



Where Chicago meets London: James M. Buchanan, Virginia Political Economy, and cost theory

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Received: 28 February 2020 / Accepted: 5 March 2020 / Published online: 17 March 2020
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Abstract

James M. Buchanan argued that not only the study of public choice, but also property-rights economics as well as law and economics, can be traced directly to the work of scholars associated with the Thomas Jefferson Center for Studies in Political Economy and Social Philosophy at the University of Virginia (UVA). We draw attention to that point by raising the following question: what was the common knowledge at UVA that made it *uniquely* suited for the development of each of those related, yet distinct subdisciplines of political economy? Fundamentally, the answer is the unique combination of Chicago price theory and London School of Economics cost theory developed at UVA, where opportunity costs were regarded not as *constraints* to which individuals passively respond. Rather, they are the *reciprocal* of the act of choice itself. That subtle distinction has significant implications not only for public policy, but, what is more important, the proper scale and of governmental responses to market failures. The unique combination of the Chicago and London schools was central to the development of a neglected branch of price theory at the University of Virginia.

Keywords James Buchanan · Ronald Coase · Cost theory · Political economy · Public policy

JEL Classification B31 · D46 · H11

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1 Introduction

By any standard of comparison, what emerged as the Virginia School of Political Economy at the Thomas Jefferson Center for Studies in Political Economy and Social Philosophy (TJC) at the University of Virginia (UVA) in Charlottesville was nothing short of stunning academic success, when gauged in terms of intellectual activity, the pool of visiting scholars and talented graduate students it attracted, and the contributions it made to the development of political economy. The cluster of talent around which James Buchanan and G. Warren Nutter built up the James Wilson Department of Economics at UVA and the TJC between their founding in 1957 and 1968, when Buchanan left for UCLA, included William Breit, Ronald Coase, Alexandre Kafka, Gordon Tullock, Andrew Whinston and Leland Yeager. It attracted world renowned visiting scholars, including Frank Knight, F.A. Hayek, William Hutt, Michael Polanyi, Bertin Ohlin, Bruno Leoni, Terence Hutchinson, Maurice Allais and Duncan Black. The graduate students and postdoctoral fellows that became important scholars in their own rights include Thomas Borcherding, Otto “Toby” Davis, Charles Goetz, Mark Pauly, Charles Plott, Paul Craig Roberts, Craig Stubblebine, Robert Tollison, and Richard Wagner, just to name a few. Buchanan and Nutter had co-founded the TJC in 1957, following an agreement they had made when they were fellow classmates and students of Frank Knight at the University of Chicago, namely that if they ever ended up at the same place, they would work together to “save the books” and “save the ideas” from the onslaught of the Samuelsonian revolution in economics (Buchanan 1992 [2001], p. 51).

It is within that context that the TJC would reorient the study of economics back to its classical foundations as a broader component of political economy. Buchanan and Nutter hoped to counter the presumption of market failure that had pervaded the orthodoxy of economics in the 1950s and 1960s (Boettke and Maricano 2015; Boettke and Leeson 2015). In doing so, Buchanan, Nutter, and their colleagues at the TJC would create something new that would buck the trend. As Buchanan (1986 [2001], p. 42) recounts:

There came to be an increasing awareness of the importance of the institutional setting and of institutional constraints for the operation of an economy. Property-rights economics, law and economics, public choice—these closely related but distinct subdisciplines emerged, each of which is derivative of political economy, broadly defined, and each of which also finds some of its origins in the work of scholars then associated with the Virginia School.

What is interesting is that Buchanan not only traces the origins of public choice back to the TJC at UVA, but also property-rights economics and law and economics. We draw attention to those disciplinary overlaps to raise the following question: what was the common knowledge at UVA that made it *uniquely* suited for the development of each of those related, yet distinct subdisciplines of political economy, and not just public choice? Our point here is meant neither to underemphasize nor downplay the importance of public choice, nor to argue that the Virginia School is not uniquely identified with that particular subdiscipline of political economy. Rather, our question is meant to draw particular attention to the *fundamental* basis from which not only public choice, but also property-rights economics and law and economics emerged.

We argue that the common knowledge that defined the UVA of the 1950s and 1960s uniquely was “an unwavering opportunity cost perspective” (Goetz 1991, p. 7), exemplified by Buchanan’s (1969) *Cost and Choice*. Elsewhere, we have argued that at UVA

“a neglected branch of Chicago price theory” had emerged under Buchanan and Coase (Boettke and Candela 2014, 2017, 2019). Buchanan had developed a distinctive tradition of Virginia Political Economy by combining Chicago price theory with LSE cost theory. Following Buchanan, we argue that opportunity costs are not *constraints*, or parameters, to which individuals passively respond. Rather, they are the *reciprocals*, or variables, to the act of choice itself. That subtle distinction has significant implications not only for public policy, but, what is more important, for the proper scale and scope of government when market failures are addressed.

2 Why no “Eureka!” in Charlottesville? A neglected branch of Chicago price theory

It may seem odd at first to claim that the Virginia School under Buchanan was defined by a consistent and persistent application of opportunity cost reasoning to understanding the real world.

While Buchanan’s writing of *Cost and Choice* is indicative of its importance to the Virginia School, it is not immediately obvious that we should claim that the emphasis on opportunity cost reasoning is what made the Virginia School unique. After all, in Melvin Reder’s (1982) depiction of the evolution of the Chicago school, Chicago economics of the 1930s and 1940s under Frank Knight, Jacob Viner and Henry Simons, or what Buchanan refers to as the “Old Chicago School” (Buchanan 2010), was the precursor to what became the post-WWII “New Chicago School” under Milton Friedman, George Stigler and Gary Becker. Among that earlier generation, it was Knight who became the “baton passer” to the New Chicago School (Reder 1982, p. 7). Therefore, if Reder is correct, what had been passed onto Buchanan from Frank Knight already had been completely absorbed into the New Chicago School. Moreover, given Buchanan’s (1969 [1999], p. 17) claim that Knight’s influence in *Cost and Choice* “is more direct” than in any of his other works, the redundancy to what Buchanan was arguing should have been seen in the eyes of the New Chicago School. However, the difference in initial reactions to what became known as the Coase Theorem between Buchanan and his colleagues at UVA, and Friedman and Stigler and their colleagues at Chicago, indicates that Reder’s account is not necessarily complete.

In his intellectual autobiography, *Memoirs of an Unregulated Economist*, George Stigler (1988, pp. 73–90) recounts the now famous “Eureka!” moment, as he referred to it, in the history of economic ideas, one that subsequently resulted in Ronald Coase (1960) writing and publishing “The Problem of Social Cost”.¹ According to Buchanan, Coase initially was recruited from the University of Buffalo by Nutter, after Nutter met Coase at a Chapel Hill Volker Fund conference (Buchanan 2005, p. 157). This “Eureka!” moment emerged in the context of what was a reaction by the leading lights of the Chicago School to Coase’s (1959) “The Federal Communications Commission”, which had been written when he was a faculty member at UVA and the TJC. Coase had been invited to a workshop at the University of Chicago to present his argument, in which Stigler and the others sought to correct what they thought to be a fundamental error in Coase’s analysis in his critique of Piggovian welfare economics. Stigler and his colleagues gathered at the home of Aaron Director; among those attending were Milton Friedman, Arnold Harberger, John McGee and Reuben

¹ This episode also is recounted by Coase (1993).

Kessel (Coase 1993, p. 250). After a long debate, everyone had been persuaded that Coase had not made an error. What initially had been regarded as wrong in the “The Federal of Communications Commission” resulted in Coase being invited to write another article, eventually titled “The Problem of Social Cost” (Coase 1960), that elaborated further on what Stigler later called the “Coase Theorem.”² In the third edition of *Theory of Price*, Stigler (1966, p. 113) notes that the Coase Theorem “is a more remarkable proposition to us older economists who have believed the opposite for a generation, than it will appear to the young reader who was never wrong, here”. However, Coase offers an explanation, reinforcing our thesis, as to why what seemed to be so clear to him (and Buchanan) had been misunderstood at Chicago: “I suppose this lack of comprehension represents another example, about which Thomas Kuhn has told us, of the difficulty which scientists find in changing their analytical system, or, as he puts it, in moving from one paradigm to another” (Coase 1993, p. 250).

Our purpose in recounting in what is now a fairly well-known episode in the history of economic thought is not to highlight the importance of the Coase Theorem and its public policy implications per se. Rather, it is to draw attention to an almost unknown reaction to the Coase Theorem among Coase’s colleagues at the TJC at UVA, particularly that of James Buchanan. As recounted by Buchanan (2005, p. 157), what had been regarded as a revolutionary breakthrough in economic theory at Chicago was “self-evident” to him, and therefore little more than an *evolutionary* explication of knowledge commonly held by economists at UVA in their understanding of cost theory (see also Goetz 1991). Buchanan’s reaction is not meant to imply any insignificance or indifference to Coase’s analysis. Rather, as Buchanan (*ibid.*) states, “Coase was, and remains, a true original, indeed a loner, who is not, I am sure, directly influenced by anyone else”. Though Coase indeed was one of the most original and creative economists of the twentieth century, whose work has had a tremendous impact on economics, by his own admission, Coase’s (1993, p. 250) critique of Pigou in “The Problem of Social Cost” was a “natural extension” of Knight’s (1924) insights in “Some Fallacies in the Interpretation of Social Cost”.

Knight’s paper also critiqued Pigou’s public policy conclusions regarding the correction of market failures associated with externalities, specifically that individual profit-seeking motives will lead to a divergence between 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. In his criticism of Pigou, Knight illustrated that, indeed, the equi-marginal principle is a necessary, though not a sufficient condition for equating social cost and private cost. However, the failure of that equalization process does not necessarily require

² “The Coase Theorem,” as defined by Stigler (1966, p. 113), “asserts that under perfect competition private and social costs will be equal”. The passage in “The Federal Communication Commission” that was the precursor to the Coase Theorem, which had been regarded as an error to Stigler et al., goes as follows: “It might be argued that this is by no means an unusual situation, since the rights acquired when one buys, say, a piece of land, are determined not by the forces of supply and demand but by the law of property in land. But this is by no means the whole truth. Whether a newly discovered cave belongs to the man who discovered it, the man on whose land the entrance to the cave is located, or the man who owns the surface under which the cave is situated is no doubt dependent on the law of property. But the law merely determines the person with whom it is necessary to make a contract to obtain the use of the cave. Whether the cave is used for storing bank records, as a natural gas reservoir, or for growing mushrooms depends, not on the law of property, but on whether the bank, the natural gas corporation, or the mushroom concern will pay the most in order to be able to use the cave. One of the purposes of the legal system is to establish that clear delimitation of rights on the basis of which the transfer and recombination of rights can take place through the market” (Coase 1959, p. 25).

government action to tax the use of the high-quality roads and subsidize the use of the low-quality roads. Rather, what was required for the internalization of externalities, accord to Knight, was well-defined and exchangeable private property rights. As Knight (1924, pp. 586–587; emphasis added) 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 about through the operation of ordinary economic motives.*

The quotation's italicized passage makes the point Coase was suggesting, namely that the institution of property rights would render the Pigovian public policy solution for the correction of externalities both unnecessary and redundant. Our purpose in raising that point here is neither to undermine the importance of Coase's contribution, nor to suggest that the Coase Theorem, as it's currently understood, had been fully made by Knight already. Rather, it is to suggest that filtering Knight through the lens of what Reder refers to as the Chicago "Tight Prior Equilibrium", and therefore implying a logical continuity from the Old Chicago School to the New Chicago School, draws our attention away from an interesting puzzle.

Given (1) the intellectual recognition that Coase pays to Knight, (2) Buchanan's reaction to the Coase Theorem, and (3) that all of the individuals who had confronted Coase during the "Eureka!" episode had been either colleagues or students of Knight, making it very unlikely that any of them would be completely ignorant of Knight's earlier critique of Pigou,³ why did a "Eureka!" moment happen in the first place? Stated differently, what had Buchanan and Coase absorbed from Knight that Friedman, Stigler and the others had not? Buchanan's (2005, p. 157; emphasis in original) answer to that question "is straightforward. The Coase theorem, as such, follows necessarily from any correct understanding of *opportunity cost*, an understanding that both Ronald Coase and I shared, perhaps both influenced in part by Frank Knight". Such a puzzle, and Buchanan's answer, implies that Reder's thesis, though not necessarily incorrect, draws attention away from the distinctiveness of the Virginia School that had emerged in the 1960s; it certainly was rooted in the Early Chicago School, but had evolved quite differently from the New Chicago School that had emerged as well. Moreover, the "Eureka!" puzzle reinforces our thesis about the unique ways in which cost theory was being applied to questions of political economy at UVA.

³ Stigler had been the co-editor (with Kenneth Boulding) of the sixth volume of *Readings in Price Theory: Selected by a Committee of the American Economic Association* (1952), in which Knight (1924) had been selected for reprinting.

3 Cost theory and political economy at UVA

According to a memorandum Buchanan had written at UVA on the LSE tradition of opportunity cost, dated January 15, 1964, he already had begun writing what later became known as *Cost and Choice* as early as the fall of 1963. Moreover, his interest in cost theory had been a key topic of study in UVA's graduate student program. According to Richard Wagner's recollection as a graduate student during the time, Nutter, who had been scheduled to teach the advanced course in graduate price theory, was replaced by Buchanan temporarily during the fall 1964 semester while Nutter was traveling with Barry Goldwater's presidential campaign. "Micro theory for Buchanan's half-semester", Wagner (2017, p. 182) states, "was all about the relationship between cost and choice".

The key insight that Coase had illustrated, and that Buchanan had shared even before writing *Cost and Choice*, was the notion that rules and other legal constructs are not *parameters*, but *variables* that are parts of the choice sets of individuals, and therefore endogenous to the process of exchange between individuals (Goetz 1991, p. 7). In the same issue of *The Journal of Law and Economics* in which "The Federal Communications Commission" (Coase 1959) was published, Buchanan's (1959) "Positive Economics, Welfare Economics, and Political Economy" featured as well. A close reading of Buchanan parallels the insights of the Coase Theorem, but understood within the context of collective decision-making, namely that Pareto optimality is defined in the process of exchange and bargaining towards an agreement over a set of rules.

According to Buchanan (1959, p. 132), the role of the political economist is concerned with "social or collective action which modifies in some way the structure of legitimate property rights" and that political economy "applies to only one form of social change, namely, that which is deliberately chosen by the members of the social group acting in their collective capacities." In addressing the existence of potential externalities associated with collective decision-making within a set of rules, full "compensation" for such spillover effects will be internalized by the fact that individuals will have agreed to a set of rules *ex-ante*, not by redistributive policies within a set of rules *ex-post*. The welfare criterion consistent with Pareto optimality at the rule level of analysis will be the unanimity principle. For example, if a group of individuals in a community can agree to "cap" carbon emissions at a certain level *ex-ante*, unanimity amongst the individuals affected by such carbon emissions will ensure agreement regarding the exchange and distribution of property rights over pollution permits *ex-post*. "Compensation" for externalities is "paid" to third parties through the exchange of such permits. Buchanan (1959, pp. 130–131) illustrates the point:

Both the compensation and the externality problems may be illustrated by reference to the classical example of the smoking chimney. The economist observes what he considers to be smoke damage and discontent among families living adjacent to the smoke-creating plant. Using a presumptive efficiency criterion, he suggests a possible course of action which the group may take. This action must include, on the one hand, the payment of some tax by the previously damaged individuals who stand to gain by the change. On the other hand, the action must include some subsidization of the firm to compensate them for the capital loss which is to be imposed by the rule of law which states that henceforward the full "social" costs of the operation must be shouldered. Some such tax-compensation-smoke-abatement scheme will command unanimous consent from the group which includes both individuals living within the damaged area and the owners of the firm. The problem for the political economist is that of searching out and locating from among the whole set of possible combina-

tions one which will prove acceptable to all parties. If the smoke nuisance is a real one, at least one such alternative must exist. If no agreement of this sort is possible, the economist can only conclude that the presumptive efficiency criterion was wrongly conceived[,] and the hypothesis based upon it falsified.

Buchanan is very clear that no objective social welfare function exists independent of the subjective valuations of individuals over different sets of rules. The role of the political economist is to take “the here and now” as an analytical starting point and identify possible flaws in the existing social structure by presenting possible “improvements”. The non-normative basis for suggesting such changes “may be summed up in the familiar statement: *There exist mutual gains from trade*” (Buchanan 1959, p. 137; emphasis in original). Therefore, what are regarded as Pareto improving changes to rules can emerge and be revealed only within the context of negotiation and deliberation between the relevant parties to the political exchange, with consensus or unanimity revealing whether or not choices over rules’ modifications are in fact Pareto improving. Thus, Buchanan shared an understanding with Coase that (1) *costs are subjective valuations tied to the act of choice*, (2) *such subjective valuations are revealed through the act of exchange*, and, hence, (3) *agreement over the exchange of property rights directly ties costs to one’s decision-making*. Why their contemporaries of the New Chicago School had overlooked that understanding, and why Buchanan and Coase had arrived at a parallel understanding of the endogeneity of cost in relation to rules might be explained by three particular reasons.

First, Wagner’s (2017) rational reconstruction of Buchanan correctly traces the trajectory of Buchanan’s work on political economy to his (1949) publication in the *Journal of Political Economy*, “The Pure Theory of Government Finance: A Suggested Approach”. What we wish to emphasize here is that Buchanan’s initial preoccupation with questions of public finance would first draw him to an emphasis on the rule level of analysis for generating welfare implications regarding the allocation of resources, particularly in the field of public finance.⁴ Building on an insight from his colleague at UVA, and fellow student of Frank Knight, Rutledge Vining, Buchanan understood that relevant political choices are not among *alternative distributions or allocations of resources*, but among alternative sets of *institutional arrangements* that generate patterns of distribution and allocation of resources (Buchanan and Tullock 1962, p. 210). Therefore, Buchanan’s (1959, p. 133, fn. 11) characterization of political economy “is concerned exclusively with the modifications of the rules of the game, rather than taking rules as given.

Secondly, Buchanan’s early interests in public economics later would draw him to develop a deeper understanding of the nature of cost, as elaborated in the LSE cost theory tradition, in relation to questions of public budget deficits and debt, as early as the late 1950s. As Buchanan (1964b) remarks in that memorandum:

⁴ Maricano (2013, p. 227) reinforces the point as well by illustrating that Buchanan’s displayed a consistent interest in addressing the issue of externalities, which can be traced back to the early 1950s and rooted in his work on public finance. As he states, “Individuals’ readiness to pay when they receive subjective benefits from the goods they consume and services they use is an idea that Buchanan got from Wicksell, and he used it in all his works on externalities. It started with a study in which he applied Wicksell’s voluntary exchange theory to a problem involving spillover effects, namely, the use of highways” (see Buchanan 1952). What is more important for our purposes here, Maricano also states that the “remarkable consistency and constancy of Buchanan’s views means” that Buchanan’s analyses of externalities paralleled, though developed independently, of Coase (Maricano 2013, p. 251).

[O]nly between 1960 and 1962, when I spent some time around LSE, and, more importantly, when I was forced to think critically, and had time to think critically, about some of the contradictions that seemed to arise in trying to define cost in relation to the public debt controversy that my 1958 book had helped to generate. It was only after my “discovery”, so to speak, of the “proper” theory of cost that I began to inquire around, and I found that the theory has really been a part of the oral tradition at LSE since the 1920’s. Written statements do exist, by Hayek, by Robbins, by G. F. Thirlby especially, by Ronald Coase, by Jack Wiseman. And my colleague, Coase, tells me that some of it is in Wicksteed, and Knight.

One can see the embryo of Buchanan’s (1958 [1999]) later interest in the subjective nature of cost being developed in *Public Principles of Public Debt*. In the foreword to the Liberty Fund Edition of that book, Brennan (1999, p. xii) writes that “the subjective cost theme in *Cost and Choice* owes much to the reflections about cost that are developed in *Public Principles of Public Debt*”. Buchanan’s explication of the proper understanding of deficit finance is tied inextricably to a subjective notion of cost and choice. “The real burden of public debt”, Buchanan (1958 [1999], p. 118) writes, “is alleged to be borne by individuals living at the time of the debt issue—public expenditure”, but in fact, the “subjective evaluation made by individuals in their roles as choosers provides a much superior guide to the ‘correctness’ of the social decision” (Buchanan 1958 [1999], p. 119; emphasis added). Therefore, “the real cost of public expenditure which is debt financed must rest on individuals *other* than those who participate in the social decisions made at the time of the approval or rejection of any proposed expenditure. Individuals bear the costs in their capacities as *future* taxpayers, not in their capacities as individuals currently subjected to some coercive sacrifice of private enjoyments through the taxing mechanism” (ibid.; emphasis original). Drawing from his early inspiration from Knut Wicksell and the Italian public finance theorists, such as Maffeo Panteleoni and Antonio De Viti de Marco (see Buchanan 1960), Buchanan wished to integrate fiscal theory into a broader science of exchange (Buchanan 1964a), all of which lend itself to considerations of subjective valuations of marginal utility, as opposed to filtering public economics through a paradigm of choice, which takes costs and, hence, choice, to be independent of subjective valuations. Whereas the New Chicago School had come to regard economics as exclusively a science of choice *within* given constraints, the Virginia School directed its analytical attention to choice *over* constraints, whereby institutions, such as rules, laws and property rights, emerge as artifacts of an exchange process. Whereas in the New Chicago School, Pareto-optimality is an initial position from which to understand individual behavior, both in politics and economics, in the Virginia School, individuals are *striving* to agree to mutually beneficial rules that constrain their behavior, from which Pareto-optimality emerges as a byproduct of the exchange process. That discrepancy in paradigms alludes to “a tale of two Knights” and what the Virginia School and New Chicago School had absorbed from Knight as part of their common knowledge.

4 Buchanan, cost and choice: A Wicksteedian rendition of Knight

In Reder’s account, the essence of the “Tight Prior Equilibrium” that Knight transmitted to the next generation of the Chicago School is synonymous with taking Pareto optimality to be the welfare criterion by which to understand the real world (Reder 1982, p. 11). Although that may be a correct characterization of the New Chicago School, it would

not apply to the branch of Chicago price theory that emerged from Knight and came to fruition within the Virginia School. What was it that Buchanan, and Coase, absorbed from Knight that their New Chicago School contemporaries did not? While we accept the Knightian roots of the Chicago School, the Knightian branch that emerged at UVA took a Wicksteedian turn that can be traced back to Knight as well.

The Department of Economics at UVA and the TJC was very much a Knightian department, in terms of the number of faculty members who paid reverence and intellectual respect to Knight. For example, in a letter dated December 4, 1956, Nutter had written to Coase to gauge his interest in joining the faculty at Virginia. Nutter tells Coase that they have “the makings of what could be a rather interesting little group in Buchanan, Vining and myself—all solid Chicago products who did our lessons in Knight well” (Nutter 1956). Moreover, Coase’s respect for Knight is recounted in a recollection by Buchanan (1982, pp. 13–14) of a conversation they had together at UVA:

Coase and I were walking along Mr. Jefferson’s Lawn, and we had been discussing famous economists. Ronald said something like the following to me. “I can think of almost any famous economist, like _____, _____, _____, or _____,” naming the obvious world-renowned figures in our discipline as evaluated from the perspective of the early 1960s, “and I can sort of imagine myself in their position of fame with a bit of luck, persistence and effort. But I simply cannot imagine myself to be like Frank Knight. I guess that amounts to saying that Knight is a genius.” I have always remembered that conversation because Coase put so well what so many of us feel when we think of the professor from whom we learned so much.

The key difference between Chicago and UVA, however, was that Knight was filtered through a Marshallian lens at Chicago, whereas Buchanan and Coase filtered their understanding of Knight through a Wicksteedian lens. “Chicago price theory is repeatedly described as Marshallian, but perhaps more accurately, at least in the Knight/Viner/Simons tradition, it was Wicksteedian” (Boettke and Candela 2017, p. 733). Therefore, whereas cost theory at Chicago was notably Marshallian, taking opportunity costs as *parameters*, or *constraints*, to the act of choice, cost theory at UVA was notably Wicksteedian, which regards opportunity costs as *reciprocal*, and therefore *variable*, to the act of choice itself.

Following the Marshallian tradition of cost theory, subjective utility and cost are taken to be two categorically different concepts. Under the Marshallian framework, demand and supply are taken to be two distinct blades of a pair of scissors, in which demand is based on subjective utility, but supply reflects costs of production that are objective in nature. Therefore, what determines relative price changes are exogenous shifts in the costs of production, which are not based on the subjective valuations of individuals. Cost are understood here as a constraint, and therefore not tied to the choices of individuals. Under such an assumption of costs, prices are understood as equilibrium prices, which (1) provide perfect expectations regarding the interactions of market participants; (2) anticipate all the potential gains from trade and, therefore, (3) fully incorporate all opportunity costs of one’s decision-making. As a result, no individual’s action can improve on the information summarized in a relative price change, meaning that no profit opportunity is available because no subjective information that exists in an individual’s mind has not already been incorporated into prices. Therefore, individuals simply respond passively and maximize according to exogenous changes in relative prices because this is the optimal “choice” to make. Any deviation from the equilibrium reached eventually from such exogenous relative price changes would be Pareto suboptimal.

Furthermore, the above conception of cost is consistent with the paradigm of perfectly competitive equilibrium, which had been utilized by Pigou (1962, pp. 172, 196)⁵ and explicated comprehensively by Knight (1921), in which prices reflect the full opportunity costs of production. Reder's rendition of the "Tight Prior Equilibrium" employed by the New Chicago School follows from that interpretation, wherein the conditions of equilibrium imply that market prices simultaneously reflect the marginal cost of production as well as the full value of the marginal product of inputs utilized in the production process. Therefore, the market already will have directed producers to least cost methods. The Tight Prior is a not an analytical anchor in the background of analysis, from which the economist begins to *understand* how market processes tend towards equilibrium as well as the institutional conditions required for such tendencies. Rather, it is the analytical benchmark for *defining* the conditions of the market itself, occupying the foreground of analysis. Scientific explanation in economics, in that framework, results from describing any social phenomena in a manner consistent with the equilibrium conditions.

Such a paradigm, however, opens a logical gap in the presence of externalities, since no endogenous solution exists for such market failures. Since, under an equilibrium paradigm, all the gains from trade have been exhausted, by definition, any profit opportunities for entrepreneurs to exploit by correcting such failures are precluded, namely by devising institutional reforms that internalize the externalities more fully, and therefore tie the costs of production directly to one's decision-making. Therefore, the logical implication of the alternative paradigm is that Pareto improving solutions never can be endogenous, but must arise exogenously from a *deus ex machina*, namely government intervention. The analysis that naturally follows from such a paradigm is one of comparative statics between equilibrium states in terms of their optimality conditions, or deviations therefrom.

Buchanan and Coase, however, followed the LSE tradition of cost theory, which had based on *both* Knight and Wicksteed, which explains not only the common knowledge that Buchanan and Coase held, but also that Coase, while often identified with the Chicago School, more appropriately fits into the Virginia School of Political Economy. Coase was a student at the LSE between 1929 and 1931; he later was appointed as an assistant lecturer there in 1935 (Coase 1982, p. 31). Although Coase worked most closely with Arnold Plant, it was through the influence of Lionel Robbins that Coase had been first introduced to Knight and Wicksteed.⁶ As Coase (1982, p. 33; see also Coase 1993, p. 239) states, it "is noteworthy that the two books which Robbins recommended that we all read were Wicksteed's *Commonsense of Political Economy* and Knight's *Risk Uncertainty and Profit*". It also is important to emphasize two further observations. First, Coase (1982, p. 33; emphasis added) states that those "*two books* provided an excellent training for the young economists at LSE and it was, I believe, our close study of them *which gave us such a firm hold on cost theory*". Secondly, Coase (1982, p. 34) remarks that, unlike at Chicago, at the LSE, "Marshall was in the calendar of saints but few of us prayed exclusively to him. Marshall was one among many economists studied", and goes further to state that, "[i]n fact, we thought his views on cost confused" rather than clarified the analysis of market processes.

Moreover, the intellectual connection and complementarity between Knight and Wicksteed neither was an artificial creation of Knight's influence, nor of Buchanan's later

⁵ Pigou refers to perfect (or pure) competition as "simple competition".

⁶ Robbins (1971, p. 129) himself has written that "Hayek must be credited with bringing Austrian and Wicksellian thought to the [LSE]." Both Hayek and Robbins together forged a joint teaching and research program that paralleled the ambitions of Buchanan and Nutter (see Boettke and Candela 2020).

adoption and development of the LSE opportunity cost tradition in *Cost and Choice*. Rather, an appreciation of Wicksteed can be found in Frank Knight as well. Knight (1934, p. 660) had not only written a review essay evaluating the reprinted edition of the *Common Sense of Political Economy*, edited by Lionel Robbins, but also wrote that “my own published ideas on economics have frequently been compared, not to say bracketed, with those of Wicksteed”. Knight (1921, p. 14) also states in *Risk, Uncertainty and Profit* that “[t]he work of Pareto and Wicksteed seems to the writer especially worthy of note. Unfortunately[,] it has not achieved the recognition and been accorded the fundamental place in the general program of the science which we think it should have.” But as Robbins (1933, p. 19; emphasis added) notes in his introduction to *The Common Sense of Political Economy*, “Wicksteed’s approach 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. *He was much more concerned with economic phenomena as a process in time, much less with its momentary end-products.*”

In the Wicksteedian tradition of cost theory, subjective utility and cost are distinct concepts, but essentially opposite sides of the same conceptual coin. As Wicksteed (1914, p. 13) writes, “what about the ‘supply curve’ that usually figures as a determinant of price, co-ordinate with the demand curve? I say it boldly and baldly: There is no such thing. When we are speaking of a marketable commodity, what is usually called the supply curve is in reality the demand curve of those who possess the commodity; for it shows the exact place which every successive unit of the commodity holds in their relative scale of estimates. The so-called supply curve, therefore, is simply a part of the total demand curve.”⁷ Therefore, it is the subjective evaluations of individual choices to buy (and abstain from buying) a good that drives costs of production in terms of their values in alternative uses, not vice versa. Costs are not exogenous, but endogenous to choices and, therefore, are revealed to producers through exchange in the form of exchange ratios (i.e., prices). Knight (1924, p. 592; emphasis in original) expounded that point by stating that “[v]aluation is an aspect of conscious choice. Apart from the necessity of choosing, values have no meaning or existence. Valuation is a comparison of values”.

With regard to how relative prices guide decision-making, Buchanan (1969 [1999], pp. 42–43) expanded on Knight and Wicksteed by drawing a distinction between *choice-influencing* cost and *choice-influenced* cost. From the standpoint of a producer, say of steel, the price mechanism serves a two-fold function. *Ex-ante*, current prices reflect the costs of production, which were based on subjective valuations of resources in alternative uses. In that respect, costs influence choice in terms of the payments required to bid away factors of production from their alternative uses. Such choices are based upon anticipations that the expected revenues of such resources in the production of steel will exceed the cost of such resources in alternative productive uses. Such costs reside only in the mind of the decision-maker at the moment *and no one else*. Because costs are based on the *expected value* of resources that are foregone in an alternative use, they never can actually be realized and therefore never objectively observable (Buchanan 1969 [1999], p. 41; Buchanan 1973 [1981], pp. 14–15). *Ex-post*, prices will reflect in the form of profits and losses the extent to which the entrepreneur’s expectations were correct. Transactions between the producer of steel and his or her consumers will reveal, in the form of revenues accrued, whether or not the producer’s prior expectations were accurate. Such *choice-influenced* costs, after

⁷ Interestingly enough, Stigler also had also reprinted Wicksteed (1914) in the AEA’s *Readings in Price Theory*.

a product has been sold, are a result of the prior decisions of the steel producer, manifested as an outlay in the producer's accounting books. Both *choice-influencing* cost and *choice-influenced cost* are tied to choice, but in equilibrium, they dovetail perfectly with one another. In such a situation, *choice-influencing* cost and *choice-influenced cost* collapse into one another as an objective parameter.

Buchanan's and Coase's critiques of Pigouvian welfare economics both were grounded in the same criticism. Given that Pigou's analysis was anchored in terms of perfect competition, Coase was trying to illustrate the redundancy of the Pigovian policy solution, namely that corrective taxes or subsidies were required to remedy negative and positive externalities. Since Pigou had assumed the conditions of perfect competition in his analysis, all social costs, by definition, already will have been "priced" into the decision-making of individuals as private costs by the parties to an exchange. In a world of positive transaction costs, however, Pigovian solutions will become impractical, given that the relevant information required to impose an optimal tax or subsidy does not exist outside of the conditions of equilibrium (Boettke 1995). "In order to estimate the size of the corrective tax, however," Buchanan (1969 [1999], p. 66) argues, "some objective measurement must be placed on these external costs. But the analyst has no benchmark from which plausible estimates can be made. Since the persons who bear these 'costs'—those who are externally affected—do not participate in the choice that generates the 'costs,' there is simply no means of determining, even indirectly, the value that they place on the utility loss that might be avoided."

In either case, the Pigovian solution was irrelevant for answering a more fundamental question that is defined out of existence when costs are regarded as objective. That is, if costs are regarded as subjective, as Buchanan and Coase understood them to be, then how do such costs *come to be tied to the decision-making of others*? It requires the devising of institutional conditions that link social costs more closely to private assessments of costs, which is fundamentally the institutional solution to the problem of social cost. That conclusion reveals a subtle, yet important perspective that is relevant not only for how the Coase Theorem is interpreted, but also for public policy implications relating to the existence of market failures associated with externalities. Coase (1960, p. 34; emphasis added) states that the "Pigovian analysis shows us that it is *possible to conceive* of better worlds than the one in which we live. But the problem is to *devise practical arrangements* which will correct defects in one part of the system without causing more serious harm". Such an understanding of Pigou can be drawn only if (1) one begins with a subjective notion of cost, and therefore realizes that (2) *variation in property rights arrangements provide the critical link that ties choice-influencing cost to choice-influenced cost*.

Once we understand the Coase Theorem as a method of institutional comparison, or as a "limit theorem" for appreciating the process by which transaction costs are lowered, rather than an end-state in which transaction costs already have been eliminated, the conditions of Pareto-optimality can be realized only as *byproducts* of an exchange process. Such an understanding of the Coase Theorem can emerge only from a consistently subjective notion of opportunity costs. If property rights are endogenous to choice, then a zero-transaction cost world is a *byproduct* of tying costs more directly to choice through variations in property rights assignments that fully concentrate *choice-influencing costs* on the decision-maker. The assumption of zero-transaction costs (when costs are regarded as subjective), however, is a necessary, though not a sufficient condition for exhausting the gains from trade. If costs are regarded as objective, then indeed the conditions of Pareto-optimality do hold *automatically*, since individuals are responding passively like automata to such costs. But when costs are regarded as subjective, an allocation of resources

becomes efficient only after the gains from trade have been exhausted. Therefore, even if property rights are well-defined and well-enforced and transaction costs are zero, individuals must first realize that such gains from exchange exist, and only as a byproduct of such a realization will exchange ratios (i.e., prices) emerge to determine and communicate the marginal costs of resources in terms of the subjective valuations in alternative uses, thereby guiding individual decision-making of individuals towards their efficient allocation.⁸ The fundamental point of the Coase Theorem, which had been self-evident to Buchanan, but not to his New Chicago School contemporaries, is that *it is only in the context of exchange that the conditions of Pareto-optimality emerge*, and that such equilibrium conditions are byproducts of individuals revealing their subjective evaluations during the exchange process. A Marshallian rendition of cost theory, and the Chicago “Tight Prior” framework that follows from it, assumes away not only the necessity of the exchange process, but also the *endogeneity* of such costs to the exchange process itself.

5 Conclusion

Buchanan has quoted Frank Knight as stating that “to call a situation hopeless is equivalent to calling it ideal” (Buchanan and Tullock 1962, p. 204), or as Stigler (1982, p. 6) has put it, “anything which is inevitable is ideal!” How each have interpreted what Knight had tried to capture in their statements illustrates what the New Chicago School and the Virginia School had adopted and extended from Knight. Since the logic of perfectly competitive equilibrium renders the conditions of the market “ideal”, no scope for Pareto-improvement is possible. Under such conditions, deviations from Pareto-optimality require government intervention or are assumed away (since the marginal cost of correcting such a deviation exceeds the marginal benefit). Both conclusions follow from an interpretation of costs as objective and exogenous. For Buchanan (and Coase), however, a non-ideal situation is one in which hope for Pareto-improvement exists. Such hope not only is the essence of public choice, but also of property rights economics and law and economics. Taking costs to be subjective and endogenously tied to choice, the presence of market failures represent future profit opportunities for entrepreneurs to envision changes in institutional arrangements that create the conditions possible for the exhaustion of the gains from trade.⁹ As Buchanan (1964a, p. 218; emphasis in original) makes that point, “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. A solution to a general-equilibrium set of equations is not predetermined by exogenously-determined rules.”

Buchanan, along with Coase, was central to the development of a neglected and distinct branch of price theory at the University of Virginia and the Thomas Jefferson Center for Studies in Political Economy and Social Philosophy, which built on the cost theory tradition developed at the London School of Economics and Political Science under Lionel

⁸ Kirzner (1973, pp. 227–228) makes the same subtle, yet important point in *Competition and Entrepreneurship*.

⁹ Candela and Geloso (2018a, b, 2019) explicate the point empirically, building from and extending Coase’s (1974) original analysis of the English lighthouse system.

Robbins and F.A. Hayek. Buchanan's development of Virginia Political Economy combined Chicago price theory and LSE cost theory distinctively, both of which were rooted in Frank Knight, but the latter of which uniquely was Wicksteedian in its understanding of Professor Knight. The presumption that economists already had fully absorbed opportunity cost reasoning explains not only what was "lost in translation" between the Old and New Chicago School, but also the distinctiveness of the Virginia School in what it had absorbed from Knight. While Buchanan's writing of *Cost and Choice* and his reaction to the Coase Theorem lends credence to our thesis, our argument has broader implications not only for our understanding of the evolution of the Chicago price theory tradition, but also the evolution of what is regarded as common knowledge in economic theory amongst its various branches. What is understood as economic theory over time has broader implications not only for public policy but, what is more important, the scale and scope of government with respect to addressing market failures.

Acknowledgements This paper was prepared and presented originally at the James Buchanan Centennial Birthday Academic Conference, which was held October 2nd–5th, 2019 in Murfreesboro, Tennessee and organized by the Political Economy Research Institute at Middle Tennessee State University. We thank Daniel Smith for organizing the conference and for his invitation. We gratefully acknowledge the feedback and comments from Timothy Mathews as well as the other participants of the conference, particularly Ross Emmett and Dennis Mueller. We also thank Michael Giberson, Henry Thompson and Richard Wagner for their valuable feedback and comments. We thank the staff of the George Mason University Library for access to the James M. Buchanan Papers in preparation of this paper. Any remaining errors are entirely our own.

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