

## Review Article

# Price theory as prophylactic against popular fallacies

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**Abstract.** The articles collected in *Chicago Price Theory* illustrate elements of continuity and change in the development of the Chicago School of Economics. The editors stress a continuity in the Chicago tradition that runs from Frank Knight to Gary Becker. Our contribution in this essay is to emphasize the discontinuity in the evolution of the Chicago price theory tradition. We argue that a logical continuity runs not from the Knight/Viner/Simons generation to the Friedman/Stigler/Becker generation, but to a branch of the Chicago tradition best exemplified by the Alchian/Buchanan/Coase generation of Chicago price theory. The continuity we stress is understanding price theory as a study of market adjustment and adaptation under alternative institutional arrangements.

Academic economics is primarily useful, both to the student and to the political leader, as a prophylactic against popular fallacies. Simons (1983: 3)

### 1. Introduction

In his forthcoming *Journal of Economic Literature* article, Glen Weyl defines price theory as an ‘analysis that reduces rich and often incompletely specified models into “prices” (approximately) sufficient to characterize solutions to simple allocative problems’ (Weyl, forthcoming). The prices prevailing on the market solve the problem of allocating scarce resources to their highest valued

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We thank the F.A. Hayek Program for Advanced Study in Philosophy, Politics, and Economics at George Mason University for reading an earlier draft of this paper and offering very helpful comments, particularly Donald Boudreaux, Christopher Coyne, Peter Leeson, Patrick Newman, Solomon Stein, Virgil Storr, and Richard Wagner. We also thank Mario Rizzo, Israel Kirzner and the participants at the Colloquium on Market Institutions & Economic Processes at New York University as well as Shaun Hargreaves Heap, John Meadowcroft, Mark Pennington, and David and Emily Skarbek of the Department of Political Economy at King’s College London for offering comments, criticisms, and helpful suggestions. We also gratefully acknowledge Brian Albrecht, Per Bylund, Bruce Caldwell, Randall Holcombe, Roger Koppl, Alain Marciano, Deirdre McCloskey, Steve Medema, Svetozar Pejovich, Benjamin Powell, Edward Stringham, and Glen Weyl for offering comments and criticisms. Any remaining errors are our own.

uses. Price *theory* is about understanding how this equilibrium ‘solution’ is brought about through market interactions. From its foundations in Alfred Marshall’s *Principles of Economics* to Gary Becker’s *Economic Theory*, the hallmark of research and teaching in the *Chicago* price theory tradition has been what Becker refers to as ‘practical general equilibrium analysis’ (Becker, 1971: 5) for real-world empirical applications. This edited volume, which constitutes the classic papers and book chapters exemplifying the richness and diversity in the research and teaching of Chicago price theory, is truly worthy of praise and interest to all students and scholars of economics.<sup>1</sup> The breadth and depth of the topics covered in *Chicago Price Theory* extend from methodology, consumer behavior, and production to public policy and welfare economics.

Our essay examines the evolution of price theory throughout the history of the Chicago School, revealing a shift in analytical emphasis from the institutional arrangements that provide ‘the *social organization* of economic activity’ (Knight, 2013 [1933] Vol. I: 176, italics original) to the relentless and unflinching application of rational choice analysis to all human behavior (Becker, 2013 [1976] Vol. I: 294). It is often argued that a logical continuity runs from Frank Knight to Gary Becker in Chicago price theory. Melvin Reder, for example, argued that Chicago economics of the 1930s was the precursor of what became Chicago economics in the 1960s and 1970s as Frank Knight passed the ‘baton’ first to Milton Friedman and George Stigler, and eventually to Gary Becker (2013 [1982] Vol. I: 138).

The unique association of *price theory* with the University of Chicago, according to Glen Weyl, is largely an outgrowth of a segregation of ‘Chicago’ from the rest of the economics profession during the critical decades when that ‘baton’ was being passed – the 1940s and 1950s.<sup>2</sup> During the second half of the 20th century microeconomic theory moved increasingly away from elaborating elementary price theory, through its application within alternative institutional arrangements, to an almost exclusive preoccupation in theory with the formulation of proofs of the existence, uniqueness, and stability of general competitive equilibrium.<sup>3</sup> The Arrow–Hahn–Debreu project was a far cry from the persistent and consistent application of the economic way of thinking in the

1 Hammond, J.D., S.G. Medema and J.D. Singleton (eds.) (2013), *Chicago Price Theory*, 3 volumes, International Library of Critical Writings in Economics 274, Cheltenham: Edward Elgar Publishing, pp. 847, \$1350. Throughout this essay, those articles and book chapters that are reprinted in *Chicago Price Theory* will be cited in this essay according to the volume and page number from that volume.

2 It is useful to remember that Friedman and Stigler overlapped as students of the Frank Knight/Jacob Viner/Henry Simons tradition during the 1930s. They later returned to Chicago to join the faculty, Friedman being hired in 1946 and then Stigler in 1958. Becker was a student in the 1950s and joined the faculty in 1968. The ‘Tight Prior Equilibrium’ assumption that Reder talks about becomes the hard-core of Chicago price theory more or less with the work of Stigler and Becker, even more so than Friedman, and as such is a *defining characteristic* of the approach only in the late 1950s onward.

3 See for example Francis Bator (1957: 31), where he states that the theorems of welfare economics are ‘antiseptically independent of institutional context’.

early development of neoclassical price theory from Phillip Wicksteed to Frank Knight. Henry Simons summarized this early project in the economic way of thinking as follows:

Traditional price theory consists primarily in analysis of the pricing process under a free enterprise economy – *under a system characterized by private property, free contract, and free exchange*. Assuming given underlying conditions (given conditions, broadly, as to tastes, technology, resources, and ownership), it attempts to show how consumption and production are controlled through the pricing process and, above all, to describe (a) the arrangements under which the system will be in equilibrium and (b) how departure from the equilibrium arrangements will *set in motion forces* to restore equilibrium. *The central conception of price theory is that of an equilibrium adjustment with respect to relative prices and relative production.* (Simons, 1983: 6, emphasis added)

As this quote from Simons suggests, the Chicago economist understood that a primary purpose of their efforts was to prevent the spread of popular fallacies in economic discussions. If price theory is to be viewed as a ‘prophylactic against popular fallacies’, then it seems vital to ask which approach proves to be more effective in addressing popular fallacies in economic theory and policy.<sup>4</sup> Our essay will be framed in terms of this inquiry, in which we argue twofold.

First, as the editors Hammond, Medema, and Singleton indicate, the Chicago price theory tradition did not evolve exclusively within the Department of Economics at the University of Chicago (2013 Vol. I: xix). We push this claim farther and argue that it was outside the University of Chicago that the logical continuation of Chicago price theory in the Knightian tradition had been passed to another generation of ‘Chicago’ economists, namely Armen Alchian, James Buchanan, and Ronald Coase, who developed an alternative branch of price theory at the University of California, Los Angeles (UCLA) and the University of Virginia (UVA) as leading scholars in the fields of property-rights economics, public choice, and law and economics, respectively. The UCLA Property-Rights School and the Virginia School of Political Economy, as they developed in the 1950s to the 1970s, drew analytic attention to ‘economic forces at work’ (Alchian, 1977), with its emphasis on exchange and the institutions within which exchange takes place. Their work expanded economics not only into

<sup>4</sup> We use the term ‘prophylactic against popular fallacies’ to refer to the intellectual tradition that sees the primary task of the economist as that of presenting the discipline of economics as a tool of social understanding and its primary lesson as understanding how the price system within an institutional framework of clearly defined and enforced property rights enables productive specialization and promotes peaceful social cooperation among diverse groups of individuals. From this economic point of view, the activity in a market economy results in positive-sum games, erodes monopoly power, ameliorates conflicts in the presence of externalities, and alleviates abject poverty. The belief that a market economy left to its own devices is exploitive, inefficient, unstable, and unjust are the primary popular fallacies that must be countered by economists.

the study of market exchange, but also into the study of human action in non-market settings. These intellectual developments at UCLA and UVA shared a common understanding of neoclassical price theory that stressed the on-going exchange process and, as Buchanan put it, ‘the derivation of the institutional order itself from the set of elementary behavioral hypotheses’ from which the economist commences his analysis. The developments of Alchian, Buchanan and Coase resulted in a ‘genuine institutional economics’ that was to ‘become a significant and an important part of fundamental economic theory’ (Buchanan, 1999: 5). In an essay originally written to honor F. A. Hayek in 1979, Buchanan argued that rather than being regarded as separate and independent intellectual developments, these ‘diverse approaches of the “intersecting schools” must be regarded as bases for conciliation, not conflict’, in the emergence of the New Institutional paradigm of the 1960s–1980s (Buchanan, 2015: 260). This movement was characterized by a synthesis of property-rights economics, law and economics, public choice, and market process theory.<sup>5</sup>

Second, we argue that this emphasis on the *institutional framework* within which prices emerge to *guide* exchange and productive *activity* receded to the background of analysis in the Friedman/Stigler/Becker branch of Chicago price theory after WWII. What came to the foreground was the analysis of the price system as providing a *sufficient solution* to allocation problems. This derivation of what Reder refers to as the ‘Tight Prior Equilibrium’ (TPE) was utilized to impose intellectual discipline in our understanding of complex realities. This version of the Chicago School came to define the economic approach of human behavior with ‘maximizing behavior, market equilibrium, and stable preferences’ (Becker, 2013 [1976] Vol. I: 294) as the working hypotheses for the examination of all social phenomena. The implication is that prevailing prices equal marginal costs, and production employs all least cost technologies. In short, a full accounting of costs and benefits in decision-making reveals that rational actors pursue the optimal course. Chicago price theory in the

<sup>5</sup> See Langois (1986) for an early presentation of this synthesis that made up New Institutional Economics. In the *Chicago Price Theory* volumes under review for this article, there are many scholars in the Chicago School tradition that are not included in these volumes, yet made pioneering contributions in developing various subdisciplines in economics. We acknowledge that the Chicago price theory tradition had many other contributors that were instrumental in its development and dissemination, such as Yale Brozen, Aaron Director, and Deidre McCloskey, who are not included in this volume. Moreover, other Chicago economists, such as Nobel Laureates Robert Fogel, James Heckman, and Robert Lucas were pioneers in economic history, the economics of human development, and the microfoundations of macroeconomics, respectively. Moreover, the development of transaction-costs economics at the University of Washington, as developed by Yoram Barzel, Douglass North, Steven Cheung, and Robert Higgs are also absent from the volumes, though their contribution should not be neglected in the broader picture of the post-WWII evolution of economic analysis. Our focus on Alchian, Buchanan, and Coase as the alternative branch is justified on the grounds that (a) they are included in the volumes under review, (b) they shared in the common-knowledge of pre-WWII Chicago price theory, and (c) they were forerunners in the post-WWII developments in property-rights economics, public choice economics, and law and economics that was the basis for what became later known as New Institutional Economics.

Friedman/Stigler/Becker generation became an exercise in defining the optimality conditions given any situation within which human actors find themselves. Moreover, it was not characterized by comparative analysis of the institutional conditions within which constant adjustments and adaptations to changing conditions by economic actors produce a *tendency toward equilibrium*, as it had been under the Knight/Viner/Simons generation.

Due to this subtle shift in approach, the Alchian/Buchanan/Coase branch of price theory, we conclude, fulfills Simons' plea and provides the more effective 'prophylactic against popular fallacies' of pervasive market failure and the implication that government provides a corrective to such failures. Rather than explain away the notion of market failures by way of the TPE assumption, this 'neglected branch of Chicago price theory' (see Boettke and Candela, 2014) emphasized the importance of *comparative institutional arrangements*, namely that changes in rules and property rights assignments generate market processes, which ameliorate 'market failures' – such as externalities, asymmetric information, and monopoly power – through entrepreneurial action, adaptation, and adjustments guided by relative prices.

A coherent narrative could certainly be told linking the Knight/Viner/Simons generation to the Friedman/Stigler/Becker generation at a methodological, analytical, and ideological level. Rather than stressing the continuity between these two generations of the Chicago School, we argue that emphasizing the discontinuity between the two is perhaps a more fruitful interpretative schema, particularly for understanding the evolution of price theory. Furthermore, in bringing such discontinuity to the foreground of analysis, the continuity running from Knight/Viner/Simons to Alchian/Buchanan/Coase will perhaps become more apparent and illustrate what elements of Chicago price theory had become lost in the more dominant paradigm of Friedman/Stigler/Becker.

## 2. Chicago price theory: a view from Virginia

In 1946, James Buchanan enrolled at the University of Chicago to pursue his Ph.D. in economics. Buchanan's class notes from his three courses in price theory are in the process of being archived for future use by scholars at George Mason University.<sup>6</sup> Buchanan learned Chicago price theory from Knight and then two sections with Milton Friedman, newly hired in 1946. Buchanan often stressed that prior to Knight's class he was a socialist in political leanings, but after a few weeks of attendance he understood the power of the price system to coordinate economic affairs so that peaceful cooperation and productive specialization would be achieved among free individuals. On that first day of Knight's class, Buchanan's notes have Knight explaining the following:

<sup>6</sup> We gratefully acknowledge the Center for Study of Public Choice in cooperation with the George Mason University Library for granting us access to this archival material.

Neo-Classical Tradition – Theoretical principles based on a priori sources.	
Historical economics	}
American institutionalism	} both factual as opposed
to	
Statistical economics	} theoretical
Keynes – opposed to neo-classical economics	

The required textbooks for Knight's class were Marshall's *Principles of Economics* and Stigler's *The Theory of Price*. The reading list that was provided to all graduate students formed the common-knowledge of economic theory during the 1930s–1940s. It also contained Bohm-Bawerk, Wicksteed, Wicksell, Mises, and Hayek. Recently, *Economics in the Rear-View Mirror* posted the reading list of Jacob Viner's price theory class from Milton Friedman's notes, and we can see that Menger, Wieser, and Bohm-Bawerk were featured prominently.<sup>7</sup> From our perspective, it is important to stress that these syllabi provide evidence that, circa 1930s and 1940s, the so-called 'Austrian school' was simply part of the common knowledge that all students of 'neoclassical' price theory were expected to learn.<sup>8</sup> For example, in Jacob Viner's lecture notes, dated June 17, 1930, Viner remarks the following:

Neoclassical economics is a sympathetic evolution of the English Classical School. Included under neoclassical economics is the English-American version in Taussig and Marshall and also the Austrian school, whose differences are not as important as the resemblances to the Anglo-American type. Included also is the Continental Equilibrium School or the Mathematical School, such as Walras, Pareto, and their followers. They have much more in common with the neoclassicists than in dispute. (Viner, 2013: 19)<sup>9</sup>

In that first set of notes from Knight's class, Buchanan is learning about the important insights of the classical economists, such as the role of prices and market competition in generating economic coordination, the difference

<sup>7</sup> See <http://www.irwincollier.com/chicago-economics-reading-assignments-economic-theory-econ-301-viner-fall-1932/>.

<sup>8</sup> While interviewing F.A. Hayek in 1978 at UCLA, Alchian discusses his education at Stanford University, where among the main texts influencing his studies was Hayek's *Prices and Production*. In the interview, Alchian remarks to Hayek that 'it was a book that set a tone of thinking for me' (quoted from Hayek, 1983: 381) in thinking about economic theory in terms of relative price adjustments. In addition, before enrolling as an undergraduate in 1929 at the LSE, Coase had been exposed to the ideas of the Austrian School, where he attended a lecture in 1928 at the LSE given by Ludwig von Mises (Kitch, 1983: 211). At the LSE, Coase came under the influence of F.A. Hayek and Arnold Plant. Both as a student (1929–1932) and later as a faculty member (1935–1951), the development of Coase's theory of the firm was heavily influenced by the Socialist Calculation Debate as communicated to him through Plant and Hayek.

<sup>9</sup> This declaration by Viner overlaps with that of Ludwig von Mises in *Epistemological Problems of Economics* (Mises, 2013: 194).

between the physical sciences and the social sciences, and the moral framework of liberalism. Buchanan's vantage point is unique because his student experience falls smack in the middle of the transition from the first generation of the Chicago price theory tradition (dominated by Knight and Viner) to the second generation (dominated by Friedman and Stigler).

As Hammond, Medema and Singleton (2013: xiii–xxvii) explain, although a discernible continuity exists in the history of Chicago price theory, there are also tensions and points of disjunction at a methodological and applied level of analysis. As stressed in several of the interpretative papers on the teaching of economics at Chicago (found in Vol. 1), Knight was decidedly non-empiricist in a way that the later Chicago School would come to be defined by their strong commitment to empiricism. On a slightly different yet also critical point for our narrative, Buchanan stressed a disjuncture between what he termed the 'Old Chicago School' and the 'New Chicago School', emphasizing how the latter tended to ignore the institutional framework within which economic activity takes place. Thus, the 'New Chicago School' didn't pay enough attention to how dysfunctions in the institutional framework could distort the operation of the market economy leading up to the Global Financial Crisis of 2008 (see Buchanan, 2010).

### 3. A neglected branch of Chicago price theory

Throughout the time covered in this collection, the intellectual alternatives of Chicago price theory included not only German historicism, American institutionalism, and Keynesian macroeconomics, but also through the Cowles Commission (later Foundation) the formalistic development of competitive equilibrium theory, which eventually embodied a new consensus in the economics profession. The underlying element unifying the Chicago price theory tradition, which differentiated it from its intellectual alternatives, is its recognition of rational choice as being an essential part of economic *science*. As Frank Knight argues, 'there is a science of economics, a true, and even exact, science, which reaches laws as universal as those of mathematics and mechanics.' Although in economics we cannot address the specific content of economic behavior, we can discuss the universal laws with respect to form. 'We cannot tell what particular goods any person will desire,' Knight argues, 'but we can be sure that within limits he will prefer more of any good to less, and that there will be limits beyond which the opposite will be true' (1997: 127).

However, Knight did not equate economic science as a whole with rational choice. Rather, economics as a science consisted of the logic of rational choice, which was deductive, as well as subsidiary empirical propositions of time and place, namely institutions. While Knight considered pure economic theory as *a priori* and a necessary condition for 'the analysis of social interaction and coordination through the price mechanism' (1997: 132), he did not consider it sufficient for understanding how relative price adjustments structure the

trade-offs of rational decision-making as well as how such adjustments generate a tendency toward equilibrium. As Knight states, the general laws of economics:

work within an institutional setting, and upon institutional material; institutions supply much of their content and furnish the machinery by which they work themselves out, more or less quickly and completely, in different actual situations. Institutions may determine the alternatives of choice and fix the limits of freedom of choice, but the general laws of choice among competing motives or goods are not institutional – unless rational thinking and an objective world are institutions, an interpretation which would make the term meaningless. (1997: 129)

For Knight, economics was a *social* science, but a science nevertheless. To earlier generations of economists, as emphasized by Knight, there were certain universal propositions about how the world worked that could be expressed in various languages, including mathematics. From the classical political economists to Frank Knight, economists were all *apriorists* of some sort or another.<sup>10</sup> Far from out of step, this is the way that economic theorizing was done by classical economists as well as economists of the pre-WWII Chicago School.

The contemporary consensus in economic reasoning constitutes an alternative to this Knightian tradition, one in which the language or form in which arguments are made is what is considered universal, but there are no unifying propositions about how the world works. We refer to this new consensus as ‘formalistic historicism’, which represents a vision of economic science in which human action reveals only particular truths specific to time and place, not universal economic laws, yet uses formal language (i.e. mathematics) to prove any particular proposition, purging the human actor of any choice within an institutional context. Therefore, under a given set of institutional conditions, the logic of choice does not yield a tendency toward a unique equilibrium, but a multiple set of possible equilibria which does not necessarily hold in all the cases with similar circumstances.<sup>11</sup> Economic theory as conceptualized by

<sup>10</sup> See, for example, Senior (1852: 60–61) for a discussion of methodology as it was commonly understood by classical political economists. Also see Mises (1966: 40).

<sup>11</sup> In light of comments and criticisms received by Glen Weyl regarding different interpretations of economic theory, we believe it is helpful to distinguish between an approach to microeconomics that is ‘choice-theoretic’ and one that is ‘price-theoretic.’ A choice theoretic approach conflates the optimizing activity of a rational agent with that of equilibrium itself. That is, there is a direct link between the rational agent and the ‘success’ or ‘failure’ of the market to achieve equilibrium. Absent institutions and prices, alternative equilibrium outcomes rest upon alternative behavioral assumptions of the agent in the model. In a price-theoretic approach, there is an indirect link between the rational agent and the *tendency* towards equilibrium. That is, institutions and prices emerge from optimization, and once emerged, become guides for future action, facilitating greater plan coordination (i.e., equilibrium). This difference parallels the distinction between an ‘exchange paradigm’ and an ‘allocation paradigm’. The Alchian/Buchanan/Coase generation adopted a price-theoretic approach within an exchange paradigm whereas the Friedman/Stigler/Becker generation seems to fit more easily into a choice-theoretic approach within an allocation paradigm.



Knight (and his contemporaries, such as the Austrians) is simply rejected by the 21st century Formalistic Historicists in the same way classical economic theory was rejected by the German Historicists of the 19th century (see Boettke, 2012: 316–329).

A great history of modern economic thought project would be to survey the dominant price theory texts in the elite Ph.D. programs and its impact upon the character of economic thinking 10–20 years hence. Prior to Mas-Colell *et al.* (1995), there was Kreps's *A Course in Microeconomic Theory* (1990), which was preceded by Varian's *Microeconomic Analysis* (1978) and before that there was Henderson and Quandt's *Microeconomic Theory: A Mathematical Approach* (1958), and so forth until you trace back to Stigler and to Marshall. But the character of economics shifts with each core textbook used to teach economics. Samuelson's approach in *Foundations of Economic Analysis* (1947) compels us to view economic theory differently than Friedman's *Price Theory* (1962), or Stigler's *The Theory of Price* (1946), let alone Alchian and Allen's *University Economics* (1964). In opposition to the shared understanding of early neoclassical economics, the subsequent developments in post-WWII economic analysis demonstrate that Walrasian economics was different from Marshallian economics, and Wicksteedian economics is different from both. Chicago price theory is repeatedly described as Marshallian, but perhaps more accurately, at least in the Knight/Viner/Simons tradition, it was Wicksteedian. Friedman once famously said that we curtsy to Marshall, but we walk with Walras, and that may ultimately be accurate for the Friedman/Stigler/Becker tradition. But for Knight, it might have been more accurate to say that he didn't curtsy or walk, but instead waltzed with Wicksteed, as economics was in his hands an elegant dance through the complexities of life.<sup>12</sup>

Gary Becker often said that from Friedman he learned that economics is not just a clever game to be played by smart academics, but a vital tool for understanding the world in which we live. There is something in that claim that sets Chicago price theory apart from the teaching of economics at other elite centers of economic research and graduate education. Cleverness is no doubt valuable in an individual thinker, but not as much as creativity, and certainly not as much as the consistent and persistent pursuit of the logic of economic analysis and careful empirical analysis.

It has been quipped that the difference between Chicago and Harvard/MIT in terms of graduate student education goes as follows: 'We study the same models of the market and the price system as they do at Chicago, but at Chicago they

<sup>12</sup> Wicksteed's analysis of how the system achieves equilibrium is different from either Walras or Marshall. 'Wicksteed's approach', Robbins (1933: xix) writes in his introduction to *The Common-Sense of Political Economy*, 'is by no means the same as Pareto's. His analysis of the conditions of equilibrium is much less an end in itself, much more a tool with which to explain the tendencies of any given situation'. Wicksteed represents an interesting, yet underexplored, connection between Chicago and LSE as *The Common-Sense of Political Economy* was a standard on the reading lists at both schools.

actually believe the models, where at Harvard/MIT we don't'. In many ways this characterization translates into the 'saltwater' versus 'freshwater' debates of economic discourse. The 'freshwater' thinkers rely on abstract models of the economy to show the superiority of free markets while the 'saltwater' economists show the fragility of these models to real-world imperfections. As economists trained in the Virginia School of Political Economy, where the point is to reconcile and marry the best ideas from property rights economics (Alchian), law and economics (Coase), public choice analysis (Buchanan), and market-process economics (Mises, Hayek, and Kirzner), we believe that both Harvard/MIT and Chicago had framed the debate the wrong way.

We value the Chicago persistence to the economic approach to human behavior, and the Harvard/MIT skepticism of unrealistic depictions. But in the engagement between the two, the Harvard/MIT skeptic often seems to be on better intellectual footing by insisting on some realism of assumptions. The complexities of economic reality cannot be so easily swept under the intellectual rug through 'as if' maneuvers. However, from the perspective of the sort of early neoclassical institutionalism we are articulating, both the modern Chicago and Harvard/MIT schools of thought are guilty of the fact that their modeling of prices as *sufficient statistics* is as serviceable to defenders of the market as well as its critics. They allow the economist either to condemn capitalism for failing to measure up to the model of perfect competition, or to praise capitalism as a utopia of perfect knowledge and rational expectations. Whether the TPE assumption is held as an 'as if' description of reality in the case of Chicago economists or as a normative benchmark for policy evaluation in the case of Harvard/MIT economists, in *'both cases the heuristic value of equilibrium is sacrificed'* (Boettke, 1997: 24, emphasis original).

In a world of uncertainty and constant change, the equilibrium model aids the analysis by a 'method of contrast', enabling the theorist to isolate the consequences of change. What the Chicago TPE and the Harvard/MIT 'market failure' schools miss is that the 'success' or 'failure' of market prices to deliver information is fundamentally a *contextual* question of a *comparative institutional nature*. Both strands of economic thinking were essentially institution-free accounts of an institutionally laden reality they were striving to explain, especially as compared to the analysis of the Classical School and the early Neoclassical School we have been talking about.

In short, from this perspective, the Chicago TPE 'solves' the problem by denying it, while the Harvard/MIT 'market failure' denies that any solution is possible within the system. Rather than deny the problem of market failure *ex ante* or deny any solution *ex post*, a more fruitful endeavor is to understand how individuals 'solve' the problem of coordinating their diverse and often competing economic plans through the price system. *Institutional problems demand institutional solutions*. This is the main point that was stressed by the Chicago price theory tradition from Knight/Viner/Simons to Alchian/Buchanan/Coase.

Perhaps it is useful to contextualize the transformation of the professional consensus from the time of Knight/Viner/Simons to the emerging post-WWII Chicago School of Friedman/Stigler/Becker. The post-WWII Chicago School was up against a much different intellectual adversary than what Knight/Viner/Simons faced throughout their careers. The ideas of Thorstein Veblen, Ruxford Tugwell, Adolph Bearle, and Gardner Means, let alone the ideas of William Forster and Waddill Catchings and even unreconstructed J. M. Keynes no longer had the same argumentative thrust they possessed in the 1920s and 1930s. In American academic circles, Samuelson's *Economics* (1948) and *Foundations of Economic Analysis* (1947) had effectively cornered the educational market at the undergraduate and graduate level, respectively, and in the process transformed opinion among economic researchers and teachers so that the prevailing conventional wisdom by 1960 was the neo-Keynesian synthesis focus on *macroeconomic* aggregate demand volatility, and *microeconomic* inefficiency due to monopoly power, externalities, and public goods. As we have stressed, for this essay we leave the macroeconomic debate alone.

In microeconomics there were three ways in which the academic economist responded to the Samuelsonian argument concerning pervasive 'market failure', emphasizing (1) conceptual clarity, (2) the role of institutional arrangements, and (3) entrepreneurial solutions. For ease of exposition, we will combine comparative institutional analysis with entrepreneurship into one category and juxtapose with conceptual clarity. From the 'price theory as prophylactic' perspective, the different types of argumentative response highlights the alternative evolutionary path the Knight/Viner/Simons price theory tradition took in providing conceptual clarity in economic thinking. While the Friedman/Stigler/Becker branch stressed conceptual clarity, the Alchian/Buchanan/Coase branch made the additional move of providing an *institutionally robust* response.

An *institutionally robust* argument takes into account problems associated with the mobilization of knowledge dispersed throughout the economic system, and of opportunistic behavior associated with ensuring incentive compatibilities in any proposed institutional remedy to social ills. Private actors, as well as public entities, must continually adjust and adapt to the circumstances of knowledge problems and the problems of opportunism. To ignore these problems is only to doom the proposed institutional solutions as impracticable due to incoherence and vulnerability to strategic behavior on the part of opportunistic actors.

In the subsections that follow, we will compare the Friedman/Stigler/Becker branch of Chicago price theory with the Alchian/Buchanan/Coase branch in terms of these two argumentative strategies. What will be shown is that conceptual clarity, exemplified by the use of the TPE by Friedman, Stigler, and Becker, while powerful, has weaknesses that can only be eliminated by making the more institutional/entrepreneurial argumentative turn made by Alchian, Buchanan, and Coase. To sharpen our exposition, consider the recent critique of

the market economy offered by George Akerlof and Robert Shiller in *Phishing for Phools*:

[F]ree markets do not just deliver this cornucopia that people want. They also create an economic equilibrium that is highly suitable for economic enterprises that manipulate or distort our judgement, using business practices that are analogous to biological cancers that make their home in the normal equilibrium of the human body...Insofar as we have any weakness in knowing what we really want, and also insofar as such a weakness can be profitably generated and primed, markets will seize the opportunity to take us in on those weaknesses. They will zoom in and take advantage of us. They will phish us for phools. (2015: x)

How would the different approaches take up their challenge? Conceptual clarity would reveal the intellectual incoherence in Akerlof and Shiller's presentation. On the other hand, the institutional/entrepreneurial approach would begin by stating, for sake of argument, that Akerlof and Shiller have indeed identified a potentially serious problem. However, the analysis would emphasize how alternative institutional arrangements and entrepreneurial innovations in the market can ameliorate the identified failures. From an institutional/entrepreneurial perspective, today's inefficiencies are tomorrow's profit opportunities for alert individuals who can correctly identify and fix the problem. It is these 'inefficiencies' that give rise to the entrepreneurial market process.

### *Conceptual clarity*

The idea behind using conceptual clarity is to provide a hermetically sealed, water-tight argument that transcends the existence of market failure by correctly identifying the marginal costs and marginal benefits of any given market situation. This rendition of Chicago price theory is characterized as follows:

First, the theory exudes confidence that rational behavior succeeds in realizing mutually beneficial exchange opportunities. Second, it counts the individual – whether consumer, laborer, or business owner – as unimportant, despite its reliance on self-interested behavior; it uses aggregations of the behavior of individuals to construct its equilibria, and in doing so it deprives the individual of any force in the economic system. Third, it relies on Marshall's two-bladed scissors, supply and demand, to construct these aggregations of the behavior of individuals. (Demsetz, 2013 [1993] Vol. I: 96)

This conception of price theory is one in which rational behavior, price formation, and market equilibrium are not *by-products* of competitive activity within an underlying institutional framework, but are assumed *ex-ante* to be already approximated by the analysis. This is just the classic position of *The Economic Approach to Human Behavior* (Becker, 2013 [1976] Vol. I: 294) where the core assumptions are maximizing behavior, stable preferences, and competitive equilibrium. The TPE is utilized as a benchmark not only to defend

a particular theoretical meaning of competition, but also extended to applied topics, such as the economics of information and industrial organization.

In ‘The Economics of Information’ (2013 [1961] Vol. I), for example, Stigler argues that individuals will optimally search for information. He argued that information is like any other commodity, in which individuals deliberately search by comparing the marginal costs with the marginal benefit of acquiring additional units.<sup>13</sup> Ignorance exists throughout the economy, but at an optimal level. ‘Ignorance’, as Stigler puts it, ‘is like subzero weather: by a sufficient expenditure its effects upon people can be kept within tolerable or even comfortable bounds, but it would be wholly uneconomic entirely to eliminate all of its effects’ (2013 [1961] Vol. I: 659).

The attempt to eliminate the remaining ignorance would be inefficient, entailing searches for information that are more costly than the benefits they could produce. Consider Stigler’s argument in ‘Information in the Labor Market’, where he states ‘the function of information is to prevent less efficient employers from obtaining labor, and inefficient workers from obtaining better jobs. In a regime of ignorance, Enrico Fermi would have been a gardener, Von Neumann a checkout clerk at a drugstore’ (2013 [1962] Vol. III: 580). To claim that markets fail due to ignorance is due to a conceptual error. Ignorance is a fact of human existence; the question is whether the market mechanism results in an optimal level and whether the efficient utilization of resources is realized.

The Stiglerian argument was roundly criticized by Grossman and Stiglitz (1976) who argued that the market could be informationally inefficient. Grossman and Stiglitz take the TPE claim seriously, but utilize it as a normative benchmark rather than as an ‘as if’ description of reality. Treating information as a given, much like a public good, maximizing agents acting on market prices alone would, they conclude, undersupply knowledge of market conditions since they are able to free-ride on the provision of information by others. Therefore, a market failure results as individuals will fail to act on their own private information, making it impossible for markets to achieve the optimal amount of information. For our purpose, what matters is that Stiglitz and Grossman would regard their argument as one that rejects both Stigler as well as Hayek’s rendition of the informational superiority of markets. While their work may challenge Stigler’s information search theory, they are effectively silent with respect to the more dynamic theory of entrepreneurial discovery in the competitive market process. From a market process perspective, Stiglitz and Grossman put too much theoretical weight on equilibrium prices, and remain silent on the coordinative processes set in motion by *disequilibrium* relative prices within the institutional context of a private property market economy (Boettke, 2002: 270). Arguments on the grounds of competitive equilibrium are incommensurable with those made based on comparative institutional analysis (Wagner, 2010: 111).

13 For a contrast between Hayek and Stigler, see Boettke (2002).

Chicago price theory, especially in terms of perfect competition, ‘leaves no room for the survival of incompetency. In equilibrium, owners of firms, as suppliers of goods, do not waste resources’ (Demsetz, 2013 [1993] Vol. I: 103–104). It is not simply the case that the effects of monopoly power are negligible in the long-run due to the threat of entry and exit by other competitors (see Harberger, 2013 [1954], Vol. II: 592). For Stigler, the presumed existence of monopoly power and the ability of the firm to restrict output and raise prices is a failure of the economist to conceptually clarify the scope of competition in the industry.

In ‘The Extent and Bases of Monopoly’ (2013 [1942] Vol. II.), Stigler is led ‘unambiguously to the conclusion that the major factor in the decline of competition has been governmental support of monopoly’ (2013 [1942] Vol. II: 484). In sectors of the economy that have allegedly become monopolistic through market competition, a ‘reasonable approximation is all that is needed’ (2013 [1942] Vol. II: 467). Stigler identifies two ‘grave defects’ with the use of statistics measuring concentration ratios for particular industries. The first is the omission of imports that compete with products made by domestic industries, such as automobiles. By including imports, the extent of monopoly in the domestic automobile industry is greatly minimized. Overlooking the presence of substitutes of a particular product, including secondary markets, is another grave defect in measuring market concentration, ‘making it reasonably certain that monopolistic powers are in general small’ (Stigler, 2013 [1942] Vol. II: 472).

Conceptual clarity was indeed required to avoid the confusions of the older Structure-Conduct-Performance approach to Industrial Organization, but too often the emphasis downplays the constant agitation of the market that inspires multiple margins of adjustment and entrepreneurial innovation. It is true, as Stigler states, that the presumption of ‘X-inefficiency’ due to monopoly power erroneously assumes *ex-ante* that ‘(1) monopolists do not maximize profits and (2) competitors are driven closer to “the” minimum costs by the entry of new rivals, some of whom are efficient, by a Darwinian process’ (1976: 215). However, Stigler rules out waste *ex-ante* as an ‘error within the framework of modern economic analysis’ (1976: 216) because in ‘neoclassical economics, the producer is *always* at a production frontier’ (1976: 215, emphasis added). The notion that waste due to monopoly power can be reduced as a *by-product* of competitive activity within an underlying institutional framework is also defined out of existence.

If conceptual clarity implies defining monopoly power away, then how effectively has economic theory been leveraged to counter the popular fallacy that there exists a tendency in market relations toward market concentration and the exploitation of some due to the monopoly power of others in the marketplace? The rivalrous process of entry and exit that erodes monopoly power is placed in the background, and the analyst too easily slips into a misleading position that seeks to evaluate competition exclusively in relationship to the market

*structure* of perfect competition, which ‘is based on an incorrect understanding of competition or rivalry’ (Demsetz, 1968: 55).

Let us consider how Harold Demsetz adds institutional robustness to conceptually clarify how the market process erodes monopoly power. As he argues in ‘Why Regulate Utilities?’ the ‘important thing that needs stressing is that *we have no theory that allows us to deduce from the observable degree of concentration in a particular market whether or not price and output are competitive*’ (1968: 59–60, emphasis original). Moreover, competition is not inconsistent with market concentration when we consider the distinction between ‘competition *for* the field’ and ‘competition *within* the field’ (Demsetz, 1968: 57, fn. 7). If the meaning of competition is one of a dynamic process of entrepreneurial discovery, then whether or not competition within the field approximates a particular market structure, such as monopoly or perfect competition, matters much less than whether or not the rules of game obstruct the entry of competitors. Demsetz pointed out that the alleged threat of market failure in the hands of natural monopoly was a problem regarding property rights assignments for the industry, not the *structure* of competition within the industry.

#### *Alternative institutional arrangements and entrepreneurial solutions*

As the preceding paragraphs demonstrate, conceptually clarifying a market failure often leads to an analysis of alternative institutional arrangements. For Hayek, price theory rests on ‘what institutional arrangements are necessary in order that the unknown persons who have knowledge especially suited to a particular task are most likely to be attracted to that task’ (Hayek, 1948: 95). In building his case about the informational dysfunctions of a market economy, Stiglitz may have raised some critical issues to ‘information economics’, but he did not have the superior argument to Hayek’s ‘knowledge problem’ and the exchange perspective developed by Alchian, Buchanan, and Coase. We have been emphasizing how this alternative branch of price theory sought to explore how conflicts are reconciled through the Smithian process of ‘higgling and bargaining’ in the market. Situations of social conflict are turned into opportunities for mutual gain by rearranging the institutional environment within which economic actors pursue their plans, or through the entrepreneurial alertness of some individuals, within the market process itself, who recognize that today’s inefficiency is potentially tomorrow’s profit opportunity if they are able to address the problem successfully.

Private property rights are ‘entrepreneurial filters’ that structure the costs and benefits of exchange. Private property rights economize on the emergence of certain patterns of behavior by (1) filtering in productive entrepreneurship, leading to the amelioration of market failures as its unintended outcome, and (2) filtering out unproductive entrepreneurship that results in 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.

The ‘exchange’ tradition constantly draws analytical attention to the study of how individuals *bargain toward* efficient solutions. This perspective is more or less ignored in the Friedman/Stigler/Becker version of price theory, as the focus is not on how changing circumstances demand continuous adaptation and adjustment, but rather on rationality and optimality. In the standard account of the Chicago price theory tradition, the logical extension of institutional analysis from Knight/Viner/Simons to Alchian/Buchanan/Coase is de-emphasized. And, the more refined elaboration of the theory of the *market process* respectively made by these thinkers is not highlighted.

Critical to our narrative is to note how in their respective work Alchian, Buchanan, and Coase all reflect Buchanan’s depiction of the market process in ‘What Should Economists Do?’, one in which the market is viewed from an ‘exchange paradigm’, not an ‘allocation paradigm’. As Buchanan states:

A market is not competitive by assumption or by construction. A market *becomes* competitive, and competitive rules *come to be* established as institutions emerge to place limits on individual behavior patterns. It is this *becoming* process, brought about by the continuous pressure of human behavior in exchange, that is the central part of our discipline, if we have one, not the dry-rot of postulated perfection. (1964: 218, emphasis original)

In contrast, the ‘dry rot’ of perfectly competitive equilibrium transforms ‘individual choice behavior from a social-institutional context to a physical-computational one’ (Buchanan, 1964: 218). But ‘surely this is nonsensical social science’ (Buchanan, 1964: 218).

Central to the *common-sense of political economy* that characterized early neoclassical economics was the notion of the ‘equimarginal principle’,<sup>14</sup> which stipulates that individuals will pursue a maximum amount of utility along both monetary and non-monetary margins of utility adjustment until they are fully equalized to each other.<sup>15</sup> This principle is not a condition of the market that is assumed *ex ante*. Rather, it is through the competitive market process that greater equalization along multiple margins of adjustment is realized *ex post*.

14 Regarding the role of monetary prices in generating mutual adjustments according to the equimarginal principle, see Marshall (1997: 117–118).

15 See Wicksteed’s illustration in *The Common Sense of Political Economy* (1933: 183) of how social cooperation under the division labor is generated along multiple margins of adjustment through the price system, generating an unintended consequence that ‘London is fed day by day, although no one sees to it’.



The equimarginal principle is realized only when all plans completely dovetail, but when individuals are disappointed in the fulfillment of their goals (i.e., pursuing maximum utility), then a tendency will arise among individuals to systematically revise their decisions such that different courses of action will be pursued until each plan gives an equal amount of marginal benefit. The constellation of relative prices serves a discovery role in their capacity of steering the adjustments and adaptations that follow from the discrepancy between the *ex-ante* expectations and the *ex-post* realizations in market experimentation. These margins of adjustment are not only pecuniary, but also non-pecuniary in nature as well, and different institutional arrangements will determine the relative cost of adjusting on these margins. Moreover, alternative institutional arrangements not only determine the conditions within which money prices emerged, but it also generates pricing on non-monetary margins as well. The multiple margins of adjustment that economic decision-makers act upon include non-monetary preferences, such as preferences for beauty, love, environmental pollution, and racial discrimination. How individuals negotiate these multiple margins of adjustment will be determined by their relative costs, which in turn are determined by the rules of the game, namely the ability to transfer private property rights.

Alchian and Kessel (2013 [1962] Vol. III) argue in ‘Competition, Monopoly, and the Pursuit of Monopoly’ that the relative costs of enhancing a person’s utility on both monetary and non-monetary margins are not a function of differing market structures, but of differing property rights arrangements. Under some institutional arrangements decision makers will face high-powered incentives to cut costs, while under other arrangements the critical decisions makers face a different set of incentives and therefore may pursue goals other than maximizing monetary profits (2013 [1962] Vol. III: 508–510). A critical point to note is that economic rationality in form is omnipresent, but the manifestation of the content of rational behavior is institutionally contingent. The ‘devil is always in the *institutional* details’ in this version of economic science.

Coase along similar lines insisted that what is traded on the market are rights to perform certain actions with such goods and services, rather than goods and services themselves. As Coase argues in the ‘The Problem of Social Cost’, if ‘factors of production are thought of as rights, it becomes easier to understand that the right to do something which has a harmful effect (such as the creation of smoke, noise, smells, and so on) is also a factor of production’ (2013 [1960] Vol. III: 697). What came to be dubbed as the Coase Theorem was first formulated by Stigler in his 3rd edition of *The Theory of Price* (1966: 113), in which he argued that in a world of zero transaction costs individuals will realize that pattern of resource allocation that maximizes the value of output, irrespective of the initial assignment of property rights.

Although Stigler’s ‘Coase Theorem’ does indeed follow from a particular reading of Coase, such a reading places in the background the significance Coase

attributed to his own argument. First, Coase's argument undermined the public policy conclusion of Arthur Pigou's analysis of externalities. Given that Pigou had based his argument in terms that did not recognize the costs associated with market transactions, Coase's analysis of the Pigouvian remedy for externalities, namely government regulation, rendered such a remedy either redundant or non-operational for the internalization of externalities. Under a zero-transaction cost scenario, government action would be redundant because any divergence between private and social costs would be negotiated away between conflicting parties through private bargaining, irrespective of the initial assignment of property rights (Coase, 1992: 717). However, in a world of positive transaction costs, Coase argued that government regulation in the form of taxation or subsidies would be non-operational because government officials would lack the requisite knowledge to set the appropriate tax or subsidy to align private costs and benefits with social costs and benefits. For Coase, the provision of markets is an 'entrepreneurial activity', (1988: 8) in which market failures and other impediments to the gains from trade 'are easily handled by *normal price theory*, whereas the absence of transaction costs in the theory makes the effect of a reduction in them difficult to incorporate into the analysis' (Coase, 1988: 9–10, emphasis added).

Second, it disregards the significance of alternative institutional arrangements, such as law, property rights, and money for mitigating social conflict in a world of positive transaction costs<sup>16</sup> (Coase, 1992: 717). In 'The Federal Communications Commission' (1959), dealing with the problem of allocating radio and television frequencies, Coase first presented his famous theorem about the costs and benefits of exchange. Coase argued the following:

This 'novel theory' (novel with Adam Smith) is, of course, that the allocation of resources should be determined by the forces of the market rather than as a result of government decisions. Quite apart from the malallocations which are the result of political pressures, an administrative agency which attempts to perform the function normally carried out by the pricing mechanism operates under two handicaps. First of all, it lacks the precise monetary measure of benefit and cost provided by the market. Second, it cannot, by the nature of things, be in possession of all the relevant information possessed by the managers of every business which uses or might use radio frequencies, to say nothing of the preferences of consumers for the various goods and services in the production of which radio frequencies could be used. (1959: 18)

In this quote, Coase's approach to comparative institutional analysis is combining the insights developed by Mises and Hayek on economic calculation and those of Buchanan on public choice and interest group politics. Absent the ability to exchange property rights and utilize money prices to assess the relative

16 See McCloskey's discussion and criticism of the Coase Theorem in *The Applied Theory of Price*, 2nd ed., (1985: 335–340) as well as McCloskey (1998). See also Shirley (2013: 244).

scarcity of resources, government officials will not be able allocate resources efficiently. Government officials are precluded from access to the information possessed by business managers, not because of lack of effort or incentive, but because the type of knowledge generated through the market process is *contextual*, meaning that it can only arise and be communicated through the exchange of private property rights utilizing money prices as the common denominator of exchange<sup>17</sup> (Hayek 2013 [1945] Vol. I).

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 public officials, such as the pleading of special interests, bureaucratic priorities, and their own private gain through public means.

Coasean political economy is fundamentally about the *processes* of conflict resolution under alternative institutional arrangements, 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 miss Coase's point. Stigler's Coase Theorem assumes away the importance of institutions in providing alternative possibilities of bargaining toward a resolution. Coase, like Alchian and Buchanan, sought to explain how the economic forces at work produced a strong tendency of constant and creative evolution toward a solution even in the most unfavorable of circumstances.

Third, Coasean political economy is derived from Frank Knight's critique of Pigou. In 'Some Fallacies in the Interpretation of Social Coast' (2013 [1924] Vol. III), Knight criticizes the argument made by Pigou that individual profit-seeking will lead to a divergence in private and social costs, such as that between the overuse of a high-quality resource and the underutilization of a low-quality resource, namely roads. As a result, the equimarginal principle will fail to operate, requiring government action to tax the use of the high-quality roads and subsidize the use of the low-quality roads. In his criticism of Pigou, Knight argued that what was required for the internalization of externalities was well-defined private property rights. As Knight states:

*It is in fact the social function of ownership to prevent this excessive investment in superior situations.* Professor Pigou's logic in regard to the roads is, as logic, quite unexceptionable. Its weakness is one frequently met with in economic theorizing, namely that the assumptions diverge in essential respects from the facts of real economic situations. *The most essential feature of competitive conditions is reversed, the feature namely, of the private ownership of the factors practically significant for production.* If the roads are assumed to be subject to private appropriation and exploitation, precisely the ideal situation which would be established by the imaginary tax will be brought through

17 See Mises (1951, 1975) and also Boettke (1998).

the operation of ordinary economic motives. (Knight, 2013 [1924] Vol. III: 597–598, emphasis added)

In the last part of the quote, Knight is illustrating how the invisible hand of the market process aligns individual self-interest with the public interest via the incentive structure of private property rights. This rendition of the market process was passed onto the Alchian/Buchanan/Coase generation of Chicago price theory and became lost in translation once the TPE came to define the methodological position of Chicago price theory. To this point, Knight argued the following:

The problem of conditions of equilibrium among given forces – ‘statics’ in the proper sense – is often important in economics, but is after all subsidiary, as indeed it is in physical mechanics. The larger question is that of whether the forces acting under given conditions tend to produce an equilibrium, and if so how, and if not what is their tendency; that is, it is a problem in dynamics. This type of problem has been too largely passed over hitherto, leaving a fatal gap in the science. (1997: 133)

This entrepreneurial gap is what Israel Kirzner attempted to fill in price theory as it had been understood by economists going back to Adam Smith. Kirzner’s rendition of the market process in *Market Theory and the Price System* is important here because it can be understood as bridging a gap between the neoclassical view of the market, which he learned from Stigler’s *Theory of Price*, and what he understood from Mises, as well as Knight and Wicksteed, about the dynamic adjustments of individuals according to patterns imposed by the activities of other individuals.

The reason we bring Kirzner into our discussion is to reinforce our alternative account about where to find a logical continuation running within the broader Chicago School. As we stated in our introduction, while indeed a logical continuation can be drawn from Frank Knight to Gary Becker, Kirzner’s exposition of price theory reveals that Stigler and later Becker took a logical turn that diverged from Frank Knight. What Kirzner sought to communicate in his textbook that differed from Stigler’s *The Theory of Price*, not to mention Becker’s *Economic Theory*, were the basic insights about price theory not only emphasized by Mises and Knight about the role of the entrepreneur in a dynamic market process, but also that both Austrians and Chicagoans shared a *common* understanding of price theory as it was known not only by Menger and Bohm-Bawerk, but also Marshall and Wicksteed (Kirzner, 2011: xvii). This common understanding included not only the equilibrium properties of markets as discussed in Stigler and Kirzner, but also recognized, more importantly, the coordinative processes of continual adjustment that is guided by relative price movements and the lure of profits as well as the discipline of losses.

Conceptual clarity is of course always intellectually desired in any system of thought, but the TPE approach presumes that prices reveal all the relevant

information, such that we can redraw cost curves and account for the optimal amount of deception and ignorance, precluding in principle any divergences in private and social cost. Our perspective is that the myriad of institutional innovations made by alert entrepreneurs ameliorate deceptions and curtail phishing. If conceptual clarity results in assuming away market failure, it also by logical consistency rules out any possibility of an institutional/entrepreneurial solution to market failures. We argue that markets ‘fail’ all the time but the market system works to constantly adjust and ameliorate such failures.

#### 4. Chicago economics, welfare economics, and constitutional political economy

Whether or not the TPE conceptually clarifies market phenomena also has implications for public economics, welfare economics, and the role of the economist as a reformer. To understand this, we can contrast the arguments made by Stigler in ‘The New Welfare Economics’ (2013 [1943] Vol. III) and Buchanan (1959) in ‘Positive Economics, Welfare Economics, and Political Economy’. Whereas Buchanan’s approach to welfare economics focuses on modifying the rules of the game, Stigler proceeds to argue for conceptual clarity within the given structure of existing rules.

Stigler argues that at ‘the level of economic policy, then, it is totally misleading to talk of ends as individual and random; they are fundamentally collective and organized. If this conclusion be accepted, and accept it we must, the economist may properly exceed the narrow confines of economic analysis. He may cultivate a second discipline, the determination of the ends of his society particularly relevant to economic policy’ (2013 [1943] Vol. III: 628). Stigler concludes that the role of the economist is to infer that voters have chosen an economic policy because they wanted it, and to say otherwise would mean that economists are substituting his or her value judgments for those of voters, abandoning their role as a scientist for that of a reformer (2013 [1943] Vol. III: 629).

Like Stigler, Buchanan takes the prevailing policy consensus as given, but in contrast to Stigler, he uses it as a starting-point, as opposed to an end-point, in the economist’s role of recommending reform policies, namely by discovering alternative institutional rules for generating patterns of exchange, production, and distribution. Unlike Stigler, Buchanan combines the reformist zeal that often motivates the student of economics in a manner not inconsistent with his role as a positive economic scientist. Where Stigler saw only conflict born on inconsistency, Buchanan sees the possibility for the rebirth of the grand tradition of political economy. ‘Political economy’, Buchanan insists, ‘has a non-normative role in *discovering* “what is the structure of individual values”’ (Buchanan, 1959: 137 emphasis added).

According to Buchanan, political economy entails two levels of analysis that must be studied. The formation of the rules of the game is the pre-constitutional level of analysis and the strategic play of the game within the established

rules is the post-constitutional level of the analysis. In Buchanan's rendering of constitutional political economy, the two levels of analysis must be engaged since relevant questions about law and order cannot be answered unless the social philosophical analysis of 'good' rules is informed by the predictive analysis of how different political institutions will operate.

Buchanan's approach provides hope for the possibility of reform while avoiding the pitfalls of social engineering. The positive role that the economist can play in policy formation is one of 'diagnosing social situations and presenting to the choosing individuals a set of possible changes' (Buchanan, 1959: 127). The scope for those changes must be limited to 'those social changes that may legitimately be classified as "changes in law", that is, changes in the structural rules under which individuals make choices' (Buchanan, 1959: 131).

The political economist contributes to science and reform by analyzing alternative institutional arrangements and offering changes in the rules of the game as hypotheses to be tested in the arena of collective action. In devising such changes in the rules of the game, Buchanan stresses two critical building blocks. The first building block concerns the position of the status quo. The positive political economy of reform must begin with the 'here and now', and never some imaginary start state where opposition to change is non-existent. In doing this, Buchanan is not attributing any normative weight to the status quo, but insisting that this must be the starting point of any assessment of relevant alternatives. The second building block is the compensation principle. Any shift in the rules of the game will change the nature of the payoffs in the game. Those who currently gain from the status quo will lose, while others currently not in a position of privilege with respect to existing institutions will gain from the change. The winners must compensate the losers in the proposed change, not because the losers have any normative claim to their existing benefits but because, unless compensated, the beneficiaries of the status quo will fight to defeat any proposed changes in the structure of rules. Buchanan's conception of positive political economy has both positive and normative implications, which 'may be summed up in the familiar statement: *There exist mutual gains from trade*' (1959: 137, italics original).

For Buchanan, the task of economists is broader than the study of the efficiency propositions of the market; it also includes 'the study of all such cooperative trading arrangements which become merely extensions of markets as more restrictively defined' (1964: 220). In contrast to the understanding of markets in terms of ubiquitous efficiency, Buchanan argued that such an 'overly restricted conception of market behavior' neglects the propensity of individuals to discover voluntarily more inclusive institutional arrangements within which efficiency emerges. Efficiency considerations are not eliminated from Buchanan's conception, since the 'motivation for individuals to engage in trade, the source of the propensity, is surely that of "efficiency"' (Buchanan, 1964: 219). The proposition that exchange must be extended to the constitutional level of rules is

not inconsistent with the tendency towards efficiency within a given institutional context.

Contrast Buchanan's project with the latter-day Chicago price theory approach. The TPE approach insists that intellectual consistency demands that economists model individuals as always doing the best they can given their situation, and then extrapolates from that individual proposition to a system-level proposition that any arrangement so achieved, if it survives, must – by definition – be the best arrangement in the feasibility set. There is no doubt that this understanding of the Chicago price theory tradition proved to be extremely productive, as evidenced especially in the work of George Stigler and Gary Becker. Look at whatever practice one finds in the world of human affairs – be it in the ordinary business of life, or the most exotic practice from disparate cultures ancient as well as modern – and apply the TPE assumption in a consistent and persistent manner and you generate explanations that are easily translated into testable hypotheses. This economic approach to human behavior comes across as the natural development of the logic of economic reasoning from first principles. How can anyone object to such a basic formulation of human purposiveness in striving to better their condition in the face of given constraints?

Our point here is not to assert that all assumptions must be completely realistic. Economic theory would be impossible under such an intellectual restriction. But the policy relevance of assumptions independent of the predictive power of a theory also matters. In other words, if positive economics is to advance and make fruitful contributions to public policy, then they must have a bearing on the appropriate institutional arrangements in which individuals can strive to ameliorate social conflict and achieve greater social cooperation under the division of labor.

Friedman's review of Abba Lerner's *The Economics of Control* (1944) provides a good example of how logical economic reasoning divorced from the institutional context within which economic decision-making takes place is irrelevant for public policy conclusions.<sup>18</sup> Friedman's main criticism is that 'Lerner writes as if it were possible to base conclusions about appropriate institutional arrangements almost exclusively on analysis of the formal conditions for an optimum' (1947: 415). As Friedman states, 'Lerner's acceptance of the price mechanism does not, however, mean acceptance of the particular institutional arrangements with which the price system is historically associated, namely, a free-enterprise exchange economy characterized by private ownership of the means of production' (1947: 407). For Friedman, 'the formal analysis is

18 It could be argued, however, that Friedman is guilty of similar methodological problems as Lerner in his 'The Methodology of Positive Economics' (see 2013 [1953] Vol. I). The difference in methodology that Friedman employs here and in his 1947 review of Lerner's *The Economics of Control* reveals that he is a transitional figure between the Knight/Viner/Simons generation and Stigler/Becker generation of the Chicago School (see Boettke and Candela, 2016).

almost entirely irrelevant to the institutional problem' (1947: 405). By expressing his analysis as if economic decision-making occurred in an institutional vacuum, Lerner could not appreciate the administrative problems of the policies he proposed or their social and political ramifications.

Friedman's arguments against Lerner are particularly relevant in another respect for discerning the proper prophylactic against popular fallacies about the market economy. Institutional arrangements must ultimately be judged by their 'noneconomic implications, of which the political implications – the implications for individual liberty – are probably of the most interest and the ethical implications the most fundamental' (1947: 415–416). The irony is that the economist who wishes to defend the efficiency of the market by utilizing the TPE, namely by hermetically sealing any market situation from the presence of market failure, is also trapped under the same logical straightjacket from making any public policy recommendations or proposals of institutional reform. The logical implications of the TPE for welfare economics and public policy is best stated by Stigler in his 'Law or Economics?':

[E]very durable social institution or practice is efficient, or it would not persist over time. New and experimental institutions or practices will rise to challenge the existing systems. Often the new challenges will prove to be inefficient or even counterproductive, but occasionally they will succeed in replacing the older system. Tested institutions and practices found wanting will not survive in a world of rational people. To believe the opposite is to assume that the goals are not desirable. (1992: 459)

By this logic, Stigler argues, the presence of interest groups lobbying for import tariffs on sugar is efficient because they have stood the test of time. Although consumers incur deadweight losses from such tariffs, the sugar program is regarded as efficient once the economist takes into account the greater costs of removing the tariffs, namely giving the present discounted value of these capitalized rents to sugar farmers, the cost of which exceeds the dispersed benefit of lower sugar prices to consumers.

The Chicago price theory tradition shared by Knight, Simons, and Viner to Friedman, Stigler and Becker has provided a bulwark for understanding the role of competitive markets in assuring an efficient utilization of resources in an economy, and undermining the case for extensive government intervention in that economy. However, as Frédéric Bastiat argued, the 'worst thing that can happen to a good cause is, not to be skillfully attacked, but to be ineptly defended' (1996: 107). Once the baton was passed to the post-WWII generation of economists at the University of Chicago, the emphasis on the multifaceted way that individuals continually adjust and adapt, guided by the price system, to realize the mutual gains from trade and the wealth creation from entrepreneurial innovation was placed in the background of analysis. What came to the foreground of economic analysis was a defense of competitive markets by exercising a denial of criticisms



through clarification of conceptual errors – most importantly the costs that were too often ignored – rather than an engagement showing how critics were cutting the story short too soon and failing to notice how the identified inefficiency sets in motion an entrepreneurial discovery process that would also cease to be agitated when the ‘inefficiency’ was eradicated.

## 5. Conclusion

*Chicago Price Theory* provides the reader a detailed documentary record of the construction of this tradition from its origins with Knight to its modern presentation in Becker. For the discerning reader the critical issue is to see not only what unites the generations in the evolution, but also what sets each generation apart. The dominant evolutionary path is one that emphasized rationality and optimality, whereas the other path emphasized comparative institutional arrangements and the impact on economic performance through time.

The interpretive puzzle about Chicago price theory matters because it either raises or suppresses as a scientific and scholarly project the sort of concerns that Knight, Viner, and Simons were trying to express. Either the knowledge of price theory is an essential component to a theory of reform (as Buchanan and Coase thought) or it is limited to its role in explanation and prediction (as Stigler and Becker thought).<sup>19</sup> The editors of these volumes do not push the conversation in this direction, but the reader will be lead in this direction *if* they allow themselves to see the subtle differences in argument between Knight/Viner/Simons and Friedman/Stigler/Becker.

Those subtle differences result, ultimately, in shifting Chicago price theory from a theory about the power of the price system (within the institutional regime of private property and freedom of contract) in guiding individuals in their consumption and production decisions under constantly changing conditions of tastes and technology to a statement of the equimarginal principle when all the efficient adjustments have in fact been accomplished. The Chicago TPE imposes a logical discipline on the world of human affairs, but it does not invite an inquiry into the diversity of institutions that arise to ameliorate our human imperfections and potentially turn situations of conflict into opportunities for social cooperation. As a result, the ‘fresh water’ economics of Chicago still

<sup>19</sup> Though we haven’t stressed it throughout the paper it should be noted that Alchian and Friedman’s names are missing. This is because both were transitional figures and thus they both had elements of both evolutionary paths evident throughout their respective writings. Alchian was more or less an exchange and institutional theorist, with some TPE, and Friedman was more or less a TPE theorist, with some exchange and institutional theory on display, especially in his more popular economic writings (see Boettke and Candela, 2016). Moreover, Alchian is often lumped into the methodological and analytical camp of Friedman/Stigler/Becker with respect to making ‘as if’ predictions and utilizing only TPE. This is due in part to Friedman (2013 [1953] Vol. I) and Becker (1962) citing Alchian (1950) as inspirations of their own approach. However, Kay (1995) has argued that Alchian’s methodology and analytical approach has been misrepresented and misinterpreted by such acknowledgement.

leaves us thirsty, and the ‘saltwater’ economics of MIT/Harvard cannot serve to quench our thirst, so we must look to those alternative streams of thought for satisfaction in our quest to understand the dynamics of the market process. These three volumes of *Chicago Price Theory* provide a partial map to find those alternative streams, but it requires the discerning reader to look not for continuity, but discontinuity and discord. What an exciting intellectual resource our editors have provided us.

## References

- Akerlof, G. A. and R. J. Shiller (2015), *Phishing for Phools: The Economics of Manipulation and Deception*, Princeton: Princeton University Press.
- Alchian, A. A. (1950), ‘Uncertainty, Evolution, and Economic Theory’, *Journal of Political Economy*, 58(3): 211–221.
- Alchian, A. A. (1977), *Economic Forces at Work*, Indianapolis: Liberty Press.
- Alchian, A. A. and W. R. Allen (1964), *University Economics*, Belmont: Wadsworth Publishing Company.
- Bastiat, F. (1996), *Economic Sophisms*, Irvington-on-Hudson: Foundation for Economic Education.
- Bator, F. M. (1957), ‘The Simple Analytics of Welfare Maximization’, *The American Economic Review*, 47(1): 22–59.
- Becker, G. S. (1962), ‘Irrational Behavior and Economic Theory’, *Journal of Political Economy*, 70(1): 1–13.
- Becker, G. S. (1971), *Economic Theory*, New York: Alfred A. Knopf.
- Boettke, P. J. (1997), ‘Where Did Economics Go Wrong? Modern Economics as a Flight from Reality’, *Critical Review*, 11(1): 11–64.
- Boettke, P. J. (1998), ‘Economic Calculation: The Austrian Contribution to Political Economy’, *Advances in Austrian Economics*, 5: 131–158.
- Boettke, P. J. (2002), ‘Information and Knowledge: Austrian Economics in Search of its Uniqueness’, *The Review of Austrian Economics*, 15(4): 263–274.
- Boettke, P. J. (2012), *Living Economics: Yesterday, Today, and Tomorrow*, Oakland: Independent Institute.
- Boettke, P. J. and R. A. Candela (2014), ‘Alchian, Buchanan, and Coase: A Neglected Branch of Chicago Price Theory’, *Man and the Economy*, 1(2): 189–208.
- Boettke, P. J. and R. Candela (2016), ‘Milton Friedman, James Buchanan, and Constitutional Political Economy’, in R. A. Cord and D. J. Hammond (eds.), *Milton Friedman: Contributions to Economics and Public Policy*, New York: Oxford University Press, pp. 727–740.
- Buchanan, J. M. (1959), ‘Positive Economics, Welfare Economics, and Political Economy’, *The Journal of Law and Economics*, 2: 124–138.
- Buchanan, J. M. (1964), ‘What Should Economists Do?’, *Southern Economic Journal*, 30(3): 213–222.
- Buchanan, J. M. (1999), *The Collected Works of James M. Buchanan Volume 5, The Demand and Supply of Public Goods*, Indianapolis: Liberty Fund.
- Buchanan, J. M. (2010), ‘Chicago School Thinking: Old and New’, unpublished Paper, Fairfax, VA, Center for Study of Public Choice, George Mason University.

- Buchanan, J. M. (2015), 'Notes on Hayek – Miami, 15 February, 1979', *Review of Austrian Economics*, 28(3): 257–260.
- Coase, R. H. (1959), 'The Federal Communications Commission', *The Journal of Law and Economics*, 2: 1–40.
- Coase, R. H. (1988), *The Firm, The Market, and The Law*, Chicago: University of Chicago Press.
- Coase, R. H. (1992), 'The Institutional Structure of Production', *The American Economic Review*, 82(4): 713–719.
- Demsetz, H. (1968), 'Why Regulate Utilities?', *Journal of Law and Economics*, 11(1): 55–65.
- Friedman, M. (1947), 'Lerner on the Economics of Control', *Journal of Political Economy*, 55(5): 450–416.
- Friedman, M. (1962), *Price Theory: A Provisional Text*, Chicago: Aldine Publishing Company.
- Grossman, S. J. and J. E. Stiglitz (1976), 'Information and Competitive Price Systems', *The American Economic Review*, 66(2): 246–253.
- Hayek, F. A. (1948), *Individualism and Economic Order*, Chicago: University of Chicago Press.
- Hayek, F. A. (interviewee) (1983), *Nobel Prize-Winning Economist Oral History Transcript*, Los Angeles: Oral History Program, University of California.
- Henderson, J. M. and R. E. Quandt (1958), *Microeconomic Theory: A Mathematical Approach*, New York: McGraw-Hill.
- Kay, N. M. (1995), 'Alchian and the 'Alchian Thesis'', *Journal of Economic Methodology*, 2(2): 281–286.
- Kirzner, I. M. (2011), 'Market Theory and the Price Theory', in P. J. Boettke and F. Sautet (eds.), *The Collected Works of Israel M. Kirzner*, Indianapolis: Liberty Fund.
- Kitch, E. W. (1983), 'The Fire of Truth: A Remembrance of Law and Economics at Chicago, 1932–1970', *Journal of Law and Economics*, 26(1): 163–234.
- Knight, F. H. (1997), *The Ethics of Competition*, New Brunswick: Transaction Publishers.
- Kreps, D. M. (1990), *A Course in Microeconomic Theory*, Princeton: Princeton University Press.
- Langlois, R. N. (ed.) (1986), *Economics as a Process: Essays in the New Institutional Economics*, Cambridge: Cambridge University Press.
- Marshall, A. (1997), *Principles of Economics*, 8th ed., Amherst: Prometheus Books.
- Mas-Colell, A., M. D. Whinston, and J. R. Green (1995), *Microeconomic Theory*, New York: Oxford University Press.
- McCloskey, D. N. (1985), *The Applied Theory of Price*, 2nd ed., New York: Macmillan.
- McCloskey, D. (1998), 'The So-Called Coase Theorem', *Eastern Economic Journal*, 24(3): 367–371.
- Mises, L. (1951), *Socialism: An Economic and Sociological Analysis*, New Haven: Yale University Press.
- Mises, L. (1966), *Human Action: A Treatise of Human Action*, 3rd ed., Chicago: Henry Regnery.
- Mises, L. (1975), 'Economic Calculation in the Socialist Commonwealth', in F. A. Hayek (ed.), *Collectivist Economic Planning*, Clifton: August M. Kelley.
- Mises, L. (2013), *Epistemological Problems of Economics*, Indianapolis: Liberty Fund.
- Robbins, L. (1933), 'Introduction', in P. H. Wicksteed (ed.), *The Common Sense of Political Economy and Selected Papers and Reviews on Economic Theory*, London: George Routledge, pp. v–xxiii.

- Samuelson, P. A. (1947), *Foundations of Economic Analysis*, Cambridge: Harvard University Press.
- Samuelson, P. A. (1948), *Economics*, New York: McGraw-Hill.
- Senior, N. W. (1852), *Four Introductory Lectures on Political Economy*, London: Longman, Brown, Green, and Longmans.
- Shirley, M. N. (2013), 'Battles Lost and Wars Won: Reflections on "The Problem of Social Cost"', *Journal of Natural Resources Policy Research*, 5(4): 243–247.
- Simons, H. (1983), *Simons' Syllabus*, Fairfax: Center for Study of Public Choice.
- Stigler, G. J. (1946), *The Theory of Price*, 1st ed., New York: The Macmillan Company.
- Stigler, G. J. (1966), *The Theory of Price*, 3rd ed., New York: The Macmillan Company.
- Stigler, G. J. (1976), 'The Xistence of X-Efficiency', *The American Economic Review*, 66(1): 213–216.
- Stigler, G. J. (1992), 'Law or Economics?', *Journal of Law and Economics*, 35(2): 455–468.
- Varian, H. R. (1978), *Microeconomic Analysis*, New York: W.W. Norton and Company.
- Viner, J. (2013), *Lectures in Economics 301*, D. A. Erwin and S.G. Medema (eds.), New Brunswick: Transaction Publishers.
- Wagner, R. E. (2010), *Mind, Society, and Human Action*, New York: Routledge.
- Weyl, E. G. (forthcoming), 'Price Theory', *Journal of Economic Literature*, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2444233](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2444233)
- Wicksteed, P. H. (1933), *The Common Sense of Political Economy and Selected Papers and Reviews on Economic Theory*, London: George Routledge.