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# Stephen Margolis's Contributions to Economics and Political Economy

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PETER J. BOETTKE

**S**tephen Margolis's contributions to economics and political economy deserve recognition.

Margolis is a product of the University of California at Los Angeles (UCLA) Ph.D. program during the “Golden Era” of the 1970s, receiving his degree in 1978. This was a time of great contributions to microeconomics, in particular price theory and industrial organization, by UCLA economists, including Armen Alchian, Harold Demsetz, and Jack Hirshleifer. There were also significant contributions being made in macroeconomics by Robert Clower and Axel Leijonhufvud, which attempted to provide an alternative set of microfoundations to the New Classical Economics of the Chicago School. One important characteristic of the UCLA approach was that it studied economic forces *at work* rather than merely focusing on equilibrium states *after* the economics forces have done the job. In this sense, the UCLA tradition was one that focused on market processes and how the institutional framework of property rights, contract law, and the ordinary business of politics influences that market process. The key to the analysis was the incentive structure within which individuals found themselves operating rather than the individuals' pure decision calculus.

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**Peter J. Boettke** is a University Professor of Economics and Philosophy at George Mason University.

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Margolis, along with his fellow UCLA graduate Stan Liebowitz, internalized these lessons and went on to make fundamental contributions to economics, economic history, political economy, and public policy. In this essay, I briefly discuss his contributions to economics, their impact, and their potential for our understanding of the nature of the market, competition, innovation, and public policy.

By the mid-1980s, the “new learning” of industrial organization (which had resulted from the contributions made by Alchian, Ronald Coase, Demsetz, and others) was being replaced by a “new new learning” in the journals and among policy makers. Instrumental to the success of this new literature was the discovery of a whole new class of market failures caused by increasing returns and network externalities. The theoretical relevance of network effects for industrial structure, monopoly power, and economic efficiency first explored by Michael Katz and Carl Shapiro (1985, 1986) provided the foundations for the theory of increasing returns and lock-in later developed by W. Brian Arthur (1989). Arthur suggested that in the presence of network externalities, the often repeated claim that “history matters” assumes a new meaning: the decentralized decision making in an unhampered market can (and often will) lead to significant losses in productivity. For example, Paul David (1985) showed that network externalities can result in a lock-in to a suboptimal technology and discussed the case of the QWERTY keyboard. According to David, the scientific and historical consensus was that the QWERTY keyboard, which was developed to address the specific needs of mechanical typewriters, had survived the test of time notwithstanding the emergence of vastly superior competitors, among which was the Dvorak or simplified keyboard.

According to Liebowitz and Margolis’s (2012) own recollection, it was the claim that large profit opportunities were being left on the sidewalk that led them to investigate these arguments more closely. In a series of papers published between 1990 and 1995, the two would strike a major blow to the lock-in literature and its relevance to economic policy making. They addressed the empirical evidence, conceptual coherence, and practical implications for public policy of the claims for pervasive market failure associated with network effects and increasing returns.

By this time, Margolis had already made significant contributions to the field of housing economics (1981, 1982), industrial organization (1985, 1989), and law and economics (1987). The latter paper, “Two Definitions of Efficiency in Law and Economics,” discusses a fundamental shortcoming in the way scholars in law and economics were implicitly defining the notion of efficiency. Margolis argues that any definition of efficient allocation must, for normative and positive purposes, account for the existence and magnitude of transaction costs under all possible property-rights configurations. In “Monopolistic Competition and Multiproduct Brand Names” (Margolis 1989), he reformulates and extends Demsetz’s argument against the theory of monopolistic competition. According to Margolis, in violation of the latter’s prediction, a monopolistically competitive firm that supplies a variety of products under its

brand will operate at a quantity such that long-run average costs are minimized. Hence, the presence of monopolistic competition is not a sufficient condition for wasteful investments in excess capacity.

In “The Fable of the Keys,” Leibowitz and Margolis (1990) critically evaluate the history behind one of the most popular examples of suboptimal technological lock-in: the QWERTY keyboard. They find that much of the standard story as reported by David (1985) is inaccurate. All the evidence that purported to show the superiority of the Dvorak keyboard was either of dubious origins or lacked any scientific rigor. For example, August Dvorak, the inventor behind the simplified keyboard and owner of its patent, was involved with the earliest “experiments” aimed at establishing which of the alternative keyboard styles was truly superior. Overall, Liebowitz and Margolis find that the historical evidence as well as the most recent ergonomic literature do not support the claim that the simplified keyboard was actually more advantageous than the QWERTY and that to the extent that such advantages do exist they are too small to justify the cost of switching from one standard to another. From this finding, they draw an important methodological lesson: “Because real-world situations present opportunities for agents to profit from changing to a superior standard, we cannot simply rely on an abstract model to conclude that an inferior standard has persisted. Such a claim demands empirical examination” (1990, 21).

When a theory is unable to find concrete, real-world cases explained by it, perhaps it is the theory that needs revision. This is what led to Liebowitz and Margolis’s effort at conceptual clarity. How do you reconcile theoretical claims with basic economic reasoning? Can you render clear the relevant costs and benefits involved in the choice context? Liebowitz and Margolis (1994) did not dispute the logical validity of theories of increasing returns and network effects. Rather, they pointed out that the previous literature had ignored a fundamental empirical aspect of networks: their ownership structure. Networks do not just happen to exist. To be produced, they require purposeful planning and investment decisions (for example, investment in physical and human capital). They can then be owned by individuals, and these individuals are driven by their own self-interest to take actions to increase the network’s likelihood of success. With the expectation of the rents generated by the acceptance of a standard, the owner of such a standard will be willing to internalize some if not all the switching costs—for example, by offering lower prices to first movers.

Finally, Liebowitz and Margolis (1995) addressed the policy implications of the lock-in argument. In the work of Arthur (1989) and David (1985), the link between theory and evidence, on the one hand, and policy recommendations, on the other, was murky, in part due to the complexity of the topic and in part due to a lack of rigor. In order to clarify the discussion, Margolis and his coauthor introduced the notions of first-, second-, and third-degree path dependence. First-degree path dependence occurs in any situation where choice among alternatives is sensitive to initial conditions. As stated, this notion applies to almost all contexts and makes no claims pertaining to the efficiency (or lack thereof) of the resulting outcome. Second-degree path dependence happens in those

situations where, because of a lack of perfect foresight, sensitivity to initial conditions leads to regrettable outcomes and the propagation of error. Although the outcome might be regrettable, the agents involved must face the costs of remedying the initial decision, and sometimes these costs will outweigh the benefits. Second-degree path dependence, too, has no policy relevance. It simply states that if the agents involved had possessed more information about future scenarios, they could have been better off, but also that as things stand now, staying on the current path is the optimal course of action.

Third-degree path dependence differs from the second-degree case in only one fundamental respect. It assumes that a set of Pareto improvements are available to the agents but are for some reason left unexploited. Liebowitz and Margolis point out the oddity of this notion: “[it] conflicts with the neoclassical model of relentlessly rational behavior leading to efficient, and therefore predictable, outcomes” (1995, 207). The key idea is that third-degree path dependence postulates a remedial error that goes uncorrected due to an impediment such as coordination costs. The critical point, as Liebowitz and Margolis stress, is that for inefficiency to have any economic meaning, the better alternative must be known at the time of the decision, but the error is made nevertheless. *Ex post* regret doesn’t count, nor does the fact that yesterday’s decisions to some extent frame today’s decisions. So only this third-degree path dependency has some potential public-policy “bite,” but it is economically meaningless.

Third-degree path dependency is also a poor guide to policy making because it assumes that the government’s actions to remedy this market failure can be treated as exogenous to the model and that the costs of these actions need not be evaluated. In any public-policy evaluation, we must always ask, “Compared to what?,” and in so doing weigh the costs and benefits of alternative institutional environments. The inability to clarify which of the three notions of path dependency applies to real-world scenarios makes any normative analysis an empty exercise. “[T]he error,” Liebowitz and Margolis argue, “lies in transferring the plausibility of the empirical and logical support for the two weaker forms of path dependence (first and second degree) to the strongest implications of third-degree path dependence” (1995, 206).

In addition to the conceptual clarity that Margolis’s work brought to the analysis of the imprint of history on the pattern of economic activity, his work argues that the conceptual confusion caused by path dependency led to a blind eye being turned toward the adaptations and adjustments of the market process that arise to ameliorate the social tensions in the real world. The Coasean nature of much of the UCLA work must not be forgotten. Too much emphasis in conversations on Coase are on the so-called Coase Theorem and the zero transaction-cost environment. The more relevant conversation should be on how the Coasean analysis leads economists to think about the myriad ways individuals and groups engage in bargaining and acts of private and public entrepreneurship to internalize externalities.

The literature on network effects and increasing returns, rather than leading to a richer understanding of the ongoing market process of adaptation, adjustment, and amelioration, impoverished our understanding of the entrepreneurial dynamics *at work*.

As Liebowitz and Margolis argue, “Our assertion of the rarity of third-degree path dependence is not simply the result of some Panglossian mysticism” (1995, 224). They favor the basic commonsense assertion that “follows from a rather worldly consideration. Where there is knowable and feasible improvement to be gained from moving onto a better path, those who will benefit from the improvement, and who know it, will be willing to pay to bring the improvement about. Where simple spot-market transactions are insufficient to bring these improvements about, institutional or strategic innovation seems a likely response, especially if the improvement is important enough that the innovator is likely to be well paid” (1995, 224).

Coasean bargains will be pursued, and they will be pursued precisely because individuals are alert to that which it is in their interest to be alert to. In making this style of argument, Liebowitz and Margolis developed market-process theory from the classical political economists to the early neoclassical thinkers, Frank Knight to F. A. Hayek. To these scholars, the “alchemy” of the market is accomplished by the rearrangement of the institutional environment within which economic actors pursue their plans or through the entrepreneurial recognition by some within the process who recognize that today’s inefficiency is potentially tomorrow’s profit if they are able to address the problem successfully (Kirzner 1973).

Private-property rights, from this perspective, are “entrepreneurial filters.” In structuring the costs and benefits of exchange, private-property rights economize on the emergence of certain patterns of behavior by (1) filtering in productive entrepreneurship, which leads to a more efficient partitioning of property rights and to the amelioration of market failures as its unintended outcome, and (2) filtering out unproductive entrepreneurship, which leads to a politicized redistribution of property rights and the exacerbation of market failures as its unintended consequence. Well-defined private-property rights and entrepreneurial action generate a convergence of private and social costs by incentivizing the concentration of rewards and costs more directly on the individual decision maker and enabling individuals to specialize in applying their particularized knowledge of time and circumstance in the discovery of previously unnoticed profit opportunities, conducive to reducing the presence of monopoly power, asymmetric information, and externalities (Alchian 1965, 823).

Without the requisite market knowledge about the relative scarcity of resources provided by money prices, government officials will not know how to allocate resources in the general interest. Rather, they will be motivated to allocate resources based on the only knowledge available to them—namely, discretion over such resources for their own private gain by concentrating benefits on well-organized and well-informed special-interest groups and dispersing costs on the ill-organized and ill-informed general population. Coasean political economy is fundamentally about *processes* of conflict resolution under alternative institutional arrangements and not the assumption that conflicts are automatically bargained away without cost. Exchange relations reconcile conflict, but any approach that pre-reconciles such exchange relations is necessarily

going to be missing Coase's point. Scarcity implies competition is ubiquitous, but the manner in which competition manifests itself is *institutionally contingent*.

The invisible hand of the market process aligns individual self-interest with the public interest via the incentive structure of the institutional configuration of private-property rights. This rendition of the market process is what Liebowitz and Margolis pursued theoretically and practically in their work. Appropriately thorough price theory accounts for individuals' dynamic adjustments according to patterns imposed by the activities of other individuals and within specified institutional configurations.

In *Winners, Losers & Microsoft* (1999), Liebowitz and Margolis argue that the new emphasis on network effects and increasing returns not only results in skewed historical narratives that don't survive critical scrutiny and obscures from theoretical analysis the dynamic adjustment, adaptations, and creative innovations of the entrepreneurial market process but also leads to public-policy positions that would be wealth destroying rather than wealth creating. High-tech industries may very well fit the depictions of network effect and increasing returns, but there is "competition for the field" (Demsetz 1968). These markets are highly contestable, even if there are "large firms" that possess transitory market power. Word Perfect gives way to Microsoft Word; My Space gives way to Facebook and Twitter; and Netscape gives way to Chrome as well as to continuous improvements to Internet Explorer. Innovation is rewarded in the high-tech market just as it is in the automobile industry or in the fashion industry. The largest firm today will be displaced by the more nimble and creative competitor if the firm fails to keep up.

So Liebowitz and Margolis argue that this new generation of market-failure theories is not supported by the evidence and does not pass the conceptual test theoretically. In applying their insights to the Microsoft case in the Justice Department, they argue that Microsoft had not acted as a monopolist but instead as a fierce competitor in the highly contested markets in which it was participating. Microsoft achieved a dominant position in the software market only when the products under question consistently received superior evaluations and reviews by independent sources. But when Microsoft products are considered to be of inferior quality, Microsoft has not achieved such a dominant market position. In short, these new market-failure arguments, Liebowitz and Margolis conclude, are as misplaced conceptually, empirically, and practically as the older arguments that emerged from the structure-conduct-performance paradigm.

This policy debate was not resolved in 1999, and it continues in earnest today with the discussion of platform economies and monopoly power. So the modes of thought that blind us to the entrepreneurial dynamics of the market process will not only block understanding of the market but stifle entrepreneurial dynamics.

Stephen Margolis has made significant contributions to the theory of the entrepreneurial market process, the economic history of technology, and the public policy of industry and commerce. He artfully draws from the institutional analysis of the market process and stresses throughout his work the economic forces *at work* as the

incentive structure of the pattern of resource ownership, the guiding function of relative prices, the lure of profit, and the penalty of loss shuffle and reshuffle economic plans and competitive behavior.

Like all great classical political economists, Stephen Margolis's work contributes to the methodological, analytical, and practical self-understanding of the science of economics and the art of political economy. The debate among economists over public policy too often devolves into a "perfect market versus perfect government" argument. One side tends to emphasize the failures associated with the other side while leaving its own position unexamined. It is much more productive to insist that both the market and the government be examined for their imperfections and for the real-world mechanisms of coping with failure that are available in both institutional configurations.

In addressing historical evidence, the conceptual clarity in the theoretical enterprise, and public-policy relevance, Stephen Margolis has cleared a path for future scholars to continue in the great *mainline* tradition of economic thought from Adam Smith to Vernon Smith. His is an economics that follows from a rational-choice, individual-decision structure, as if the choosers are life-and-blood human beings, and that provides an institutional analysis of firms and the market as if history matters. In this approach, Margolis has done much to enrich our understanding of the ongoing evolution of the competitive market economy. The logic of choice, institutional analysis, and economic forces at work permeate Margolis's work, and the science of economics and the art of political economy are better because of it.

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