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Imperfection as the Norm

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Abstract. Although we generally teach economics as if markets formed a perfect system, in reality, there are many instances of partial and complete market failure in the real economy. Imperfections complicate models and analyses. Therefore, it is better to first introduce students to the model of the ideal-typical perfect system. In addition, in many circumstances, equilibrium and partial equilibrium models derived from the ideal-typical system have yielded good insights and results. However, ignoring imperfections carries several costs, including neglect of the role of institutions, and probably too much confidence in the self-correcting power of markets by policy makers.

1. Introduction

The current economic downturn is a reminder that our economies depend on a complex system of interlinked markets, supported by formal and informal rules and organizations, and physical infrastructure. These economies are resilient in the sense that they can absorb minor shocks themselves and somewhat larger shocks with the help of appropriate interventions. Every once in a while, however, we encounter a shock that challenges the ability of business leaders and policy makers to respond adequately because of the magnitude and complexity of the shock, and because its causes and effects span multiple policy regions. This is our current situation.

The post-WWII generations have until now been spared a deep and long world-wide economic downturn. Growth and development, though occasionally interrupted for a short time, has been steady in almost all countries and the socio-economic well-being of the world is much better today than what it was fifty or even twenty-five years ago. Thus, some began to ask if we were witnessing the end of the business cycle (Weber, 1997). The long expansion in the 1990s generated enough such talk that *The Economist* (1999) felt compelled to publish a caution against too much optimism. We are used to think in terms of steady progress in knowledge and well-being, but we do well to remember that the idea of progress is itself a relatively recent phenomenon (Bury, 1960).

Performance and the likelihood of progress depend in large part on the quality of human systems and institutions. But economic systems are manmade and as such differ in quality of “construction” of the institutions, rules, and infrastructures that define and enable them. In addition, those institutions, rules, and infrastructures require maintenance (for example in the

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form of consistent enforcement of the law). When maintenance is neglected, the efficiency of some or all of the markets in the economic systems will be affected.

This address will make a case for teaching economic theory from the perspective that imperfection is the norm and not the exception, which is almost the exact opposite of how we currently teach economics. The perfectly competitive economy is an ideal-typical system that serves at least three useful purposes. First, it is an effective tool for introducing students to economics. Second, research using partial and general equilibrium models has yielded useful results, particularly for short and medium term policy analysis and forecasting, as well as for insights into the workings of individual markets. Third, the ideal-typical system provides an important benchmark against which to judge our current system and policies. It is, however, not a description of the reality we live in, which is characterized by imperfections. Imperfection as the term is used here is to be understood as any deviation from the ideal-typical perfectly competitive model.

2. The Prevalence of Imperfection in the Real World

Imperfection is usually presented as the result of flaws in the economic system, referred to as externalities. Externalities arise because of institutional arrangements that separate the benefits of an action from its costs. They can be the result of poor institutional design or of the practical impossibility of matching costs and benefits of an action. Both aspects have been widely explored since the publication of Coase's seminal work (1960). However, externalities are not a necessary condition for the perfectly competitive system to yield socially suboptimal results.

Land is a critical input in production and all human activities occur somewhere in space. Although a great deal of economic theory can be formulated without explicit consideration of space and the input land, this is not the case in regional science. In our multi and interdisciplinary field, space and distance cannot be ignored. Hotelling (1929) demonstrated that the locations chosen by sellers may not be socially optimal. Of course, this result depends on special assumptions and need not be generally true. The result is nevertheless theoretically significant because it shows that, even in the absence of market imperfections, distance may cause socially suboptimal outcomes. Work on competition for geographical market share resulted in spatial pricing models (Greenhut and Ohta, 1975; Ohta, 1988). From these models we conclude that if suppliers are separated from each other, then the costs of overcoming distance create limited local monopolies. Therefore, the spatial economy, that is, the real world, is characterized by monopolistic rather than perfect competition (Fujita, Krugman, and Venables, 2001).

Even in a perfectly competitive environment a market may fail to form altogether, although social benefits exceed social costs. As Waldfogel (2008) demonstrates, this may happen when firms differentiate their products in response to different preferences of consumers. If production is lumpy because of significant fixed costs, then it is possible that in a perfectly competitive market a good or service will not be provided even if the total social benefits exceed total social costs. (The commodity will be provided, however, if the producer is able to discriminate to appropriate the consumer surplus.) This has implications for how responsive the market is to consumer preferences. As Waldfogel (2008) shows, it is possible that preference minorities could be underserved, depending on the fixed cost relative to the size of the market. Another implication is that, contrary to conventional wisdom and intuition, depending on

circumstances, trade can result in reduced rather than enhanced consumer choices. In summary, lumpy markets may lead to market failure (prevent socially desirable markets from forming).

In the first introduction to economics and market, we usually explain to our students that firms have to be responsive to consumers or the latter will leave and buy from someone else. As Hirschman (1970) recognizes, this implicitly assumes that different firms supply perfect substitutes because, if there is product differentiation, then consumers may use voice to effect change in the firm's behavior, rather than exit from the market. In a related argument, Scitovsky (1978) notes that consumer complaints affect product quality. However, because only those who complain bear the cost, but all consumers benefit, the number of complaints (Hirschman's voice option) will be socially suboptimal. This is another source of imperfection (inefficiency) in the market.

The point of discussing the preceding sources of imperfection is to show that we do not have to rely on conventional externalities—or natural monopolies—to explain market failures. There are many sources, with space and distance being important factors.

3. Disadvantages of Over-reliance on Perfectly Competitive Static Models

One characteristic that sets capitalist economies apart from other economic systems is their dynamic nature (Hayek, 1994; Marx, 1990; Schumpeter, 1950). In a capitalist society, entrepreneurs are constantly in search of new opportunities and exploring new ideas (Atkinson, 2004). Governments also seek to change conditions; I know of no political party that campaigns on the platform of preserving the status quo. In a dynamic economy, producers face uncertainties they would not encounter in a static society, namely the possibility that a currently profitable product will be replaced by something even better. When that happens, consumers who bought that product will be left with a devalued asset and producers with a smaller or no market and possibly obsolete production facilities. Some workers may lose their jobs and have difficulties finding a new one because their skills have become obsolete. The search for innovation makes capitalism a productive economic system, but it also generates uncertainty and winners and losers.

In a static system, we can ignore the institutions that govern markets because there is no need for them to change and adapt. We can take them as given and unchanging and invoke the *ceteris paribus* assumption in our modeling efforts. Unfortunately, the reliance on static models that assume stable economies, and on comparative static analysis in teaching economics, particularly to undergraduates, allows us to ignore institutions that are critical to the efficient functioning of markets. We just experienced what can happen when institutions do not keep pace with product developments in financial markets. The result was a severe world-wide economic crisis. Thus, if we want to analyze change, we cannot ignore institutions (Roemer, 2009).

Many of us working in regional science are interested in the development of models with policy implications, that is, we are interested in providing ideas how to effect change. In most instances, since the change we help bring about is gradual, the *ceteris paribus* assumption about institutions still holds approximately in the short and possibly the medium run; it is far less likely to be justified in the long run, however, or if we consider the cumulative effects of several policies.

A few years ago I had the opportunity to work on a regional development project in the People's Republic of China. Change in that country has been so rapid that not only should we not

assume that institutions are constant, but changing existing and developing new institutions may be among the most important tasks for development to avoid many pitfalls. Liebenthal (2008) illustrates institutional problems with respect to the protection and management of water resources in China that are at least partially the result of poor coordination between regulatory agencies. When growth was slow they had time to react and poor coordination did not become a critical issue. But China's economy has grown several-fold over the last two decades, and lack of an institutional design that allows appropriate measures to be taken quickly has caused severe water problems. While other cases may be less dramatic, the relative lack of research into the role of institutions in development and the success of economic policy leaves us short of tools to advise policy makers.

I stated in the Introduction that partial and general equilibrium models serve at least three very useful purposes. Therefore, I am not proposing a sudden change in how we teach economics to our students. In addition to the fact that the models we teach are useful and successful in many instances, it would be didactically unwise to start with more realistic and hence more complex models. However, I believe that neglecting the roles of institutions has led not only to a relative lack of knowledge, but worse, to a lack of awareness of their importance.

To illustrate my point I compare the United States and Switzerland because of my familiarity with both countries. Although Switzerland's constitution was modeled in the 19th century after that of the United States, in details these two sister republics have found different solutions. Multilingual Switzerland would have broken apart had it insisted on a strong central government. Instead, the Swiss government structure gives even more taxing power and delegates more public expenditures to the state and local levels than is the case in the United States. As a result, sub-national governments in Switzerland collect a higher percentage of total taxes (40.8 percent compared to 4.8 percent in the United Kingdom and 34.4 percent in the United States) than in any other industrialized country (OECD, 2009). As a consequence, the actions of Swiss sub-national governments carry much more weight in counteracting the current world-wide economic slump than those of sub-national governments in most other OECD countries. In terms of macroeconomic modeling, it makes much more sense to treat government as a single entity¹ in the case of an economy like that of the United Kingdom than in the cases of Switzerland or the United States. Failure to take account of such institutional differences will result in suboptimal policy recommendations.

4. The Challenge and its Rewards

Krugman (1991, p. 4) explains that "The neglect of spatial issues in economics arises for the most part from one simple problem: how to think about market structure." The difficulty of incorporating space in mathematical models may also have contributed to its neglect. Again from Krugman (1992, p.4): "Indeed, as standards of rigor in economics have risen over time, the study of location has been pushed further and further into the intellectual periphery." The sources of imperfection mentioned earlier also complicate mathematical models, making them more difficult and less tractable, and model development more challenging. If we want to contribute to long term policies, or consider the impact of policies over the long term, we have to account for imperfections and institutions. In fact, if we ignore the role of institutions, we rob the set that contains our tools for policy analyses of an important dimension.

¹ For example in the equation $C+I+G=S+T+M-X$ in simple macroeconomic models.

The following are difficult challenges, and it will take time to properly address them. In my opinion, however, the rewards are worth the effort.

1. Market conditions are determined by rules and regulations. Who gets to make the rules (Schmid, 2004)? In equilibrium there is no incentive for rule changes and we therefore (can) ignore this important question. By including institutions in our analyses, we add an important dimension to our tool box. By focusing on who gets to make the rules, we are also forced to deal with fairness *ex ante*.
2. If we assume that, in general, markets are perfect, then policy making will be on the defensive and has to first prove that market failure exists. By contrast, if we accept that imperfection is the norm, then we “only” have to demonstrate that intervention would lead to a Pareto improvement.
3. Markets are great institutions. In most cases they efficiently coordinate the actions of large numbers of participants, and the prices they generate provide useful information about scarcity to consumers and producers. Furthermore, they are compatible with individual autonomy and democratic decision making (Friedman, 1962; Hayek, 1944). This is a stronger justification of markets than claiming that they bring about Pareto optimal outcomes, when it is so obvious that most markets are not perfect and we cannot even be sure that leaving them alone will result in a second-best outcome (Lipsey and Lancaster, 1957).
4. Utilitarian ethics provides the philosophical foundation of modern economics. This ethic is outcome-oriented. By contrast, a rule-bound ethic, such as one incorporated in the Golden Rule or advocated by Emmanuel Kant, is process-oriented. Thus, Simon (1986) alerts us to the different meaning of rationality in economics and psychology. Branco (2009) explains how the difference between a utilitarian and a rule-bound ethic matters when we deal with positive rights, that is, with entitlements rather than commodities (wants). His work suggests potential boundaries for the application of an economic approach based on a utilitarian framework.
5. More attention drawn to dynamic behaviors. In a static system, we can ignore stock variables; in a dynamic system the stock variables link the past, the present, and the future and cause the dynamic behaviors.
6. More attention drawn to dynamic interdependencies. In economies with stocks that are mobile between regions, the dynamics of one region influence the dynamics of other regions.
7. More systematic attention paid to market failures. At present we do not know how prevalent and how serious most market failures are, and are not well aware of causes other than externalities. Would not these questions be worthy of policy research?
8. Finally, considering policy intervention as something reasonable when market outcomes leave us dissatisfied might renew interest in Tinbergen’s Principle. This principle states that we need at least as many policy instruments as we have policy objectives (Tinbergen, 1952). If we pay attention to the Tinbergen Principle, we will avoid policy overreach—trying to reach more objectives than we have tools for—and maybe pay more attention to the development of new policy tools.

5. Summary and Conclusions

Markets are human creations. The rules and regulations that govern them are formulated by people and play a significant role in determining market outcomes, that is, how and to what extent different groups benefit (Schmid, 2004). Unless we find a way to make interpersonal utility comparisons, we cannot know if one set of reasonable rules yields a Pareto superior outcome to an alternative set of rules. More generally, I have argued that market imperfections are the norm, not the exception. Therefore, objections against market interventions because they supposedly disturb a Pareto optimal resource allocation are unfounded. I am *not* advocating that we therefore should open the door to policy interventions. This could lead to a heavy handed government that undermines individual decision making. Policy intervention must always be justified by demonstrating that doing something significantly improves outcomes. My main point is to show that market imperfections are the norm and that, therefore, systematic research in the nature of imperfections is desirable, as well as systematic research into policy and policy instruments.

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