

Introduction

At the onset of the 2007 Great Recession, professor Johnson of MIT revealed a powerful metaphor at the annual meeting of the American Economics Association. Highlighting the failure of existing economic models, Johnson noted that sustained progress in health and sanitation came only after society had discovered how diseases worked—what has become known as the germ theory of disease (Wessel, 2007). Economics, Johnson professed, has failed to make meaningful progress, for it has yet to discover its germ theory of disease.

The model of global market capitalism, while growing unprecedented levels of wealth for some, is built upon a faulty structure. This faulty structure is akin to a disease, placing every human at risk of supply chain disruptions, turbulent energy markets, political uncertainties among trading partners, and litany of social and environmental impacts. Hanging in the balance is the security, health, and prosperity of people across the world, the wholeness of our communities, and the ecosystems upon which we rely.

Protests against globalization have intensified over the last half century. And in the aftermath of the COVID-19 pandemic, another wave of public concerns arose, questioning the logic of an economy built upon eternal global market expansion. To be clear, the virus did not cause the subsequent economic calamity. The virus merely highlighted the cracks in our economic foundations.

The pandemic reminded us that at our core we are social beings. We thrive by nourishing the interpersonal bonds between us, and yearn for purpose within our community. The structure of our economy determines whether or not such purpose may be fulfilled, and governs the richness of our relationships. This includes the amount of time we spend with smartphones rather than with those we love; how motivated we are to work, pay taxes, or feed and clothe our neighbors; or whether we will ever know the people responsible for feeding and clothing us. Trite as it may seem, the structure of our economy further determines not only how well our needs of today are met, but how well our needs will be met in the age of economic turmoil lying ahead.

Ecosystems as Models for Restoring our Economies peels back those layers of the US economy that are the focus of policy, traditional economic theory, and social science to reveal the structure around which the system is built. That structure has been misunderstood—or completely ignored—by economists, politicians, and activists alike since the founding of capitalism. While capitalism has become truly global, monumental efforts have been waged by dozens of nations, and untold numbers of individuals and organizations, over the past century to resolve our most important social, environmental, and economic challenges. Painful as it may seem, we must question if our most critical problems can be solved without first resolving the economic flaws responsible for their creation.

My own efforts to synthesize the principles of ecology and economics grew out of a passion for preserving the integrity of earth's ecosystems, and the health of our communities. Of course, I too was ignorant as to how such a feat would be accomplished. I was studying business and ecology at San Diego State University in the early 90s when the relationship between ecosystems and economies first began to materialize. Yet the strength of the relationship, and where the overlap existed between these seemingly separate systems, remained only questions in my mind. I had no clue what the foundational components of an ecosystem were, let alone of an economy.

It was the era of exploding consumerism, and I, like so many conservationists, activists, politicians, and economists, was pondering how our economies may thrive without undermining the ecosystems and social systems on which we are utterly dependent. While working in the recycling and composting industry, I began volunteering to restore riverside forests and wetlands in the Seattle area, an experience that inspired me to

pursue a graduate degree in Restoration Ecology in Colorado. The next two decades were spent restoring highly disturbed landscapes across the arid west, while continuing my search for the relationships between ecosystems and economies.

Nudged by the Seattle protests against the World Trade Organization at the turn of the millennium, and then the Great Recession of 2007, I began dedicating myself to the research and content of this book. This included a synthesis of the foundational (i.e., governing) components that are responsible for building and sustaining the productivity, health, and resilience of ecosystems and economies.

Part I of this book explores the unique structure and properties of ecosystems and economies. Not only are economies and ecosystems governed by the same foundational components, but these two global systems have become tightly interwoven within the same space, to a degree that the health of one has profound impacts on the health of the other. However, one of them has been growing in unusual ways.

The structure and functioning of ecosystems suggest that economic growth must be focused on increasing the diversity and resilience of our economies, not on an ever-expanding gross domestic product. This one task requires a chain reaction of changes. How such change should be forged, and at what level growth should flourish, is also guided by our understanding of earth's most complex and resilient ecosystems, which is the sole focus of Part II. At the heart of this discussion lay three foundational components, fundamental drivers of the structure and functioning of both economies and ecosystems. In our economies, these components have been grossly mismanaged since the birth of capitalism.

With a fuller understanding of our economy's foundational components, we may manage them more intentionally, arming communities and nations with resilience against a future of expected economic turmoil. I attempt to provide this understanding not through mathematical theory or complex scientific concepts, but by synthesizing practical knowledge with familiar case studies from industry, biology, ecology, and from our shared economic past.

From the guidance of ecological restoration, Part III proposes a course for restoring our economies, such that humanity's essential social, economic, and ecological values thrive rather than struggle to exist. Mirroring self-regulating ecosystems, a network of restored economies may provide socio-economic benefits that endure beyond the span of a single presidency, trade pact, marketing campaign, or new technology. In the process, a more resilient economy may be born. One that delivers produce, toilet paper, semiconductor chips, pork, and medicine regardless of the price of oil, international politics, or the availability of government bailouts and subsidies.