Is the Lack of Optimality at the Center of Unsustainable Conditions within Traditional Markets?

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Abstract

Environmental problems and social problems such as global warming concerns and poverty concerns, which continue to worsen as time passes, are increasingly putting pressures on decision-makers to find ways to do business under a framework of sustainable markets in hope of reaching improvements on those fronts. Therefore, there is a need for new theoretical and/or applied ways of identifying sources of market unsustainability, which can help us to guide us towards appropriate socio-environmental market actions. The general goal of this paper is to introduce a qualitative comparative framework that can be used to show that the lack of optimality is at the center of unsustainable conditions within traditional markets. Then, some relevant conclusions are provided.

Introduction

The diversity of traditional markets can be explored from different dichotomy angles such as scope, level of closeness, level of regulation, location, level of hierarchy, and level of development. From the scope's point of view, markets can be classified as local and global, which provides the rational to local and global frictions. The relevance of scope has moved recently from local to global through the globalization of development. Based on the level of closeness, markets can be grouped as opened markets and closed markets, which is the dichotomy that reflects the issues of free trade. Liberal policy pressures are pushing right now

traditional markets to increasing levels of openness. From the point of view of regulation, markets can be divided into regulated markets and non-regulated markets, which points out to the desirability of government intervention. Private sector interests are constantly seeking now as less government regulation as possible. From the location side, markets can be divided as central markets and periphery markets, which suggest the dominance of pooling market forces. Periphery markets are right now under constant stress as less protection or regulation or closeness due to liberal globalization has made them more vulnerable to central market forces. From the hierarchical points of view, markets can be termed primary markets and secondary markets, which exemplifies the relevance of some markets over others. Secondary markets are not capable of attracting high quality investment or goods and services as primary markets do. And based on the level of development, markets can be divided into developed markets and developing markets, which underlines the dynamics of rich vrs poor countries. As poor countries try to develop in similar fashion as developed countries and as developed countries try to maintain the status quo, poverty gaps are becoming more acute. From 1987 (WCED 1987) with the publication of "Our Common Future" to the 2012 Rio + 20 push to make the environmental issue the priority issue in development (UNCED 2012a; UNCED 2012b) to the current 2022-2025 push to solve the resource efficiency problems of linear traditional markets through circular traditional markets (WB 2022) leaving the environmental issue now behind we have been in process of seeking market sustainability through sustainable development means (socio-environmentally centered optimality) in the first case; through green market/dwarf green market means in the second case (environmentally centered optimality); and through circular markets in the third case(Traditional market centered circular optimality).

Traditional market characteristics

Regardless of the type of markets, their internal structure is the same as all of them can be said to exist to bring together demand (consumers) and supply (production units) so they can clear. In other words, markets

are said to exist, regardless of their type, due to the interactions of lifestyles and producers. Hence, the sustainability of any market depends on the sustainability of the interaction of lifestyles and producers or on the sustainability of lifestyles and the sustainability of producers interacting within it. The necessary and sufficient conditions for the existence of sustainable producers (Muñoz 2025a) and for the existence of sustainable lifestyles (Muñoz 2025b) have been recently pointed out. Below, a simple way of identifying optimality conditions or sustainability gaps is presented.

Goals of this paper

The general goal of this paper is to introduce a qualitative comparative framework that can be used to determine the optimality implications of possible types of sustainability gaps within traditional market scenarios. Then, some relevant conclusions are provided.

Terminology

The qualitative comparative terminology used in this paper is summarized in Table 1 below.

Table 1

M = traditional market m = non-traditional market

L = lifestyles are dominant l = lifestyles are dominated

P = producers are dominant p = producers are dominated

Methodology

First, a simple traditional market model(M) is introduced based on two components, lifestyles(L) and producers(P). Second, based on this market model(M), all 4 possible market scenarios are listed and described in general terms. Third, a definition of a sustainable market(M*) is provided to introduce the necessary and sufficient conditions for the existence of sustainability. Fourth, the characteristics of sustainable markets and those of the 4 types of market scenarios listed are compared to identify optimality implications or sustainability gaps. And finally, some relevant conclusions are provided.

Traditional market model

Based on the presence of lifestyles(L) and producers(P) in dominant form or not, the following market model can be stated:

1) M = L + P

The formula above indicates that there can be 4 different market scenarios as listed below.

Table 2 Different market scenarios

Type of market	Characteristics
M1 = Lp	Dominant lifestyle, dominated producer
M2 = lP	Dominated lifestyle, dominant producer

M3 = LP Dominant lifestyle, dominant producer

M4 = lp No clear dominance

Market based on dominant lifestyles (M1 = Lp)

One of the possible types of market shown in Table 2 above is the one where lifestyles dictate what sort of good and services producers must supply. Under this market, producers are very sensitive or responsive to changes in lifestyle's preferences. This view is consistent with current attempts to promote a consumer driven development model or green development model.

Market based on dominant producers (M2 = lP)

Another type of possible market listed in Table 2 is the one where producers determine the types of supplies to be available in the market. Under this market, lifestyles are very insensitive to changes in the production patterns of producers. This view is consistent with market approaches that were dominant before environmental concerns became relevant to producers.

Market based on integrating dominant lifestyles and producers (M3 = LP)

Another type of possible market presented in Table 2 is the one where the interaction of lifestyles and producers determine the types of supplies to be consume in that market. Under this market, both lifestyles and producers are very responsive to changes in each other preferences so that each time they interact with each other the market can clear. In other words, this market balances out the self-interest of lifestyles and producers. This type of market appears to be consistent with the so-called perfect traditional market.

Market based on non-dominant interactions (M4 = lp)

The last possibility listed in Table 2 is that where neither lifestyles nor producers dominate the market or there is no clear dominance, leading to possibilities of subsistence, barter or other transactions.

Sustainable market

A sustainable market can be defined as a market(M*) where optimal lifestyles(L*) interact with optimal producers(P*), which can be represented as follows:

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2) M = LP, where * = Optimization

The above formula implies that the necessary and sufficient condition for a sustainable market to exist(M*) is the presence of optimal lifestyles(L*) and optimal producers(P*) at the same time. Formula 2) suggest the existence of what the author calls internal optimization. Under this type of optimization, extreme lifestyles (consumption patterns) and extreme supply conditions (production patterns) can be considered sources of market unsustainability.

Formula 2) above can be restated as follows:

* *

3) M = (LP); where * = Optimization

The above expression shows that a necessary and sufficient condition for a sustainable market to exist(M*) is the optimization of the interaction of lifestyles(L) and producers(P) when both of them are in dominant form. Formula 3) implies what the writer calls external optimization. Under this type of optimization, inconsistencies between the preferences of lifestyles and the preferences of producers at the individual, community, regional, and global level can be taken as important sources of market unsustainability.

Sustainability gaps

By comparing the structure of optimal markets in formula 2 [M* = L*P*] and in formula 3[M* = (LP)*] with the 4 possible market scenarios shown in the Table 2 above, we can notice that none of the market scenarios in this Table 2 is consistent with optimal structures, and therefore, none of them is a sustainable one. In other words, the 4 market scenarios presented in the Table 2 above are not sustainable markets because they are not consistent with optimal conditions: They do not posses the necessary and sufficient conditions required for the existent of a sustainable market. These inconsistencies with optimality are called here sustainability gaps. Hence, the absence of optimal conditions in one way or another is at the center of presence of unsustainable conditions within traditional market mechanisms.

Notice that the elimination of sustainability gaps is not cost-free or sacrifice-free in all 4 market scenarios in Table 2 because it requires a change in lifestyle and production behavior from unsustainable states to sustainable ones. The main issue here is how to induce sustainable market behavior given that some people may be able to afford the lifestyles and production changes that may be needed, but others may not be able to do so. For example, lifestyles and producers from developed countries may be able to adjust to extreme market changes easier than lifestyles and producers from developing countries, especially cost-wise.

Conclusions

Based on the simplified market model(M) presented here there are 4 possible market scenarios. Based on the definition of a sustainable market(M*) introduced, it was shown that none of the 4 possible market scenarios is sustainable because they do not optimize the interaction of lifestyles and producers. In fact, based on sustainability gaps, it was shown that none of the possible market scenarios listed in Table 2 is a sustainable one because none of them meets the sufficient and necessary conditions

for the existence of a sustainable market: the presence of optimal lifestyles and optimal producers at the same time.

The above means that without optimality we may be able to find cases of sustained markets, at the local, regional, or global level, but not of sustainable ones. In other words, as long as there are sustainability gaps, traditional markets can not be optimal markets, which implies that the lack of optimal conditions is at the center of unsustainability within traditional market mechanisms.

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