 2021). Whilst the digital divide remains, so does the circularity divide.

The second is the innovation divide, i.e. the ability of industrialized nations to leverage their capacity for innovation and industrial skill base to design and produce advanced circular technologies and processes which will ultimately shape and disrupt **global supply chains**. Circular innovation and industrialization can create high-value local jobs and efficient, more resilient production processes resulting in continually increasing competitive advantage over trading partners.

The third is the **bargaining power** of developed countries to leverage trade agreements to secure the supply of critical raw and secondary materials to meet domestic demand, including for the Net-Zero and digital transitions, while pressuring developing countries to accept low-value and **hazardous waste** in return. As the circular economy emerges as an area for future trade agreements, existing inequities in the processes of how trade policies are made and negotiated can result in further trade divides.

The fourth is the unequal access to circular economy-oriented **finance**. Both public finance and private investments are essential to fund the roll out of circular-related industrial infrastructure, to invest in technological and **business model innovation**, and to develop the necessary skills base. To date, most circular economy investment has overwhelmingly been focused on developed countries (Schröder and Raes, 2021).

The fifth is that developing countries must also focus on immediate development challenges. A significant part of the population in developing countries are still seeking the basic necessities of life, therefore enhancing participation and innovation for circularity are secondary concerns.

These factors will reinforce each other, resulting in an acceleration of the circular transition in the global north and **retardation** of the transition in the south. The greater the circularity divide, the more the economic **wealth** and power inequalities intensify between the Global North and Global South, unless explicit measures are taken to acknowledge and address each of those inequalities through specific interventions (see Fig. 1).

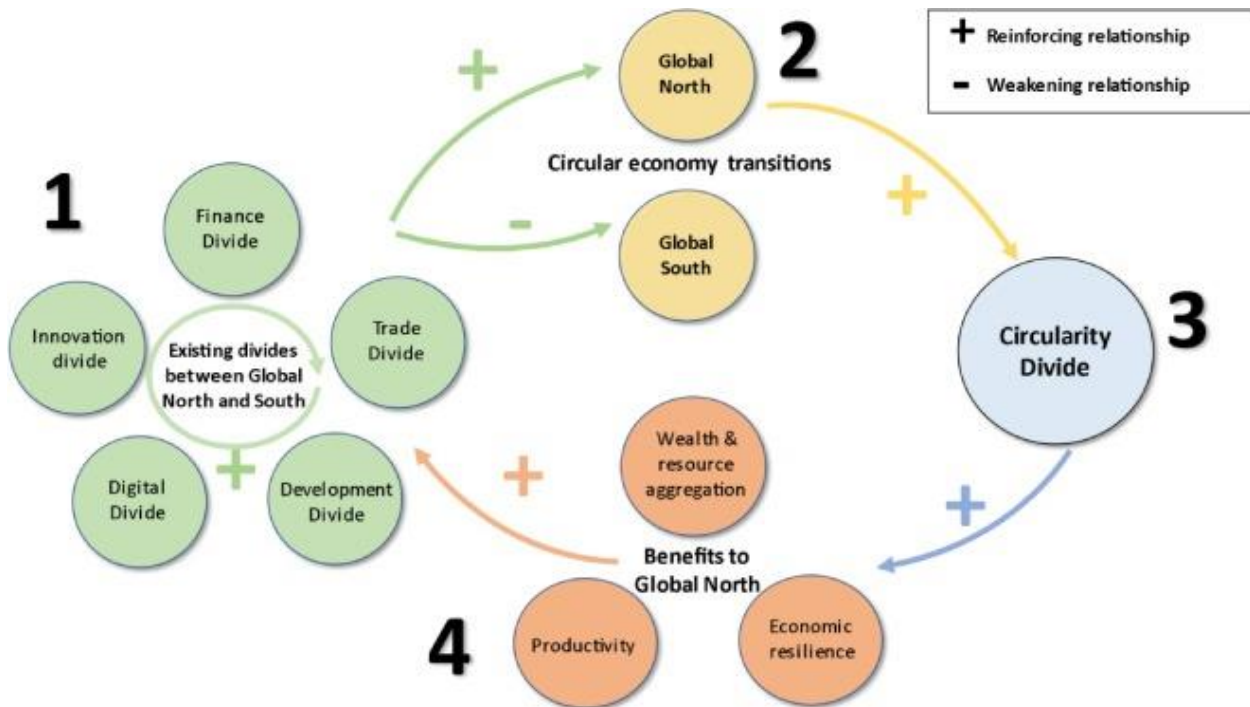


Fig. 1. Existing divides between the Global North and Global South are reinforced and accelerated by circularity transitions.

## 2. Consequences of a growing circularity divide

As the circular divide grows, so do the consequences. It will be crucial to analyze and understand how these factors play out in the specific contexts of different countries.

First, a growing circular divide will facilitate accelerated **wealth** extraction and retention through circular **resource control**. Industrialized countries will continue to demand and extract resources from exporting developing countries. However, with increased domestic **circularity**, they will be able to recirculate these resources back into the domestic economy resulting in an aggregation of resource wealth over time where high value goods and materials increasingly flow in one direction from the Global South to the Global North. An enhanced capacity to conduct circular activities within domestic borders (repair, refurbishment, remanufacturing) ensures the residual value of these secondary goods and materials is captured within the domestic market and the likely reduction in developing country's access to high quality secondary goods.

Second, through enhanced ability to scale up advanced CE technologies and business models as well as **supply chain** traceability via digital technologies such as the **blockchain** (Kouhizadeh et al., 2020), industrialised economies can significantly increase productivity, **big data** management capacity as well as reduce trade transaction

costs and times. This increases trade competitive advantage over competitors in developing countries.

Third, since advanced economies can progress towards circularity faster than emerging economies, they can become *relatively* less impacted from [global supply chain](#) shocks resulting in enhanced economic resilience. Conversely, it is the economies of the least [developed countries](#) which are due to experience the worst impacts and shocks of [climate change](#) and biodiversity loss, further reducing their ability to achieve circularity. The resilience deficit will also indirectly impact developed countries through the interconnectedness of the global economy.

### 3. How can the circularity divide be avoided?

If the circularity divide is to be addressed, it is necessary to move beyond the narrow political framing of the transition being one of opportunity for building domestic resilience and economic competitiveness, to one which recognizes the need to address global inequities as well as the inherent interconnectedness of the global economy.

1. Greater multilateral collaboration and coordination needs to be prioritized. This could include strengthening of international cooperation programmes and political alliances such as the Global Alliance on [Circular Economy](#) and Resource Efficiency (GACERE), identifying win-win circular trade mechanisms, financing of circular economy transitions in developing countries, and strengthening coordination between domestic and ODA strategies.

2. Bridging the digital skills gap is necessary to facilitate the creation of high value skilled domestic jobs in developing countries. It is a precondition to drive innovation towards circularity in industry and manufacturing, and enable inclusive solutions for collection, recycling and [waste management](#) sectors (Oyinlola et al., 2022).

3. International policy coordination and capacity building on new ambitious circularity standards, such as the EU Sustainable Products Initiative, will be important to avoid creating barriers to trade for developing countries who will struggle to meet such circular [product standards](#). Additional international efforts are necessary for harmonization, mutual recognition and implementation of these standards to facilitate circular trade towards reducing global [environmental impacts](#) (Yamaguchi, 2021).

If an explicit goal to reduce inequality is not embedded into the global circular economy transition, then a widening divide is the logical consequence. The circular economy research community needs to be aware of these issues and consider how the future circular economy research agenda can contribute to practical and political solutions.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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