

Teaching Sustainability: A Systemic Approach to Canonical Microeconomic Theory and Sustainability

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1.- Background and problem statement

In a few decades, reinforced by the 2030 Agenda for Sustainable Development (UN, 2015) and other societal initiatives, sustainability has become a global megatrend, meeting the three conditions associated with a movement that is complex, impactful, and reflective of its historical context, proposed by Mittelstaedt et al. (2014).

Moreover, the thought of sustainability is increasingly present in the business world, from business schools to global financial markets, including the meeting rooms where business decisions are made. For instance, the Business Roundtable, possibly the most influential business association in the Western Hemisphere, changed its statement on the purpose of the corporation from serving its shareholders to delivering value to its stakeholders (Business Roundtable, 2019).

This rapid adoption of sustainability has created challenges across all areas of business, from theoretical development and teaching to business practices, generating a multitude of models, solutions, and practical cases in the literature across several disciplines. However, much of this knowledge relies on a basic economic understanding of the firm and the consumer. The basic

economic relationships among economic agents must be analyzed to ensure sustainability and to fit within the broader logic of the business sustainability environment developed by other disciplines.

2.- Objective

This paper focuses on the study of economic relationships between producers and consumers at their most basic level, using a systemic perspective to analyze the economic agents' interactions and terms, long-short, in which those exchanges occur, which may be crucial to understanding the sustainability-consistent and sustainability-inconsistent points in economic rationality modeling.

The working hypothesis in this paper is that advances in positive economics can be consistent with the development and flourishing of sustainability in business, with small but important changes that, without a doubt, imply changes in how business economics is taught in business schools seeking to adopt sustainability-flourishing business models.

3.- The Integrated Systemic Analysis of the Microeconomic Theory

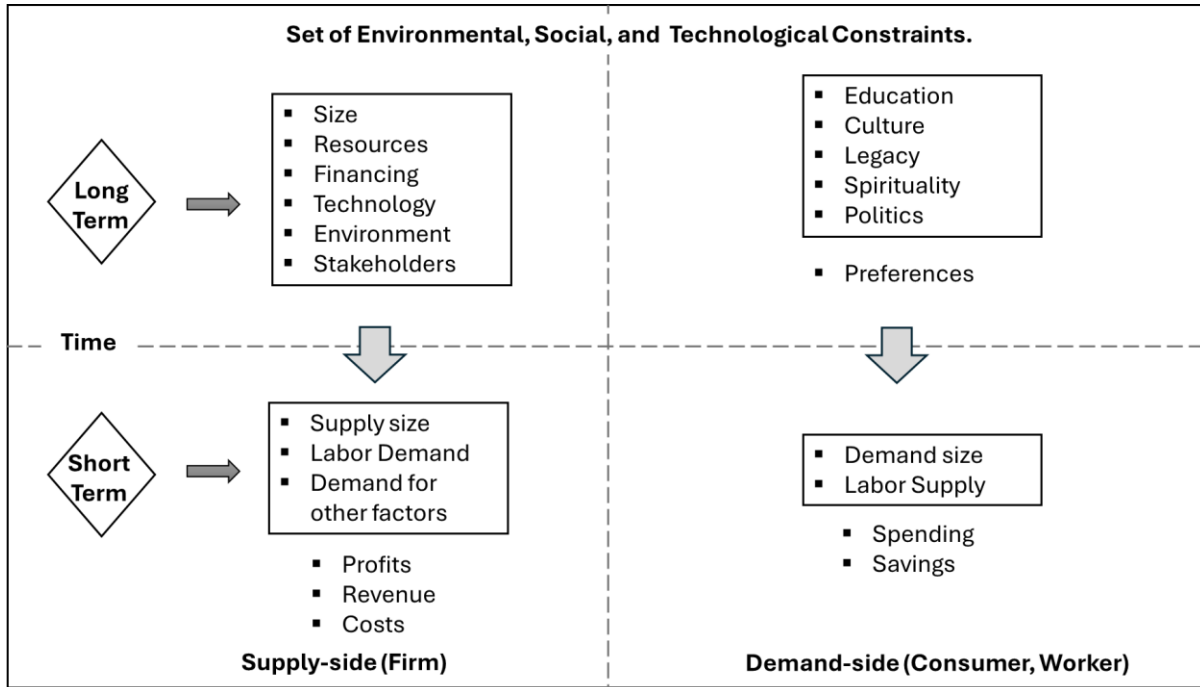
This paper integrates the decision spaces of the firm and consumers, traditionally segmented in consumer theory and firm theory in introductory and intermediate microeconomics textbooks, using Varian's (2003) model as the basis for the economic behavior of the consumer and the firm.

The full model is presented in Figure 1. In this systemic diagram of canonical microeconomic modeling, there are four quadrants; the two columns depict the two theories that compose the basic consumption, production, and investment behavior of firms and consumers. The two rows depict the long and short-term time-space in which decisions take place.

In the long term, the firm and the consumer establish the basis for their future behavior. For instance, in the long term, the firm decides on its technology, resources, financing, and relationships with stakeholders. Also, within this time horizon, consumers form their preferences, which reflect the systemic interaction among religion, culture, values, and education.

Long-term planning in the firm and the long-term process of consumer-preference acquisition have a significant impact on short-term economic decisions.

Figure 1. Decision Making in the Business Environment



Developed by the author based on Varian (2003).

In the short term, the firm must choose two interrelated variables: its output level and its demand for labor. It is assumed that, in the short term, the firm faces cost rigidities and technological constraints and must work around them to optimize its profits. The consumer has to decide the quantity and quality of goods and services it will consume, how it will allocate its time between work and leisure, and how it will allocate its disposable income among expenses, savings, and investments.

In this environment, sustainability has ample room to be integrated as a guiding principle into the model. Its natural space is in the firm's long-term planning and in the consumer preference-building process. It is here that sustainability can be integrated as a guiding principle across

technology, resources, and stakeholder relationships. Also, as a guiding principle in schools, spirituality and values are.

In the short term, if sustainability has not taken root in long-term processes, it will face a harder battle for space with the profit-maximizing paradigm and short-term utility-seeking consumers. Within this time horizon, the canonical model should be modified to address this difficulty and balance among people, planet, and prosperity, consistent with the triple bottom line theory (Elkington, 1997). Alternatively, these model adaptations can be consistent with the stakeholder theory (Freeman, 2010) or other theories that relate the firm's purpose to sustainability.

4.- Preliminary Results

4.1 The canonical model can be modified to integrate sustainability as a guiding principle of the economic activity of humanity. In the long term, this integration is theoretically straightforward; in the short term, it is challenging but still feasible. This has important implications for teaching economics at the basic and intermediate levels: the canonical microeconomic theory model can be used to teach sustainability.

4.2 The best time horizon to foster and measure sustainability is the long term. This has implications for researchers and practitioners, including the determination of the appropriate discount rate for investments and capital budgeting models (Rodríguez-Reyes, 2022).

4.3 This systemic analysis is also consistent with sustainability as a megatrend approach, originating in the Macromarketing literature (Mittelstaedt et al., 2014). In particular, this systemic analysis is centered on sustainability, reflecting the context in which it emerged.

4.4 In finance teaching, capital budgeting decisions are the key way to introduce sustainability as a guiding principle.

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