

SOCIAL PROVISIONING PROCESS AND SOCIO-ECONOMIC MODELING

by

Tae-Hee Jo
Economics and Finance Department
SUNY Buffalo State College
taeheejo@gmail.com

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Abstract

The radical difference between orthodox and heterodox economics emanates from the different views of the capitalist socio-economic system. Alan Gruchy's definition of economics as the science of social provisioning felicitously describes the heterodox view that economy is part of evolving social order; human agency is embedded in the social and cultural context; a socio-economic change is driven by technical and cultural changes; and the provisioning process is open-ended. Following this view, we can add that the access to the provisioning process is controlled by the dominant agents in the society.

Such a definition of economics has ample methodological and theoretical implications for modeling the capitalist economy in a realistic manner. It lends itself especially to the theory of monetary production and a micro-macro synthetic approach. Thus the objective of this paper is twofold: 1) to examine how the concept of the social provisioning process can be clarified and extended by virtue of recent development in heterodox methodology and 2) to discuss how methodological development would nourish the heterodox modeling of the capitalist social provisioning process.

1 Introduction

The view that economics is the study of the social provisioning process determines the scope and method of economics. An ensuing theory would provide deeper understanding of how the social provisioning process of a society is organized and changing in accordance with existing values and social structures—including, but not limited to, class, gender, culture, power, politics, and environment.

This view is not a noble creation of contemporary heterodox economists, rather a revival of a major concern common to classical-critical thinkers such as Adam Smith, Karl Marx, Thorstein Veblen, just to mention. It is also well acknowledged that, given the contested disciplinary landscape, the concept of social provisioning is a useful guidepost for the development of heterodox economics. Institutionalists, Post Keynesians, Marxians, social economists, feminists, ecological economists, among others, have made valuable contributions to the advancement of heterodox economics with the view of the social provisioning process (Lee 2008*a*; Lawson 2003; 2006; Davis 2006; Harvey and Garnett 2008; Power 2004; Hutchinson and Mellor 2004).

An important implication follows: the concept of social provisioning leads to cross-communication and cross-fertilization within heterodox economics. It is expected that such endeavor will empower heterodox economics. To do so, we need to clarify what heterodox economics means and what the core principles of heterodox economics are. The former has been in debate, instead of in consensus. That is why cross-communication is required before cross-fertilization.

Let me briefly state my understanding of heterodox economics in order to facilitate the current discussion: Heterodox economics refers to historically grounded theories of the social provisioning process and the community of economists who produce such theories. Heterodox economics is in its nature pluralistic rather than monistic, social rather than individualistic, open rather than closed, procedural rather than equilibrial, value-directed rather than value-neutral, retroductive rather than deductive, dynamic-evolutionary-historical rather than static-optimal-ideal. Heterodox economics is born to be plural (O’Hara 1992; Dugger 1996; Lawson 2006; Power 2004; Lee 2008*a*; *b*).¹

In this paper I firstly discuss the core principles common to many heterodox economics

¹According to “100 Words on Heterodox Economics” reported recently by *Heterodox Economics Newsletter* (June 2010), the term, ‘pluralism’ (including ‘diversity’), appears most frequently (14 times in the statements by 26 heterodox economists). The second term in the order is ‘social’, and the third is history and uncertainty. Other defining terms are ‘reality’ and ‘complexity’. See <http://heterodoxnews.com/HEN/words.html>.

traditions so as to examine existing heterodox modeling methods with recourse to the social provisioning process. It is also necessary to point out that the author is a heterodox microeconomist. So it is believed that active-conscious human agents, when they are capable and/or empowered, make the entire social system open and going. Social structures, institutions, and aggregated data are outcomes of deliberate human actions. Thus human agency should be placed at the heart of economic analysis. The capability of human agent is either enhanced or weakened by institutions qua social structures in which agency is embedded. This standpoint limits the current discussion to a narrow range of issues with which I am concerned.

This paper is organized in the following order. Section 2 discusses the meaning and usefulness of the social provisioning process in doing heterodox economics. Section 2 examines various heterodox models and modeling methods—social fabric matrix, system dynamics, social surplus approach, in particular—from the social provisioning perspective.² The final section concludes the paper.

2 Social Provisioning Process: What and Why

Let me start with Gruchy's definition of economics.

According to present-day institutionalists, economics is the study of the on-going economic process that provides the flow of goods and services required by society to meet the needs of those who participate in its activities... the science of social provisioning (Gruchy 1987, 21).

Gruchy (1987, 21-23) demonstrates the 'science of social provisioning' with seven fundamental institutionalist principles:

1. *Cultural*: economic system is a “social-cultural product which operates in a real-world and that incorporates the consequences of its development over historical time.”
2. *Historical*: economic system is a “historico-cultural product in the form an on-going process.”
3. *Technological*: The prime mover of a social change is technology.

²Other models such as social structure of accumulation and social accounting matrix may be included in the list later.

4. *Open System*: the open nature of economic process
5. *Abundance* rather than scarcity: Economic system as a potential source of abundance
6. *Interdisciplinary* nature of economics
7. *Pluralism*: even incorporating the contributions of orthodox economists

Such a view of economics is, as [Polanyi \(1968\)](#) argues, distinctive from the mainstream view that is so limited that it can only be applicable to market activities. Heterodox economists have long recognized that human society is organized by both market and non-market activities; economic activities take place, and thus have meanings, in a social context. According to Polanyi, economy is

an instituted process of interaction between man and his environment, which results in a continuous supply of want-satisfying material means.

The human economy, then, is embedded and enmeshed in institutions, economic and noneconomic. The inclusion of the noneconomic is vital. For religion or government may be as important for the structure and functioning of the economy as monetary institutions or the availability of tools and machines themselves that lighten the toil of labor ([Polanyi 1968](#), 145, 148).

These principles are shared and elaborated by many later institutionalists. To summarize, institutionalism is (to be) cultural, complex, historical, realistic, emergent (or anti-reductionist), open-ended, path-dependent, dynamic, phylogenetic, and evolutionary ([Dugger 1996](#); [Tilman 1996](#); [Mayhew 1998](#); [Mearman 2002](#); [Hodgson 2004](#), 95-5, 246-7).

Not surprisingly many other heterodox economists find social provisioning germane to heterodox economics. For example,

“Social provisioning” is a phrase that draws attention away from images of pecuniary pursuits and individual competition, and towards notions of sustenance, cooperation, and support. Rather than be naturalized or taken as given, capitalist institutions and dynamics become subjects to be examined and critiqued ([Power 2004](#), 6).

And Frederic Lee defines heterodox economics from a social provisioning perspective:

[H]eterodox economists extend their theory to examining issues associated with the process of social provisioning, such as racism, gender and ideologies and myths. Because their economics involves issues of ethical values and social philosophy and the historical aspects of human existence, heterodox economists make ethically based economic policy recommendations to improve human dignity, that is, recommending ameliorative and/or radical, social and economic policies to improve the social provisioning and hence well-being for all members of society and especially the disadvantaged members (Lee 2008a).

Then why is social provisioning important for heterodox economics?

1. Heterodox economists can do away with market fundamentalism. By bringing social provisioning forward, one can start a study with a purview of the capitalist socio-economic system which including, but not limited to, both market and non-market activities, self-interested and cooperative behavior, control and resistance, accumulation of capital and provisioning of welfare, and the like. Market provisioning is a subset of the social provisioning process (Dugger 1996; Power 2004; Hutchinson and Mellor 2004).

2. Both methodological individualism and methodological holism become irrelevant to the explanation of the social provisioning process. Instead, interaction between active human agency and institutions should be stressed, since a human society is comprised of multiple structures, cultures, and agency which are intertwined at the various social strata. Moreover, emergent institutions and causal mechanisms are formed and transformed in the course of interactions. Therefore the qualitative linkage “between the ‘social’ and ‘systemic’” or “between ‘action’ and its ‘environment’” is to be the primary subject of heterodox economics (Archer 1995, 11). And Veblen makes the point clearly that the evolutionary process is the result of interactions between active human beings and evolving institutions.

[A]n adequate theory of economic conduct, even for statical purposes, cannot be drawn in terms of the individual simply—as is the case with the marginal-utility economics—because it cannot be drawn in terms of the underlying traits of human nature simply; since the response that goes to make up human conduct takes place under institutional norms and only under stimuli that have an institutional bearing; for the situation that

provokes and inhibits action in any given case is itself in great part of institutional, cultural derivation. Then, too, the phenomena of human life occur only as phenomena of the life of a group or community. . . The wants and desires, the end and aim, the ways and means, the amplitude and drift of the individual's conduct are functions of an institutional variable that is of a higher complex and wholly unstable character. (Veblen 1909, 629)

3. It follows that the micro-macro dichotomy is a limited analytical device so that there is a need for heterodox microfoundations of macroeconomics. Heterodox microfoundations begin with the active human agency embedded in the social provisioning process. And the theoretical focus is the in-depth analysis of the historical or evolutionary process. Such a microfoundation is contrasted with neoclassical microfoundations based upon passive-atomistic individuals. Heterodox microfoundations maintain that real human agency and emergent institutions are taken into account as the driving force of social provisioning. That is to say, in the complex and open social provisioning process, the free transition between micro and macro is not possible. The linear linkage between cause and effect should be avoided. In this context, it is active human agency that makes the system open and going (Jo 2007; Lee 2010).

4. When it comes to the *capitalist* social provisioning process, the understanding of class, dominance, power, control, and regulation becomes important. Unlike the market provisioning process in which vendible goods and services are exchanged through the price mechanism, social provisioning requires explanations on how goods and services are produced, how social surplus is created, how agents get access to and engagement in the social provisioning process, and how social institutions including market institutions are organized and controlled so as to ensure the class interests and/or the reproduction/stability of the entire system. Indeed, these issues have long been discussed by many heterodox economists with an emphasis put on a different aspect. For example, the theory of monetary production manifests that the participation in the social provisioning process by social agency (workers, capitalists, and the state) through state money can be systematically delineated in the determination of income distribution, prices, and output (Marx 1990, 293; Veblen 1904, 50-1; Keynes 1979, 81-3; Hutchinson and Mellor 2004).³

Consequently, a theory grounded in the social provisioning process provides the ground for theoretical progress, whether it is using a historical narrative or a empirically grounded socio-economic models.

³See Lee and Jo (2010) for the discussion on heterodox social surplus approach starting with the social provisioning process.

In the following section, the various socio-economic models such as social fabric matrix, system dynamics, and social surplus approach are discussed with regards to the methodological principles delineated above.

3 Socio-Economic Modeling

3.1 Models and Heterodox Economics

While mainstream economists are nearly in total agreement on using formal models, heterodox economists are divided in their position on formal models. Mathematically proficient heterodox economists argue that heterodox economists should make more use of formal methods such as game theoretic models and econometric tools like simulation and calibration (Colander 2003; Radzicki 2003; Foster and Potts 2007; Gibson 2008). They seem to believe that the usage of formal models would render heterodox economics more popular so that there will be a productive scholarly communication with the mainstream (Colander, Holt and Rosser 2004; 2007-8).

Many other heterodox economists are skeptical about developing heterodox theory in a formal way since the formal method is a fundamentally limited way of analyzing the social reality (Eaton 1965; Georgescu-Roegen 1979; Rima 1994; Sugden 2001; Varoufakis 2008). Apparently, Veblen was in the latter group. He sets forth that mathematical formulations reflect no more than observed ‘idle quantitative concomitance’ of the reality, while cumulative causation that is essential to the evolution of social institutions is a “fact of imputation, not of observation, and so cannot be included in data” (Veblen 1961, 32-55). Perhaps, the most strongest rejection to mathematical formalism is explicated by Tony Lawson. He argues that formalistic-deductive framework is *the* core of modern mainstream economics and it is “mostly inappropriate to social analysis that ultimately underpins the heterodox opposition” (Lawson 2006, 488-493).

In short, it is clear in skeptics’ view that the social world is not like the natural world or a controlled laboratory. Society is peopled, structured and organized so that the reality is more complex than the model that we articulate with the best available formal tool. At the same time it should be noted that those skeptics do not totally reject the use of quantitative-formal methods. Quantitative models are serviceable if they are properly used to capture *ex post* reality or demi-regularity (Lee 2002, 795-6; Lawson 2003, 105-6; Downward and Lee 2004). Therefore, whether using analytical-historical narratives or quantitative models, what is important for conducting heterodox analysis is to provide causal explanations of the social provisioning process in which active human agency

is fully operational. If a theory or a model is taken for granted without recourse to the social reality, “then man is not a “prime mover.” Rather, humans, and society as a whole, merely respond to extra-societal laws and forces over which they exert no control” (Henry 1986, 382).

Consequently, a constructive strategy for heterodox economics would be to better explain the social reality without losing active human agency, emergent social institutions, underlying structures and cultures, and the instability and/or reproduction of the system as whole. To this end, modeling can be utilized as a method of inquiry. That is to say, models are to be designed to provide “actual explanation” rather than “conceptual exploration” (Sugden 2002, 117).

As discussed in the following section, heterodox models are, more or less, built with the emphasis on actual-historical explanation. For the sake of finding constructive communication amongst heterodox model builders, I will examine representative heterodox models from the social provisioning perspective.⁴

3.2 Heterodox Models

3.2.1 Social Fabric Matrix

Social fabric matrix (SFM) is an Institutionalist analytical tool composed of five interdependent categories—values, beliefs, institutions, technology, and environment—organized through three integrative forms of activities—reciprocity, redistribution, and exchange—that are essential to understand the modern capitalist society. SFM is designed to “assist in describing the system and providing the data base for evaluation, planning, especially for a complex technological society” (Hayden 1982, 653). This is a general SFM framework and of course some components can be temporarily left behind when it is unnecessary. For example, Hayden (2009b) illustrates the SFM of Nebraska state aid for a local K-12 public school system. In this case study, the defining components of SFM are social beliefs, authority institutions, and processing institutions. That is, SFM is flexible such that it can be built for different levels of inquiry and for different social events.

Perhaps, the most important advantage of using SFM is its comprehensiveness in the account of social issues. It is rendered possible by incorporating both economic and

⁴At the current stage of the paper, I will raise heuristic questions rather than provide thorough examinations.

social elements identified by institutional-heterodox economists. The economic domain (i.e., intra-industrial flows of goods and services) represented by the input-output matrix is a part of SFM. It can be described with ample implications that economic activities are embedded in and interdependent with the surrounding social domain that is composed of institutions (including, but not limited to, rules),⁵ culture (values and beliefs), environment, and technology. As such SFM is fully grounded in the institutionalist-evolutionary principles as well as the concept of the social provisioning process.

Another notable advantage of SFM is its capacity to illustrate the inextricable linkage between the micro and the macro in the social provisioning process. [Hayden \(2009a\)](#) notes that

The [process] matrix is meant to capture the characteristics of the parts, as well as the process of the whole. This is accomplished by a nonequilibrium, noncommon denominator process matrix,... there is no final demand, absolute requirement, or end to the process. ([Hayden 2009a](#), 645)

However, it should be noted that delineated structures are not causal mechanisms. Neither is SFM itself an open-system *per se*. SFM requires causal explanations on how such a system is organized, changing, and transformed by agency.

Apparently, SFM is an excellent and sophisticated model in describing internal structures and complicated internal interrelationships (dependence and feedbacks). But SFM is not without weakness. For the sake of further development of SFM, I would like to raise following questions.

1. How is the system (or matrix) organized in such a way as SFM finds?
2. What are the underlying causal mechanisms that such institutions are historically formed?
3. Which agency is ruling and controlling its part or the entire matrix?

⁵Note that neo-Schumpeterians tend to equalize rules to institutions in the evolutionary process, following the Schumpeterian tradition rather than the Veblenian tradition. So it becomes the matter of making/innovating rules by independent-capable individuals (i.e. entrepreneurs) ([Dopfer, Foster and Potts 2004](#); [Dopfer and Potts 2004](#)). [Hayden \(2009b\)](#) and [Elsner \(2007\)](#) argue that such a viewpoint is problematic since agents without power, value, beliefs, and social relations do not exist. “An agent is not an [isolated] individual” ([Hayden 2009b](#), 231).

4. How does a dominant agent obtain its authority and legitimacy?
5. Can class (and class conflicts) be incorporated to SFM?
6. How is the (in)stability of an institution or a system as whole explained?
7. How does a radical change in the system happen?

3.2.2 System Dynamics

According to Radzicki:

System dynamics is a computer modeling technique originally developed by Jay W. Forrester... for the purpose of simulating socioeconomic systems in a realistic manner ([Radzicki 2010](#), 3).

It [system dynamics] is dynamic, disequilibrium approach to modeling complex systems that portrays human behavior and micro-level decision making as it actually is (i.e., bounded or procedural rational goal seeking) rather than it might be in an idealized state ([Radzicki 2003](#), 138).

The system dynamics modeling process is aimed at creating of a decision maker's mental model (consistent with any available numerical data or written information) so that it is made precise and its underlying assumptions are stated and open to inspection by others. In addition, since a system dynamics model can be simulated on a computer, the modeling process enables the dynamic behavior inherent in a decision maker's mental model to be accurately revealed ([Radzicki 2003](#), 151).

A system dynamics (SD) model is composed of three parts: a set of assumptions, descriptive relations (stocks, flows, feedbacks, and limiting factors), and simulations (projected changes over time). For example, a SD model of three firms competing for a greater market share (see [Radzicki 2003](#), 160-4), begins with a set of assumptions (e.g., three virtual manufacturing firms with equal initial market share, identical products, price competition, price change by increasing either quantity or efficiency). At the second phase, the behavior of each firm is described by the changes in stocks of production and knowledge through the learning-by-doing process. The third phase of the model is the simulation of the market share for each firm. As a result, Radzicki finds the implications of the model like below:

What is clear from the simulations,..., is that the behavior of the model is emergent and path dependent. The time path each firm will take during any simulation run is not knowable from inspection of their microstructure, and the dominant firm can be different from run to run. The model does a nice job of illustrating the importance of efficient production, learning by doing, learning from rivals, and protecting proprietary production methods. (Radzicki 2003, 163-4)

I find SD useful to the extent that the model results are consistent with the real world and that one needs to consider both microstructure and the system as a whole in order to fully understand the interdependent evolutionary process over time (Radzicki 2010, 6). The model results, however, are not new findings. Strategic and path dependent decision making process under uncertainty, importance of knowledge and legal institutions, and the like are well articulated by many heterodox economists.

Additional problems in the SD modeling can be pointed out.

1. It may be necessary to tame the real world in order to find systematic causes and effects related to an issue in hand. However, assumptions made in the SD model are unrealistic. It is hardly possible to represent actual business activities as in the above SD model. In other words, “system dynamics work is usually completed with made-up components, relationships, and data that are not based on real-world findings” (Hayden 2009a, 1062).
2. The notion of (dis)equilibrium is problematic. SD requires the equilibrium state (and thus the system be closed) at the initial stage in order to proceed its dynamics. Otherwise, it is hardly possible to find meaningful conclusions concerning a shock–responses–change process (Radzicki 2010, 20, fn 12). The genuine social provisioning process, however, has nothing to do with an equilibrium or disequilibrium.
3. A good SD model is the one which “[makes] sure that the model’s structure and behavior correspond as closely as possible to those of the real-world system experiencing the problem. As more tests are passed, more confidence is generated in the model’s results” (Radzicki 2010, 7). Such is exactly what mainstream economists do:

A ‘theory’ is not a collection of assertions about the behavior of the actual economy but rather an explicit set of instructions for building a parallel or analogue system—a mechanical, imitation economy. A ‘good’ model, from this point of view, will not be exactly more ‘real’ than a poor one, but will provide better imitations (Lucas 1980, 697).

In addition, following questions can be raised:

1. How does SD say about a qualitative or fundamental change in the system itself?
2. How is the system behavior different from agent's (actual) behavior?

3.2.3 Social Surplus Approach

See [Lee and Jo \(2010\)](#).

4 Conclusion

- With social provisioning as the basis of a heterodox study, heterodox models, as a method of inquiry, can be established so as to delineate the capitalist social provisioning process.
- With a particular issue at hand, an appropriate model is chosen and developed.
- The methodological core attached to social provisioning would provide a common ground for heterodox models.

To be completed.

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