Sudhi Seshadri, *The Art and Science of Managing Externality – Narratives and Metrics for the Sustainable Enterprise* (Independent Publication, 2021).

Sudhi Seshadri, a noted expert in management, has written an extensive analysis of how externalities shape and in turn are shaped at the level of firms and industries. Quoting extensively from research and policy sources, he lays out the various meanings of an externality, both positive and negative, and how they can be addressed within the context of enterprise management.

An externality is a side effect of a transaction involving the use of natural resources. While the consequences of an externality may be known by management, it poses the question of how they can be managed to the benefit of society at large. In its simplest terms, if an externality is positive, relying solely on private market prices through which management pursues a profit maximizing strategy is likely to result in an under-production of the output of firms relative to what would be socially optimal. In this case, a subsidy that expands the production of the good can result in a result that provides greater satisfaction to society. As to a rule, the extent of a positive externality should serve as the basis for the imposition of taxation on society at large such that the social cost is matched by the social benefit. Even Adam Smith in his 1776 treatise, *The Wealth of Nations*, noted such a positive role for government to play.

In contrast, and this is the generally implied dimension put forth by Professor Sheshadri, where negative externalities prevail, as in environmental pollution and congestion, the prices that shape a firm's decision result in more production than is socially optimal. In this case, the appropriate solution is to tax the output of firms up to the point where the social cost once again is met by the social benefit of reduced environmental pollution.

Getting prices right, a topic over which economists have devoted much research, used to be driven primarily by questions of efficiency at the level of firms in the presence of imperfect competition. Externalities were not a central preoccupation. In more recent years, externalities, in particular negative ones embodied in environmental pollution, have taken greater prominence. At a purely theoretical level, if you read Gerard Debreu's 1959 monograph, *Theory of Value*, you will find an innovative application of contemporary mathematics but in which externalities are largely absent. With growing emphasis on sustainability, economists devoted greater attention to how prices could be set to enable an efficient use of natural resources over time. Peter Timmer's 1986 publication, *Getting Prices Right – The Scope and Limits of Agricultural Price Policy*, addressed a perennial question of how to address commodity price variation. Yet it did not address sustainability. More recently, we have seen more ambitious research such as Herman Daly and Kenneth N. Townsend's 1993 volume, *Valuing the Earth – Economics, Ecology, and Ethics*.

As the scope of research on pricing has expanded, it also has raised the question of whether, in the presence of market failure characterized by externalities to what extent should government intervene to adopt, and enforce, the kinds of corrective actions outlined above. Sheshadri takes up this question as it applies to firms, identifying them as change agents to respond to questions of efficiency, equity, and sustainability. In a wide-ranging citation of

research that includes not just economists, but also those involved with governance and ethics, he points to the responsibility of firms to be active change agents in the presence of negative externalities in the form of environmental pollution, and global warming. In so doing, it raises a question that he assumes can be addressed within the prevailing constellation of firms, governments, and society at large. His answer is corporate social responsibility. Drawing implicitly on the largest firms in the spectrum of industries, he points to the role of managers and associated internal and external stakeholders as key change agents to bring about a sustainable and ethical response to environmental pollution and global climate change.

In taking this position he takes stock of the laws of thermodynamics, notably how the second law, entropy, frames managerial choices. With this come a few questions that as ambitious as this volume is, may still remain to be addressed.

First is the extent to which firms adopt corporate social responsibility as a unique approach to sustainability. There is a long line of research that points to how firms charged with social responsibility wind up maximizing outcomes other than even a social rate of return. Long ago, libertarian economist Milton Friedman argued that the business of business is profit maximization, which he evoked in his 1962 book, *Capitalism and Freedom*. There, Friedman pointed to the danger of firms becoming susceptible to externally driven management goals.

A similar refrain could be seen in reading any of Joseph Schumpeter's works, perhaps most notably his 1942 *Capitalism, Socialism, and Democracy*. Both share a simple recipe: firms in general but corporations in particular exist to maximize profits for shareholders and when the goal deviates from this objective, firms wind up being either under the caretakership of the state, or going out of business. Friedman argued that in a competitive economy, firms should be free to go out of business as well as to earn profits. But in any case, the social responsibility of firms did not extend beyond the boundaries of a private market social contract. In contrast, any failings in the form of inequality or unsustainability in the use of natural resources would be the responsibility of government and not of firms. This is a perennial question the answer to which we still do not have adequate solutions.

If one lives in a society where government control of firms is commonplace in the name of corporate social responsibility, it does not strictly follow that firms will respond to the ethos that Sheshadri puts forth so eloquently here. Instead, it may be that firms will adopt behavior that seems to be consistent with corporate social responsibility but in reality, in which they are immune to the pressures of a competitive economy. Here we run up against the problem of moral hazard and technical inefficiency. Technical efficiency is the mechanism in which a firm has incentives to seek the lowest possible cost in producing a given array of goods and service. Moral hazard exists when government adopts standards to protect a firm against risk those firms take on even greater risk with the knowledge that should they fail, government will step in to compensate them against failure.

Privately owned firms, to the extent that they are protected by government in support of such goals, are less compelled to engage in technical efficiency. The result is that they may

wind up wasting resources that exacerbate the problem of environmentally sustainable choices.

Without elaborating further here, one useful way to think about sustainability is who should bear the costs of risk. If one knew with certainty how and when the degree of environmental pollution would bring a completely irreversible increase in global climate change, matters might be simplified. We just do not now, even if we agree that global climate change is producing signals that it is not something to be ignored. The question is whether to embrace such goals as those evoked under the Intergovernmental Panel on Climate Change, or IPCC, are sufficient to mobilizes countries, and their underlying firms, to embrace measures that would lead to greater benefits for the global community at large.

All of this seems to suggest that the solution to externalities poses near insurmountable challenges. Yet, given the self-interest of firms, their managers, and primary stakeholders, managing externalities of the negative kind elaborated here should not be ignored. Sheshadri points to the need and a way to address them, even if how to retain suitable boundaries between government, firms, and societies still remains. Reading his book is one good place to consider when thinking of these challenges.

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