Chicago Price Theory and Chicago Law and Economics: A Tale of Two Transitions

Steven G. Medema*

May 28, 2007
Preliminary Draft: Not for Quotation

*Department of Economics, University of Colorado at Denver, CB 181, PO Box 173364, Denver, CO 80217-3364, USA (email: steven.medema@cudenver.edu).

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When Lionel Robbins published his *Essay on the Nature and Significance of Economic Science* in 1932, he (unwittingly, it seems) set in motion or at least facilitated the evolution of a process that transformed the way economists viewed their discipline.[1] While this transformation was a good half-century in the making and was resisted in certain quarters, what emerged was a science that was at once broader in scope and narrower in terms of method than economics circa 1930. Both the broadening and the narrowing were artifacts of Robbins's definition of economics as "the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses" (1932/1935, p. 16). Few corners of the profession were immune from the influence of Robbins's definition.

It is convenient to think of Chicago economics as the embodiment of Robbins's definition—indeed, as Robbins pushed to the extreme. In fact, though, it was not always so at Chicago. The Chicago price theory tradition is now more than three-quarters of a century old, and the law and economics tradition only a couple of decades younger than that. But Chicago price theory prior to, say, the 1960s was a rather different enterprise than that of the subsequent period. Likewise, law and economics at Chicago has undergone a major transformation during the same period. This is no accident; in fact, the transformation of Chicago law and economics evolved out of the transformation in price theory.

It is common practice to equate "law and economics" with the Chicago school and Chicago law and economics with Richard Posner and the economic analysis of law. Just as common is the tendency to equate Chicago microeconomics, or price theory, with Gary Becker, George Stigler, and the hard-nosed rational choice approach. In fact, however, these are distinctly modern variants of what are lengthy Chicago traditions in law and economics and price theory. The first generation of Chicago law and economics—reflected in the teaching and scholarship of Aaron Director, Director's students, and Ronald Coase—has its foundations in the first generation of the Chicago price theory tradition—that is, in the price theory courses of Frank Knight, Jacob Viner, and, later, Milton Friedman. The second generation of Chicago law and economics—the economic analysis of law—is grounded in the rational choice theory of Becker, a form of price theory quite different from the "old" Chicago version, in spite of elements of common lineage.[2]

This paper will attempt to bring out the distinctions between the old and the new versions of Chicago price theory, and how this transition on the price

[1] On Robbins's definition and its influence, see Backhouse and Medema (2007).
[2] My reference to the "first generation" here corresponds very closely to what McCloskey (1998) has called "The Good Old Chicago School." I have chosen to use terms such as "first generation," "second generation," "old," and "new" to avoid the appearance of taking sides.

theory side made possible and indeed gave rise to a significant structural shift in the form of law and economics as practiced at Chicago—from "law and economics to the "economic analysis of law."

Price Theory at Chicago

The origins of the Chicago tradition in price theory are in the lectures of Frank Knight and Jacob Viner in the 1920s and 1930s. Together, Knight and Viner taught price theory to a generation of students, including Milton Friedman, George Stigler, and Aaron Director. Viner's impact came via his approach to the subject—a very traditional Marshallian way of doing economics, along with an empirical orientation that emphasized the application of price theory to concrete economic problems. Knight, in contrast, was much more the theorist *qua* theorist and made no secret of his disinterest in empirical analysis. His most significant influence lay in his conception of economics.

While Robbins's definition seemed to open up vast areas of life to economic analysis, it did not describe Knight's approach to the subject. Indeed, he felt even in 1933 that people ascribed too broad a role to economics and that nothing was more important than the recognition of economics' "limited place among the human interests at large" (1933, p. 1). He believed that economics texts erred in "including virtually all intelligent behavior" under the definition of economics and spoke dismissively of one text that defined economics as "'the science of rational activity'" (p. 1), blaming this conception of economics on the attempt by his professional colleagues to make their subject seem more scientific.

Knight argued that "economizing, even in this broad sense of rational activity, or the intelligent use of given means in achieving given ends, does not include all human interests" (p. 2). In "The Limitations of Scientific Method in Economics" Knight argued that,

> From a rational or scientific point of view, all practically real problems are problems in economics. The problem of life is to utilize resources 'economically,' to make them go as far as possible in the production of desired results. The general theory of economics is therefore simply the rationale of life.—In so far as it has any rationale! The first question in regard to scientific economics is this question of how far life is rational, how far its problems reduce to the form of using means to achieve given ends. Now this, we shall contend, is not very far; the scientific view of life is a limited and partial view; life is at bottom an exploration in the field of values, an attempt to discover values, rather than o the basis of knowledge of them to produce and enjoy them to the greatest possible extent. We strive to "know ourselves," to find out our real wants, more than to get what we want. This fact sets a first and most sweeping limitation to the conception of economics as a science (1924, p. 1).

The behavioral definition of economics was, for Knight, too narrow.[3] Against this conception of the subject, Knight insisted that "Economics deals with the

[3] See also Knight (1933, p. 1-4).

social organization of economic activity," primarily via "the price system, or free enterprise" (1933, p. 4). This includes "the organization of want satisfaction" and the object is to improve this organization and increase its efficiency (pp. 7-8).

While Viner was the more thorough-going Marshallian of the two, Knight, too, looked at theories as tendency statements, as when he said that "Economic laws, like other scientific laws, state a *tendency*, a result which *would* follow if certain conditions are present" (p. 71). This, said Knight, applies to the marginal conditions for efficient consumption, the satisfaction of which he felt was not something that consumers do, or even "carefully strive to do." Yet, he considered the equimarginal principle "valuable as stating a tendency" because it helped "to make economic behavior in the large more understandable" (p. 77). Even the law of demand, that cornerstone of price theory, was, in the eyes of Knight, a tendency statement: people, he said, will "generally" buy less when price increases (p. 74).

Friedman's approach to price theory was profoundly influenced by both Knight and Viner, though more so by the latter's emphasis on Marshall, whose *Principles* was, for Friedman, a cornerstone of price theory even in the 1960s. But Friedman's definition of economics was actually very Knightian, being "the science of how a particular society solves its economic problems" (1962, p. 6). Friedman went on, though, *a la* Robbins to note that an "economic problem exists whenever *scarce* means are used to satisfy *alternative* ends" (p. 6). Reading Friedman's *Price Theory* from the perspective of the present, one is tempted to infer a premonition of economics imperialism when Friedman says that "This conception of an economic problem is a very general one and goes beyond matters ordinarily thought of as belonging to economics" (p. 6). But then he cites the allocation of leisure time as the example of this expansiveness—hardly a topic that someone even in the 1970s (to say nothing of today) would consider other than straightforwardly "economic."

Friedman considered economic theory "a language or filing system," a conception of economic theory that for him "coincides with Marshall's *engine of analysis*" and the relevant aspect of which is it "usefulness" rather than its correctness (1962, p. 8). In his classic essay on "The Marshallian Demand Curve" (1949), Friedman criticized what he considered an excessive fixation by economists on the Walrasian approach and suggested that abstraction, generality, and mathematical elegance had become "ends in themselves" for too many of his professional colleagues (p. 490). He gave general equilibrium analysis only scant attention in his graduate price theory lectures, something Becker (1991, p. 143) would later suggest was a shortcoming of the course. He found in the Marshallian framework a means to understand and explain concrete facts via its relative simplicity and lack of restrictive assumptions. But theory was more than a language for Friedman; it was also "a body of substantive empirical propositions" that yield predictions, and this emphasis on the ability to explain and predict became a hallmark of the Chicago price-theoretic identity.[4]

That Friedman's price theory was not of the hard-nosed rational choice variety is evident in his discussion of demand theory in his lectures and in his text.[5] He traced the theory of demand and supply without grounding it in any particular theory of individual behavior. While Friedman did allow that decisions regarding what goods and services to purchase involve "a deliberate act of choice," he went only as far as to say that, in making these choices, "we shall suppose that the individual is making these decisions *as if* he were pursing and attempting to maximize a single end"—a characterization that he repeated verbatim in the 1976 revision of his text (1962, p. 37; 1976, p. 35).[6] One finds no discussion of rationality in Friedman's *Price Theory*, nor in a recently published set of student lecture notes from his class (1947/2008).

That Friedman saw a real difference between himself and Becker is suggested by his 1970s revision of *Price Theory* when he resumed teaching the course following a hiatus of roughly a dozen years. One would assume that Friedman would have used Becker's *Economic Theory* (1971) if he had found Becker's approach sufficiently congenial, rather than going to the effort of revising his own text. That Friedman chose the revision route is at least suggestive of a distinction between his own preferred approach and that of Becker. Friedman does tip his hat, in passing, to public choice in both the 1962 and 1976 editions, but he added nothing regarding the burgeoning economics imperialism literature, and we see only a passing reference to Becker's work on the economics of the household and human capital in the 1976 edition.[7] Friedman's reading list is also instructive: Becker's text is listed, along with several other books, as a recommended (but not required) supplementary reading; by way of contrast, large chunks of Marshall's *Principles* were still required reading in Friedman's price theory course in the 1970s.

George Stigler did not arrive at Chicago until 1958, but he, too was working away at price theory during the 1940s and in fact authored the first commercially published book in the Chicago price theory tradition—*The Theory of Competitive Price* (1942). Here, Stigler gave what might be called a "Robbins-plus" definition of economics, making it "the study of the principles governing the allocation of scarce means among competing ends when the objective of the allocation is to maximize the attainment of the ends" (p. 12). Within this, Stigler identifies scarcity as "the most fundamental characteristic of an economic problem" (p. 13). What is novel is that he put maximizing behavior in his definition of economics. And while Friedman made maximizing behavior an "as if" factor, Stigler said that it is "very realistic to assume that a maximum

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[4] Friedman gives the definition of a demand curve as an example of the language/filing system and the statement that demand curves are downward sloping as substantive empirical proposition (1962, p. 8).

[5] Friedman's text was actually based upon student lecture notes taken in the 1950s. See the preface to Friedman (1962) and the discussion in Fand (1999).

[6] In fact, the "as if" characterization is also found in Glenn Johnson's notes on Friedman's price theory lectures from Winter 1947 (Johnson 1947/2008).

[7] The reference to Becker's work on the household deals with traditional activities being transferred in and out of the household context; human capital is mentioned in a sentence noting that it impacts labor contracts (Friedman 1976, pp. 4, 233).

fulfillment of needs is sought" (1942, p. 13). Knight's influence is evident too, though, as Stigler, like Friedman, discussed the economic organization of society early on in the text.

While Mirowski and Hands (1998) have argued that the Chicago tradition takes demand as the starting point and largely ignores its underpinnings, this cannot be said to apply to Stigler (nor, as we shall see, Becker). Indeed, the chapter on demand theory in Stigler's *Theory of Competitive Price* takes consumer behavior as the starting point and derives demand curves from there. For Stigler, self-interested behavior was at the center of economic analysis and had been since the time of Smith, whose *Wealth of Nations* he described as "a stupendous palace erected upon the granite of self-interest" (1971/1982, p. 136).[8] The centrality of self-interested behavior here led Stigler to label Smith "the premier scholar of self-interest" (1971/1982, p. 139) and to call his aspect of Smith's work "the crown jewel" of *The Wealth of Nations* (1976b/1982, p. 147). Stigler even went so far as to link up Smith's approach with contemporary economics imperialism, characterizing Smith as giving us "a theorem of almost unlimited power on the behavior of man" that is "'Newtonian in its universality" (1976b/1982, p. 158). This "always and everywhere" gravitational allusion is not accidental, but rather reflects what Stigler saw as the pervasiveness of self-interested behavior throughout human life.[9] Such is its generality, he said, that "we today are busily extending this construct into areas of economic and social behavior to which Smith himself gave only unsystematic study is tribute to both the grandeur and the durability of his achievement" (1976b/1982, p. 158).

Stigler carried the Robbins definition of economics into the first edition of *The Theory of Price* (1946),[10] but, for reasons that are unclear, he altered his definition for the second edition, published in 1952, in favor of something much closer to Knight: "Economics is the study of the operation of economic organizations, and economic organizations are the social (and rarely, individual) arrangements to deal with the production and distribution of economic goods and services" (1952, p. 1). This last reference to "economic goods and services" is particularly interesting for our purposes and is even remarked upon by Stigler, who noted that:

> It should be only a minor annoyance to the reader that we define economics in terms of economic goods and services. A more popular definition of economics—the study of the allocation of scarce means among competing ends—also requires the tacit introduction of "economic" before "ends" in order to exclude a vast area of which economists have no professional knowledge (p. 1n).

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[8] The interesting relationship between Smith and the Chicago school is discussed in Evensky (2005) and Medema (2008a).

[9] Both Stigler and Becker see the idea of fixed tastes and preferences that influence behavior across the spectrum of human behavior evidenced in Smith. See, e.g., Stigler (1981/1982. p. 6) and Becker (1976, p. 282).

[10] *The Theory of Price* essentially reproduced *The Theory of Competitive Price*, along with several additional chapters on subjects including imperfect competition, multiple products, and capital and interest.

Even so, Stigler continued to maintain that scarcity is the "central element of the economic problem" (p. 1), though he seems to have believed at this stage that the scope of applications is rather narrow.

By the third edition of 1966, both the definition of economics and the footnote about "economic goods and services" had disappeared from *The Theory of Price*, and three references to Becker's work on discrimination, investment in education, and fertility offered a signal that perhaps Stigler was finding his former definitional discussions overly restrictive. The fourth (and final) edition, published in 1987, also eschewed definitions, although Stigler did allow that his text "presents the essentials of the theory of the allocation of resources and the determination of prices" (1987, p. 1) and his chapter-length Knightian discussion of the economic organization, which had been carried through every edition to that point, was replaced by a treatment of the role played by *prices* in an enterprise economy. The 1987 edition is also distinguished by the attention that it gives to economics imperialism in general and to Becker in particular. The treatment of Becker includes a full-page boxed insert (one of twenty in the book) where Stigler notes that "Becker has done more than any other economist to enlarge the working domain of the profession" (1987, p. 239), and the book contains numerous reference to Becker's work on discrimination, education, crime, the family, and politics. In contrast, Friedman's 1976 edition contains only the two passing references to Becker's work, and these to fairly traditional economic topics.

Stigler's work marked a move toward a more rational choice based approach to price theory, and his identification of scarcity as "the most fundamental characteristic of an economic problem" made it quite easy to consider virtually anything an "economic problem"—although, as we have seen, Stigler himself was not inclined to give broad scope to economics early on. It was with Gary Becker that we see a real transition in Chicago price theory. While more known for his forays into traditionally non-economic disciplines, Becker's approach to price theory marked a subtle shift toward a more overtly rational choice orientation and provided the theoretical toolkit that really made those forays possible. If Friedman and Stigler represent a fork in the Chicago price theory road, Becker went down the Stigler branch and, in the process, solidified it as the future of Chicago price theory.

In the preface to his *Economic Theory* (1971), Becker stated that "there is only one kind of economic theory" and that it applies to both market and non-market decisions (viii). This economic theory studies "the allocation of scarce means to satisfy competing ends," a definition that Becker unashamedly allowed was very "wide" and under which he included the "choice of a car, a marriage mate, and a religion; the allocation of resources within a family; and political decisions about how much to spend on education or on fighting a Vietnam war" (p. 1). The emphasis here was on the choice process; while Stigler had put scarcity at the center, for Becker "the basis of economics is choice" (1971, p. 3). Two decades later, in his Nobel address, he suggested an even stronger link, equating "economic … approach" with "rational choice approach" (1993, p. 402).

Because most economists spend their time studying the market sector—or at least did circa 1971—Becker allowed that his definition was too broad in terms of describing "what most economists generally do" (p. 1).[11] His belief, though, was that "the economic principles developed for [the market] sector are relevant to all problems of choice" and that this view was the "unique theme" of the course of lectures that he taught and subsequently wrote up into *Economic Theory* (p. 1). In fact, Becker considered economic analysis "essential for understanding much of the behavior traditionally studied by sociologists, anthropologists, and other social scientists" (p. 2). As he put it in 1976, this approach is

> applicable to all human behavior, be it behavior involving money prices or imputed shadow prices, repeated or infrequent decisions, large or minor decisions, emotional or mechanical ends, rich or poor persons, patients or therapists, businessmen or politicians, teachers or students (1976, p. 8).

He saw economics providing a "valuable unified framework for understanding *all* human behavior" (1976, p. 14) and thus offering the possibility of a unified approach to doing social science (1976, p. 5; 1993, p. 403).

Gone, then, is the subject-matter approach of Knight's study of "the *social organization* of economic activity." For Becker, economics is ultimately an approach to the analysis of human behavior, one that combines the assumptions of maximizing behavior, market equilibrium, and stable preferences, using them "relentlessly and unflinchingly" to analyze human behavior under conditions of scarcity (1976, p. 5). It is not the subject matter that distinguishes economics from other social sciences—its subject matter is essentially coterminous with all of them. It is the *approach* that makes economics distinct (p. 5).

From Law and Economics to Economic Analysis of Law

Like Chicago price theory, Chicago law and economics is heterogeneous, particularly when considered historically. Its origins date to the 1930s, when the law school instituted a four-year curriculum that included courses in economics, accounting, and other subjects outside of the traditional realm of legal training (Katz 1937).[12] In 1939, the law school appointed its first economist, Henry Simons, a former student of Frank Knight, who taught a course entitled "Economic Analysis of Public Policy" and in doing so brought price theory into the law school curriculum at Chicago. In 1945, Simons became the first economist granted tenure by the law school. His *Positive Program for Laissez Faire* (1934) set out a blueprint for a legal/regulatory regime that would ensure the maintenance of competitive conditions in the face of increasing concentration in corporate America. Simons' proposals ranged from nationalization to legal limits on advertising to redefining the courts' criterion regarding the maximum firm size consistent with competition. As Stigler (1988, p. 149) later noted, Simons' program seems "almost as harmonious with socialism as with private-enterprise capitalism," giving far

[11] As such, it would seem to violate the Viner dictum that "economics is what economists do."
[12] See, e.g., Reder (1982), Kitch (1983), Coase (1993), Hovenkamp (1995), Duxbury (1995, chapter 5), and Medema (1998).

more credence to the possibilities of government than one would expect from a "founder" of the Chicago law and economics tradition.

Knight's anti-empirical bent was evidenced in Simons' *Positive Program*, as he provided no empirical underpinnings for his analysis, offered no evidence for the ability of the government to bring off such competition policy or for the ability of such policies to enhance the efficiency with which the economy operated. Methodologically, then, his approach was "the very antithesis of that which was to become dominant as a result of the emergence of that new subject, law and economics" (Coase 1993, p. 242). It is fair to say, with Coase, that Simons had little or nothing to do with the development of that body of ideas and approach that became known as Chicago law and economics (1993, p. 242). His legacy, rather, came through his role in bringing to the law school the individual most responsible for firmly establishing the Chicago law and economics tradition—Aaron Director.

Director arrived at the University of Chicago for his graduate training in 1927. He studied price theory under Knight and Viner and remained at Chicago as a graduate student and part-time instructor until 1934. After more than a decade spent in Washington, D.C. and London, Director returned to the University of Chicago in 1946 to take up a position in the Law School and head up the "Free Market Study," a project housed in the Law School and dedicated to undertaking "a study of a suitable legal and institutional framework of an effective competitive system" (Coase, 1993, p. 246). When Simons committed suicide in the summer of 1946, Director was asked to take on his basic Law School price theory course, "Economic Analysis of Public Policy." This provided Director an initial forum for bringing the perspective he had learned from Knight and Viner into the law school classroom.

The transition from having an economist on the Law School faculty to the establishment of a law and economics tradition at Chicago began not long after this, when Edward Levi invited Director to collaborate in the teaching of the antitrust course. Levi taught a traditional antitrust course for four days each week; Director came in on the fifth day and, using the tools of price theory, attempted to show that the traditional legal approach could not withstand the scrutiny of economic analysis. The basic pattern was very simple: Director would ask whether the practice in question was, in general, consistent with monopolistic profit-maximization. The answer was often negative, which meant that there had to be some sort of legitimate rationale for the supposedly anti-competitive practice in question. What price theory showed, Director argued, was that the "simple and obvious" answers were often wrong-headedly simplistic. This approach had a profound impact on students and colleagues alike. Director's antitrust students have often spoken of the "conversion" they experienced in this class, and even Levi himself became a partial convert.[13]

Director published little himself, but his insights made their way into the antitrust literature—and, eventually, antitrust policy—through the writings of students and colleagues on topics including predatory pricing, resale price

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[13] This group included Robert H. Bork, Ward Bowman, Kenneth Dam, Edmund Kitch, Wesley J. Liebeler, John S. McGee, Henry Manne, and Bernard H. Siegan. See Kitch (1983) and Director and Levi (1951).

maintenance, and tie-in sales.[14] His influence was also prominent in Stigler's view of oligopoly and antitrust policy, Richard Posner's perspective on oligopoly and cartels, and Robert Bork's influential articles on antitrust.[15] All of this coalesced in a distinctive Chicago approach to antitrust analysis, the influence of which is inescapable.[16]

In 1964, as Director was approaching retirement, Ronald Coase was brought to the Law School from the University of Virginia to succeed Director on the faculty and as editor of the *Journal of Law and Economics*. Prior to Coase's arrival, the law school never had more than one economist on the faculty, although there were enough economics and legal faculty with sympathies for examining antitrust cases, regulatory issues, and so on through the lens of economic analysis to form a small reading group. Yet, the presence of scholars such as Karl Llewellyn on the faculty managed to ensure that there was always strong resistance to expansion of the influence of price theory in the 1950s. Henry Manne has reported that the economic analysis that was in the air "infuriated" Llewellyn, particularly when students would use it in the attempt to refute positions that Llewellyn would take in the classroom (Kitch 1983, p. 184), and Llewellyn went so far as to question whether Chicago was doing a proper job of training lawyers (p. 191).[17] Edward Levi, as Dean, protected and encouraged law and economics,[18] but as Director has pointed out, on the whole there was neither "any great resistance" to nor "any great enthusiasm for" law and economics—at least until it was proposed that a second economist be hired (Kitch 1983, p. 186). In fact, the status of economics in the law school at that stage was such that Coase's initial appointment was partially in the business school.

Coase's arrival promised a measure of continuity in the legal-economic approach at the law school. While Coase was not trained in the Chicago brand of price theory, his approach was thoroughly Marshallian and very consonant with the Chicago view. Coase studied under Arnold Plant at the London School of Economics. Plant had done pioneering work analyzing the economic implications of rules governing patents, copyrights, and intellectual property generally,[19] and Coase's approach to the analysis of legal-economic policy issues, informed by Plant, resonated with the Chicago approach.[20] He believed that there were important lessons to be learned by examining the relationship between law and economy—by "examining cases, examining business practices,

[14] See, e.g., McGee (1958), Telser (1960), Director and Levi (1951), Bowman (1957), and Burnstein (1960), as well as the survey in Peltzman (2005).
[15] See, e.g., Posner (1969), Bork and Bowman (1965), and Bork (1967).
[16] See, for example, the discussion in Hovenkamp (1986).
[17] Llewellyn was not inherently opposed to legal-economic analysis, but his preference was for something approximating the old institutionalist variety. See, e.g., Llewellyn (1925).
[18] This after several years of serving as the foil for Director's economic critique of the received approach to antitrust analysis. See, e.g., Kitch (1983).
[19] See Plant (1974).
[20] Coase has said that "[t]here were typical 'Chicago' lessons that I didn't have to learn, and I got them through Plant" (Kitch 1983, p. 214). He said that Plant's most significant influence on him involved getting him to see that 'there were many problems concerning business practices to which we had no satisfactory answer' (1982a, p. 34; see also Coase 1986). Much of Coase's career was spend looking for these answers, and this perspective, along with Plant's approach of looking at real world problems, are reflected throughout Coase's scholarship. The resonance between these statements and the Chicago approach of the day should be apparent to the reader.

and showing that there was some sense to them, but it wasn't the sense that people had given to them before" (quoted in Kitch 1983, p. 193). This is the perspective that was being applied at Chicago by Director and others in the area of antitrust, and it almost certainly accounts for much of Director's interesting in bringing Coase to Chicago.

This approach was expanded to a wide range of issues in legal and regulatory policy, largely through the influence of Director and Coase as editors of the *Journal of Law and Economics*. The *Journal* was founded by Director in 1958, and its aim was "the examination of public policy issues of interest to lawyers and economists" (Coase 1993, p. 251). Coase himself was a regular contributor to the *Journal* prior to his arrival at Chicago. In a 1959 article entitled "The Federal Communications Commission," he took issue with the fiat-based mechanism by which broadcasting licenses were issued in the U.S., arguing that frequencies being scarce and valuable resources, greater attention should be paid to the efficiency of their allocation. Coase showed how, under idealized conditions, a market in frequencies would allocate them efficiently. Recognizing that markets always function at least somewhat imperfectly, he went on to consider the various impediments to achieving the allocation implied by a perfectly functioning market—considerations relevant to the issue of how a market in broadcast frequencies might actually work in practice. The culmination of his discussion was what might best be described as a plea for comparative institutional analysis on the part of the policy makers—that is, for an analysis that takes into consideration both the existence of alternative institutional structures for frequency allocation and the benefits and costs associated with each.

Coase wrote "The Problem of Social Cost" as a response to challenges raised by Chicago economists to his critique of the Pigovian system in "The Federal Communications Commission."[21] This article is most famous for Coase's demonstration that, under appropriate conditions, parties to an externality will negotiate an efficient resolution of the problem and his illustration of this with reference to several British common law cases. Because transaction costs will almost always preclude such efficient voluntary reallocations, Coase argued that the economic interests of society would be best served if externality policy was designed so as to promote the greatest possible value of output in society, which, given the inefficiencies the believed were associated with the operations of government (and which he felt were often overlooked in Pigovian public economics), may involve the use of markets, hierarchies, taxes, subsidies, regulations, or simply doing nothing at all about the externality problem because the cure may be worse than the disease.

The 1960s saw the emergence of a second strand of law and economics scholarship. In 1957, Gary Becker had published *The Economics of Discrimination*, a book that showed the model of *homo economicus* could be applied to areas beyond the standard context of economic analysis. His 1968 classic, "Crime and Punishment: An Economic Approach," brought this rational

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[21] To understand the origins of "The Problem of Social Cost," one must really examine the greater corpus of Coase's analysis of institutions. See Medema (1994) for citations to and discussions of these various works and Medema (1996) for a more in-depth analysis of "The Problem of Social Cost."

maximizing agent into the legal arena. Criminals, he said, are essentially rational utility maximizers like everyone else, but the relevant constraints and opportunity sets they encounter generate maximizing outcomes that involve engaging in criminal activity. At least as important, though, is the associated implication that criminal activity, like any other labor–occupational–economic choice, is subject to alteration by scaling price incentives—that is, by altering legal rules—in one direction or the other.[22] To give a sense for the contrast between the "old" and "new" approaches, a first-generation Chicago economics of crime and punishment might have attempted to estimate the cost of crime to society, perhaps under alternative legal regimes. Becker was modeling agent behavior in response to legal rules: the subject was the criminal and his maximizing choice rather than the cost of crime to society. Becker's work attracted the attention of economists and legal scholars to the new economic analysis of law and to the extension of economics more generally.

By the early 1970s, the economic analysis of law had developed to the point that Richard Posner (1973) could write a substantial treatise on the subject. His *Economic Analysis of Law* spanned virtually the entire range of law and, as Posner called it, "the legal regulation of non-market behavior" (p. xix), showing the possibilities of the application of economic theory to legal analysis and outlining a framework for a field of analysis. Posner defined economics as "the science of human choice in a world in which resources are limited in relation to human wants," and went on to say that it "explores and tests the implications of the assumption that man is a rational maximizer of his ends in life, his satisfactions—what we shall call his 'self-interest'" (1973, p. 1).[23] The early 1970s also saw the founding of the *Journal of Legal Studies* under Posner's editorship. The *JLS* was conceived of as a "law journal" that would "encourage the application of scientific methods to the study of the legal system" (Posner 1972, p. 437), and it provided an outlet for the burgeoning output in the economic analysis of law while the *Journal of Law and Economics* continued (for a time) to focus on scholarship examining issues in legal-economic policy.

Interestingly, though, Posner began his law and economics career with his feet planted rather solidly in the first generation law and economics camp.[24] He was an associate professor of law at Stanford in 1968 when he sought out Aaron Director, who had an office at Stanford Law School following his retirement from Chicago, because he, like Director, was working in the area of antitrust.[25] It was Director who taught Posner to think like a Chicago economist, introduced him to Stigler and Ronald Coase, and in this and other

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[22] E.g., the alteration of expected cost in the form of the product of probability of detection, probability of conviction, and monetized value of cost if convicted.

[23] Posner has carried this definition of economics through several subsequent editions of the book.

[24] On this point, see also Marciano (2006).

[25] Virtually all of the dozen or so articles that Posner published from 1969-1971 were in the area of antitrust and related areas of regulatory policy. Posner's view on antitrust are best seen in his 1976 book, *Antitrust Law: An Economic Perspective*, a second edition of which was published in 2001.

ways was instrumental in Posner's move to the Chicago Law School after only one year on the Stanford faculty.[26]

Posner's transformation from someone doing law and economics in the "old" way to developer of the economic analysis of law really came via the influence of Stigler and Becker. Discussions about price theory with Stigler gave Posner a set of theoretical tools that he could use to analyze legal rules. Becker's economic theory of crime and punishment suggested that price theory could be applied to a wide range of traditional legal issues, and Posner touched on most of them in his *Economic Analysis of Law*. Coase's suggestions in "The Problem of Social Cost regarding judges' applications of economic thinking also stimulated Posner to examine whether there might be an efficiency logic underlying the development of legal rules across the common law.[27] The tools for all of this analysis were those of Chicago price theory in its Stigler-Becker version. The analysis involved the application of individual decision-making calculus to agents faced with constraints imposed by common law rules, and, where relevant, the assessment of the resulting outcomes against the standard of wealth maximization.

Making Connections

To this point, then, we have established that both Chicago price theory and Chicago law and economics underwent transitions during the 1960s and 70s. Is there a connection? The answer given here is "yes," that the history of law and economics at Chicago reflects two different visions of the subject, derivative of two different visions of price theory and of the definition of economics.

Chicago price theory began as a theory grounded in basic Marshallian demand-supply analysis and with fairly loose grounding in a theory of individual behavior. Its domain was that body of activity considered "economic" since at least the classical period—production, consumption, and the distribution of "economic goods and services"—and that was reflected in Knight's conception of the economic organization. Early Chicago law and economics fit squarely into this framework. Director had learned his price theory from Knight and Viner and taught it in the law school for roughly two decades. Many of the "Chicagoans" doing law and economics in the late 1950s and the 1960s had learned their price theory from Director. The work of Director and his students thus reflected the same early Chicago price theory that one finds in Knight's *Economic Organization* and Friedman's *Price Theory*. It also flowed out of a subject-matter definition of economics: it was concerned with analyzing the interaction between the law and the economy and was seen

[26] Richard A. Posner, email correspondence with the author, October 3, 2006 and April 25, 2007.

[27] Coase said that "the courts have often recognized the economic implications of their decisions and are aware (as many economists are not) of the reciprocal nature of the [externality] problem" (1960, p. 19). He also suggested that when judges used terms like "reasonable" or "common or ordinary use" there seemed to be "some recognition, perhaps largely unconscious and certainly not very explicit, of the economic aspects of the questions at issue" (Coase 1960, p. 22). Posner has acknowledged that his "interest in using economics to try to explain legal rules stems in significant part" from this aspect of Coase's analysis in "The Problem of Social Cost." See Kitch (1983, p. 226). But Coase was not alone in the use of economics to analyze tort cases; Guido Calabresi (1961) was doing so at the same time.

as an important or even necessary component of economic analysis. This was the law and economics of Director and Coase, and the type of work that filled the pages of the *Journal of Law and Economics* in the 1950s, 1960s, and into the 1970s.

The "new" Chicago price theory was grounded in a rational choice approach to individual behavior and was the foundation of a larger movement in which economic analysis came to be viewed not simply as the study of the economic system *per se*, but as an approach, method, or toolkit applicable to all areas of life in which choices are made. The logic of this extension is was simple: economics is the study of choice; if preferences are assumed to be stable—a hallmark of the "new" approach to price theory[28]—should not economics be applicable to individual decisions across the choice spectrum? The economic analysis of law was thus part of—and one of the earliest manifestations of—a larger movement within economics that saw rational choice analysis the key to understanding the behavior of agents in all manner of "non-market" contexts. Its focus was on the application of price theory to agent behavior within the legal arena, and the analysis had little or nothing to do with understanding the legal bases of the economic system—that is, with Knight's "economic organization." It consciously reached beyond the boundaries of economics into other fields with a view toward influencing scholarship in *those* fields, rather than to bring back to economics insights that would contribute to the understanding of the economic system. Simply put, what we see in the move from the first generation of law and economics to the second—that is, to economic analysis of law—is a shift from the analysis of how rights influence the economic organization and its performance to the analysis how rights impact individual behavior with respect to law under conditions of rational choice. One can see this evolution played out the pages of the *Journal of Law and Economics*.

This license for economists to cross over into subjects traditionally non-economic in nature came via Robbins's *Essay.*[29] Rejecting the extant notion that the boundaries between "economics" and "not economics" are set by behavior that is or is not directed toward the enhancement of material welfare, Robbins argued that economics focuses on the form of behavior "imposed by the influence of scarcity" and went on to note the implications of this definition:

> It follows from this, therefore, that in so far as it offers this aspect, any kind of human behaviour falls within the scope of Economic Generalizations. We do not say that the production of potatoes is economic activity and the production of philosophy is not. We say rather that, in so far as either kind of activity involves the relinquishment of other desired alternatives, it has its economic aspect. There are *no limitations* on the subject-matter of Economic Science save this (Robbins 1932, p. 16, emphasis added).

When writing "no limitations," Robbins almost certainly did not anticipate how the boundaries of economics would be stretched in the years to come. Gary

[28] The definitive statement here is Stigler and Becker (1977).

[29] The rational choice movement across the social sciences is a more complex phenomenon. See, e.g., Amadae (2004).

Becker has even gone so far as to suggest that Robbins did not really believe his own definition, given that he did not discuss the extension of economics to other fields in 1932 or at any point thereafter.[30]

It took more than three decades for scholars to begin seriously extending the economic paradigm. The practice of economics continued to reflect the "old" view that economics is the study of the economic system—the same view that characterized the first generation of Chicago law and economics—even as it assimilated the idea that it is choice under scarcity within that context that defines the scope of economic analysis. Yet, it also seems clear that Robbins defined economics in a manner that naturally allowed for its extension beyond the analysis of standard market phenomena. The gradual institutionalization of his definition meant that it was only a matter of time before economists began to broaden the scope of their analysis to areas such as law. By Robbins's definition, the analysis of legal issues falls squarely within the scope of economics. Law is unambiguously about rights, and rights, by their very nature, exist because of the problem of scarcity. And, under the Robbins definition, phenomena with a scarcity component are, *prima facie*, amenable to analysis using price theory.

One of the timeless themes of Chicago law and economics is that the use of economic analysis brings a measure of logic and rigor to the evaluation of legal rules.[31] In his wide-ranging survey of "Economic Imperialism," Edward Lazear (2000, pp. 100-102) argued that economics has brought increasing scientific rigor to a host of academic areas and attendant analyses of social phenomena.[32] This rigor, in turn, "allows complicated concepts to be written in relatively simple, abstract terms" that "strip away complexity." While those working in these other fields, including law, have lamented what they see as excessive abstraction in the economic approach, Lazear argues that complexity, while perhaps adding descriptive richness "also prevents the analyst from seeing what is essential" (pp. 99-100) and that abstraction allows economics to succeed "where other social sciences fail" (p. 102) because it allows for "analysis" in a way that the other social sciences do not (p. 103).

In economics, this abstraction comes via a trinity of attributes that have come to be so closely associated with Chicago price theory: (i) the assumption that individuals are rational maximizers, (ii) the notion of equilibrium, and (iii) the assessment of equilibria based upon their efficiency properties (pp. 100-102).[33] The economic analysis of law made this approach the foundation for the analysis of legal rules. First, in contrast to the standard legal view of individuals as reasonable agents behaving according to the norms and customs of society as reflected in legal rules, the economic approach posits agents as rational maximizers of their satisfactions. Second, legal rules are viewed as prices which are taken as given by individuals and used by them in the process of

[30] Conversation with the author, January 2007.
[31] See the discussion of Director's classroom above and in Kitch (1983) as well as Posner's (1987) discussion of the reasons why economic analysis was able to make such significant inroads within the legal academy during the 1970s and 1980s.
[32] Lazear defines the "scientific method" as "stating a formal refutable theory, testing the theory, and revising the theory based on the evidence" (2000, p. 102).
[33] See Reder (1982).

calculating their utility- or profit-maximizing response to these legal rules. Changes in legal rules thus function as changes in the constraints subject to which individuals maximize, with corresponding implications for individual behavior. Third, the assessment of legal rules proceeds on the basis of the efficiency of the outcomes generated by these rules, in contrast with the "justice" or "fairness" criterion underlying traditional legal reasoning.

The discontinuity between the first and second generations of law and economics and the price theories that underpin them are also evident in the attitudes of the players themselves. Coase has argued that Robbins's definition "makes economics a study of human choice," which he says "is clearly too wide if regarded as a description of what economists do" (1978, p. 207). Coase finds more congenial the definitions given by Marshall's (1890, p. 1)—"a study of mankind in the ordinary business of life"—and, interestingly, Stigler in his 1952 edition—the Knightian definition, rather than the Robbins-esque one used in his 1942 and 1946 editions. Coase both objected to the rational actor model and, evincing an attitude bordering on outright hostility, predicted the failure of economic imperialism—the latter because he felt that economists lacked expertise in these "outside" areas. To date, of course, his prediction has proven to be incorrect.[34] Director was never into the extension of economic analysis to other disciplines, nor were Viner or Knight. Director was old school: his work was not concerned with expanding the boundaries of economics, but with analyzing how legal rules impact economic performance. Coase is quite blunt about the economic analysis of law. He said that, in writing up "The Problem of Social Cost," he was not interested in offering a new perspective on jurisprudence but, rather, "to improve our analysis of the working of the economic system. Law came into the article because, in a regime of positive transaction costs, the character of law becomes one of the main factors determining the performance of the economy" (Coase 1993, p. 251). Indeed, Coase consciously distances himself from Posner, whose "main interest is in the legal system" (Coase 1993, p. 251), noting that "I have no interest in lawyers or legal education" (Coase, in Kitch 1983, p. 192), and acknowledging that "In the development of the economic analysis of the law [i.e., the "new" law and economics], ... Posner has clearly played the major role" (Coase 1993, p. 251).[35]

Conclusion

There has been a propensity among economists and others to speak in terms of a homogeneous "Chicago school," or, at the very least, to describe the evolution of the school as one of continuity from generation to generation. In fact, however, the Chicago school has never been homogeneous in approach or in ideology, and the passage of time has seen at least as much change as continuity at Chicago. This is certainly true of price theory and law and economics, each of which has loomed so large in the Chicago school's history. While each has associated with it some measure of continuity with its past,

[34] Interestingly, Coase (1978, p. 206) also cites (approvingly) Stigler's 1952 definition of economics, which is the Knightian rather than Robbins-esque definition, and notes its connection to the traditional subject matter studied by economists.

[35] Robert Bork has also been critical of the economic analysis of law. Posner (1993a,b) has criticized Coase for his attitude toward the economic analysis of law.

each has also been the subject of fundamental structural change. And, as the present paper has attempted to show, the changes on the price theory side played a significant role in stimulating changes in Chicago law and economics.

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