



SUNDAYREVIEW | OPINION

The Rise of Anti-Capitalism

By JEREMY RIFKIN MARCH 15, 2014

WE are beginning to witness a paradox at the heart of capitalism, one that has propelled it to greatness but is now threatening its future: The inherent dynamism of competitive markets is bringing costs so far down that many goods and services are becoming nearly free, abundant, and no longer subject to market forces. While economists have always welcomed a reduction in marginal cost, they never anticipated the possibility of a technological revolution that might bring those costs to near zero.

The first inkling of the paradox came in 1999 when Napster, the music service, developed a network enabling millions of people to share music without paying the producers and artists, wreaking havoc on the music industry. Similar phenomena went on to severely disrupt the newspaper and book publishing industries. Consumers began sharing their own information and entertainment, via videos, audio and text, nearly free, bypassing the traditional markets altogether.

The huge reduction in marginal cost shook those industries and is now beginning to reshape energy, manufacturing and education. Although the fixed costs of solar and wind technology are somewhat pricey, the cost of capturing each unit of energy beyond that is low. This phenomenon has even penetrated the manufacturing sector. Thousands of hobbyists are already making their own products using 3-D printers, open-source software and recycled plastic as feedstock, at near zero marginal cost. Meanwhile, more than six million students are enrolled in free massive open online courses, the content of which is distributed at near zero marginal cost.

Industry watchers acknowledge the creeping reality of a zero-marginal-cost economy, but argue that free products and services will entice a sufficient number

of consumers to purchase higher-end goods and specialized services, ensuring large enough profit margins to allow the capitalist market to continue to grow. But the number of people willing to pay for additional premium goods and services is limited.

Now the phenomenon is about to affect the whole economy. A formidable new technology infrastructure — the Internet of Things — is emerging with the potential to push much of economic life to near zero marginal cost over the course of the next two decades. This new technology platform is beginning to connect everything and everyone. Today more than 11 billion sensors are attached to natural resources, production lines, the electricity grid, logistics networks and recycling flows, and implanted in homes, offices, stores and vehicles, feeding big data into the Internet of Things. By 2020, it is projected that at least 50 billion sensors will connect to it.

People can connect to the network and use big data, analytics and algorithms to accelerate efficiency and lower the marginal cost of producing and sharing a wide range of products and services to near zero, just as they now do with information goods. For example, 37 million buildings in the United States have been equipped with meters and sensors connected to the Internet of Things, providing real-time information on the usage and changing price of electricity on the transmission grid. This will eventually allow households and businesses that are generating and storing green electricity on-site from their solar and wind installations to program software to take them off the electricity grid when the price spikes so they can power their facilities with their own green electricity and share surplus with neighbors at near zero marginal cost.

Cisco forecasts that by 2022, the private sector productivity gains wrought by the Internet of Things will exceed \$14 trillion. A General Electric study estimates that productivity advances from the Internet of Things could affect half the global economy by 2025.

THE unresolved question is, how will this economy of the future function when millions of people can make and share goods and services nearly free? The answer lies in the civil society, which consists of nonprofit organizations that attend to the things in life we make and share as a community. In dollar terms, the world of nonprofits is a powerful force. Nonprofit revenues grew at a robust rate of 41 percent — after adjusting for inflation — from 2000 to 2010, more than

doubling the growth of gross domestic product, which increased by 16.4 percent during the same period. In 2012, the nonprofit sector in the United States accounted for 5.5 percent of G.D.P.

What makes the social commons more relevant today is that we are constructing an Internet of Things infrastructure that optimizes collaboration, universal access and inclusion, all of which are critical to the creation of social capital and the ushering in of a sharing economy. The Internet of Things is a game-changing platform that enables an emerging collaborative commons to flourish alongside the capitalist market.

This collaborative rather than capitalistic approach is about shared access rather than private ownership. For example, 1.7 million people globally are members of car-sharing services. A recent survey found that the number of vehicles owned by car-sharing participants decreased by half after joining the service, with members preferring access over ownership. Millions of people are using social media sites, redistribution networks, rentals and cooperatives to share not only cars but also homes, clothes, tools, toys and other items at low or near zero marginal cost. The sharing economy had projected revenues of \$3.5 billion in 2013.

Nowhere is the zero marginal cost phenomenon having more impact than the labor market, where workerless factories and offices, virtual retailing and automated logistics and transport networks are becoming more prevalent. Not surprisingly, the new employment opportunities lie in the collaborative commons in fields that tend to be nonprofit and strengthen social infrastructure — education, health care, aiding the poor, environmental restoration, child care and care for the elderly, the promotion of the arts and recreation. In the United States, the number of nonprofit organizations grew by approximately 25 percent between 2001 and 2011, from 1.3 million to 1.6 million, compared with profit-making enterprises, which grew by a mere one-half of 1 percent. In the United States, Canada and Britain, employment in the nonprofit sector currently exceeds 10 percent of the work force.

Despite this impressive growth, many economists argue that the nonprofit sector is not a self-sufficient economic force but rather a parasite, dependent on government entitlements and private philanthropy. Quite the contrary. A recent study revealed that approximately 50 percent of the aggregate revenue of the

nonprofit sectors of 34 countries comes from fees, while government support accounts for 36 percent of the revenues and private philanthropy for 14 percent.

As for the capitalist system, it is likely to remain with us far into the future, albeit in a more streamlined role, primarily as an aggregator of network services and solutions, allowing it to thrive as a powerful niche player in the coming era. We are, however, entering a world partly beyond markets, where we are learning how to live together in an increasingly interdependent, collaborative, global commons.

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