



“An unintended benefit from the disruption of global supply chains by the COVID-19 pandemic is the compulsion to discover economies through the ‘scope’ of diversity within systems, rather than economies from ‘scale’.”

-Arun MAIRA

Image Source: A typical urban retail street scene in Ben Thanh district in central Ho Chi Minh City, Vietnam (2019). Image by Nicolas J.A. Buchoud, all rights reserved ©.



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Designing in circles: Global supply chains to locally circular economies

Expansion of global supply chains has been a principal driver of globalization. Production, marketing and financial systems have spread across nations' boundaries. The concept of "circular economies" is becoming attractive to manage ravages of unsustainable exploitation of the Earth's resources. Globalization has increased economic outputs as well as the concentration of wealth. Increasing inequality in incomes and wealth within and between countries is alarming. Wealth is being sucked up faster to the top of economies while the trickle down to the masses is slow. Circulation of wealth through the economy has reduced. Therefore, concepts of faster circulation within systems must be applied not only to materials and energy, but to wealth creation too.

"The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking,"

said Albert Einstein. Changing the design of economies from the paradigm of linear supply chains to a paradigm of circular systems requires changes in ways of thinking about designs of enterprises and economies.

Optimizing sub-systems in isolation of each other reduces sustainability of the entire system

Global supply chains are linear chains of raw materials, moving from producers to consumers. The growth of global transportation systems, along with lowering of international trade barriers, has enabled local producers of organic food to sell their produce to 'woke' consumers on other continents. However, the benefits of natural production are offset by large amounts of carbon emissions in the transportation of food. Moreover, with the expansion of its market, the local enterprise must scale up. It must use more land for the product in demand by clearing out other flora and fauna. Consequently, the environmental health of the local system deteriorates.

Scaling up produces economies of scale but reduces sustainability, which requires economies derived from the "scope" of systems. The latter requires diverse processes of production and consumption to interact with each other, so as to sustain each other. An unintended benefit from rising trade barriers due to the geo-political tensions, as well as the disruptions of global supply chains caused by the COVID-19 pandemic, is the compulsion to discover econo-

mies through the scope of diversity within systems, rather than economies from scale.

Locally circular supply chains are necessary for environmental sustainability. For systems' sustainability, the circle of production and consumption must be close and tight so that consumers become sensitive to the impact of their decisions on the condition of the wider system within which they are embedded.

Financial wealth extracted from social and environmental systems must now return faster to sustain them

There are similarities in the structures of the circular material economy and the circular financial economy. In the circular material economy, solid waste is generated from the production-consumption system, and it accumulates elsewhere, choking up landfills, rivers, and oceans. In the circular financial economy, financial capital is generated outside of the production system and accumulates within the financial sector. The financial sector has grown greatly within the global economy in the past three decades. Financial resources from banking are being invested in financial funds (e.g. hedge funds, derivatives, etc.) There, they create more financial wealth for investors; they do not immediately return into the production sector. Thus, the economic system is choked up by the accumulation of a virtual resource, i.e., money, in the financial sector, just as the environmental system is choked with plastic and other solid waste.

Business corporations are searching for profits at the bottom of the pyramid. They create innovative products and services affordable for people with low incomes, thereby expanding their markets. The profits flow to investors, wherever they may be in the world, and not the producers on the ground. Investors accumulate wealth from profits at the bottom of the pyramid, not the people.

The issue is: Who owns the enterprise? The people at the bottom, or only a few at the top? Until people become owners of their own enterprises, they cannot make profits from them nor accumulate wealth. Those who have wealth will make more wealth by investing their wealth in more enterprises for profits. Those with little wealth, or none, are left further behind. Therefore, more enterprises run and owned by the people are required to reduce wealth disparities. This was Mahatma Gandhi's model of locally circular economies. His spinning wheel was a symbol of the circular economy.

Local systems solutions are essential for solving systemic global problems

Slow growth of incomes at the bottom of the pyramid has begun to alarm politicians and economists. Investors are also concerned. If people do not earn adequate incomes who will buy the products and services from their capital-intensive, automated, enterprises? Implementing a "universal basic income" is an idea fancied by some

economists, who want to douse the fires though it will not address the root cause of the problem. People continue to have inadequate opportunities to earn a good income. Wealth at the bottom of the pyramid must be increased with more enterprises owned and run by the people - people who work and create value. With more wealth, they will have more freedom.

The material economy must become locally circular for environmental sustainability. The money economy must become more locally circular too for reducing economic disparities. The two economies are intertwined. The world needs local systems solutions to solve global economic and environmental problems.

Mahatma Gandhi had a message for wealthy capitalists. During our brief time on Earth, we think the wealth we acquire has become our property to do as we wish with it. However, we are only trustees of whatever wealth the system provides us. He had no issue with entrepreneurs operating their businesses more efficiently to produce more wealth. In fact, they should so that nothing is wasted. However, whatever wealth is produced must be invested back to improve the system from which it was obtained, and not wasted on extravagant consumption. Wealth must be used in service of society - from society it has come; to society it must return.